Cognitive reference points

Semantics beyond the prototypes in adjectives of space and colour

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Semantics beyond the prototypes in adjectives of space and colour

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Elena Tribushinina

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Acknowledgments

A father had a family of sons who were perpetually quarreling among themselves. When he failed to heal their disputes by his exhortations, he determined to give them a practical illustration of the evils of disunion; and for this purpose he one day told them to bring him a bundle of sticks. When they had done so, he placed the faggot into the hands of each of them in succession, and ordered them to break it in pieces. They tried with all their strength, and were not able to do it. He next opened the faggot, took the sticks separately, one by one, and again put them into his sons' hands, upon which they broke them easily. He then addressed them in these words: "My sons, if you are of one mind, and unite to assist each other, you will be as this faggot, uninjured by all the attempts of your enemies; but if you are divided among yourselves, you will be broken as easily as these sticks."

Aesop (The Father and His Sons)

The above fable mirrors quite precisely the way I feel about the research path which resulted in this book. On my own, without the outstanding professionalism and sincere friendliness of my faggot, I would never have reached this endpoint. And I wholeheartedly appreciate this fact.

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Elena Tribushinina
Amsterdam, July 2008

Abbreviations

1	first person	IPFV	imperfective
2	second person	ITER	iterative
3	third person	LF	long form
ACC	accusative	LOC	locative
ACT	active	M	masculine
ADJ	adjective	N	neuter
ADPTCP	adverbial participle	NEG	negation
ADV	adverb	NOM	nominative
AN	adjective-noun	PASS	passive
BNC	British National Corpus	PCL	particle
COMP	comparative	PFV	perfective
COND	conditional	PL	plural
CONJ	conjunction	POSS	possessive
CRP	cognitive reference point	PRS	present
DAT	dative	PST	past
DIM	diminutive	PTCP	participle
F	feminine	REFL	reflexive
FUT	future	RNC	Russian National Corpus
GEN	genitive	SBJV	subjunctive
IMP	imperative	SF	short form
IMPERS	impersonal	SG	singular
INDF	indefinite	TR	transitive
INF	infinitive	VOC	vocative
INS	instrumental	WCS	World Colour Survey

Part I. Stage-setting

Chapter 1. Introduction

1.1. Background and purpose

Prototype theory initiated by Rosch (1973a) has been pervasive in the semantic research of the last thirty years. The notion of a prototype proved explanatory and psychologically real. The advent of prototype theory was fostered by studies of focal colours (Rosch 1971, 1972, 1973a, 1973b, 1975b). Since then, colour terms have often been cited as prime examples of prototypical categories. The meaning of *red*, to mention just one example, can be felicitously analysed in terms of prototypes – prototypical red is the colour of blood or fire, which also coincides with the focal colour red, to which a human eye is most sensitive.

However, as indicated among others by Cuyckens (1984) and Wierzbicka (1996), in spite of being helpful analytical tools, prototypes cannot be indiscriminately applied throughout. The adjectival category, for instance, is too heterogeneous to allow the application of prototypes to the semantic analysis of *all* adjectives. For one, what are the prototypes of the properties denoted by adjectives such as *short, blunt, wet,* or *current*? In these cases prototypes fall short of adequate semantic descriptions.

The purpose of this thesis is to show that prototypes constitute a specific (but not the only) type of *cognitive reference points*, i.e. mentally prominent items that other entities are seen in relation to (Rosch 1975a).

The notion of a cognitive reference point (henceforth CRP) was introduced by Rosch (1975a) to account for asymmetrical comparisons where prototypes serve as "anchoring dimensions" for making judgments about less prototypical category members. For example, desaturated red is usually judged more similar to focal red than focal red to desaturated red. Although based on the study of prototypes, Rosch (1975a) suggests that prototypes are only a special case of a general cognitive strategy to use reference-point reasoning. This idea was further elaborated by numerous psychologists studying perception, categorisation, spatial orientation, social, organisational and marketing behaviour of human beings (see Chapter 2). All these

domains were shown to be structured by a restricted set of cognitively prominent reference points, in relation to which we conceptualise less salient items.

Despite the growing interest of psychologists in reference-point reasoning, the notion of CRPs has generated little interest in linguistics. A welcome exception is Langacker's reference-point model (1993) used to explore and describe a wide range of *grammatical* phenomena, such as possessive constructions, pronoun-antecedent relationships, topic and topic-like constructions. What all these constructions have in common is that one salient entity serves as a CRP providing mental access to a less salient, associated entity.

In this thesis, I will elaborate the reference-point model by extrapolating it to cognitive *lexical* semantics. I will propose that there is a myriad of reference-point phenomena applicable to the study of word meaning, prototypes being only one of them.

For reasons of feasibility, I will confine myself to two lexical semantic groups – adjectives of colour (e.g. *red*, *green*) and vertical size (e.g. *tall*, *short*). These two groups were selected because of their different status with regard to prototypicality. As explained earlier, colour terms have been traditionally treated as prime examples of prototypical categories (e.g. Rosch 1973a), whereas dimensional adjectives have been claimed to be either prototype-free (e.g. Kamp & Partee 1995) or to a lesser degree oriented to prototypes than colour terms (Tribushinina 2006a). Notice, however, that dimensional adjectives are vague terms; so it is reasonable to assume that their conceptual specifications have to be anchored *somehow*. Put another way, if prototypes are only marginally relevant to the semantic make-up of vague relative adjectives, what *other* reference points are used to anchor the conceptual specifications of these words?

In order to establish the extent to which semantics is motivated by the (presumably universal) cognitive principle of reference-point reasoning, I will compare the way adjectives of colour and size are used in two languages – English and Russian. The data from a non-Germanic language (Russian, in this case) is important to this study, since dominating semantic theories of adjectives were largely shaped by the studies on English and, to a lesser degree, other Germanic languages. As I have shown elsewhere (Tribushinina, forthcoming), scalar adjectives in Slavic languages differ from their Germanic counterparts in a number of respects. Therefore, Russian data may contribute to a more complete picture of the reference-point phenomena in adjectival semantics.

In sum, this research may have two-fold implications. On the one hand, reference-point theory may profit from a detailed study of adjectival semantics, in the sense that the results may shed more light on a variety of CRPs in language and

cognition. On the other hand, semantic theory may gain new insights through greater psychological embedding of semantic phenomena in the general cognitive principle of reference-point reasoning.

1.2. Research questions

Given the overall purpose outlined above, this thesis seeks to answer the following questions:

(1) Are prototypes the only CRP type relevant to colour adjectives?
(2) What exactly *is* a prototype of a linguistic colour category: a perceptually determined focus (as in Rosch 1971, 1972, 1973b) or a culturally selected "best exemplar" (as in Wierzbicka 1990, 1996)?
(3) Do prototypes fulfil a reference-point function in the semantics of vague relative adjectives, as they do in the semantics of colour adjectives?
(4) What other reference points anchor conceptual specifications of dimensional adjectives?
(5) How are CRPs from adjectival semantics related to reference-point phenomena facilitating non-linguistic cognitive abilities, such as perception, categorisation, reasoning, and decision making?

Questions (1) and (2) will be addressed in Part II of this thesis; questions (3) and (4) will be considered in Part III. The question in (5) will be repeatedly addressed throughout the thesis.

1.3. Data and methodology

1.3.1. Pilot study

In order to get an overall idea of the reference points people might be using for the interpretation of colour terms and dimensional adjectives, I first conducted an exploratory pilot study (July 2006). Twenty-four Russian-speaking undergraduates (18 female and 6 male, age range: 19–29) attending Kemerovo State University (Kemerovo, Russia) were asked to fill in the questionnaire presented in Appendix 1. The questionnaire consisted of two parts. Part I dealt with the colour adjective *krasnyj* 'red'; Part II targeted the dimensional adjectives *vysokij* 'high/tall' and *nizkij* 'low/short'.

The question introducing Part I runs as follows: *Kakoj èto ottenok krasnogo?* 'Which shade of red is it?'. This question was followed by twenty-two adjective-noun (henceforth AN) combinations, such as *krasnaja višnja* 'red cherries', *krasnyj*

mjač 'red ball', and *krasnoe jabloko* 'red apple'. The results of this part of the pilot study will be discussed in Chapter 4. For now, it will suffice to say that the subjects seemed to use more than one strategy for defining a specific shade of red, which might suggest that there is more than one CRP type involved in the semantic make-up of colour terms. For example, some varieties of red were described in terms of conformity to or deviation from focal red: e.g. *krasnaja krov' – jarko-krasnyj* 'red blood – bright red' versus *krasnyj pomidor – temno-krasnyj* 'red tomato – dark-red'. In other cases, the subjects used the best exemplar of that particular shade of red in order to anchor the conceptual specification of the adjective in a given combination: e.g. *krasnaja ryba – korallovyj* 'red fish – coral-coloured', *krasnoe vino – rubinovyj* 'red wine – ruby-red', *krasnaja čerepica – kirpičnyj* 'red tiling – brick-coloured'. This finding motivated further inquiry into the nature of default prototypes versus combination-specific prototypes (see Chapters 3 and 4).

Part II was introduced by the following question: *Kak Vy možete opisat' VYSOTU sledujuščix ob"jektov*? 'How can you describe the HEIGHT of the following objects?'. This question was followed by twenty AN-combinations, ten with the adjective *vysokij* 'high/tall' and ten with its antonym *nizkij* 'low/short' (see Appendix 1). The analysis of the responses yielded a number of conceptual entities that seemed to be good candidates for reference-point status in the semantics of dimensional adjectives.

First, some of the responses involved placing the entity on a scale with respect to some (contextually determined) relative standard, as in *vysokij neboskreb – vyše sosednix neboskrebov* 'tall skyscraper – taller than neighbouring skyscrapers'. The CRP function of the relative standard will be further examined in Chapters 5 and 6.

Second, a great many responses involved linking the property to its functional or argumentative consequences, as in *vysokij zabor – sosedej ne vidno* 'high fence – you can't see the neighbours', *nizkij zabor – možno perelezt'* 'low fence – you can climb over it', *nizkij škaf – vidno, čto na nem stoit* 'low wardrobe – you can see what is on it'. This CRP type will be dealt with in Chapter 6.

Third, a number of subjects described the height of one object in relation to the height of another (presumably contiguous) entity. Here are some examples: *vysokij stolb – kak derevo* 'high post – as tall as a tree', *vysokij neboskreb – do neba* 'tall skyscraper – reaching the sky', *vysokij sugrob – vyše doma* 'high snowdrift – higher than a house'. I will term this CRP type *incidental landmark* (see further Chapters 5 and 6).

Fourth, all the subjects repeatedly construed height in absolute terms, i.e. as an extent from some zero point: e.g. *nizkoe zdanie – odin ėtaž* 'low building – one floor', *nizkoe derevo – 2 metra* 'low tree – two metres', *vysokij stolb – 20 metrov* 'high post –

twenty metres'. Elaborating on this finding, I will further investigate the reference-point role of the *absolute zero* (starting point for measurement) in Chapter 7.

Fifth, some answers seemed to suggest that people may use category boundaries as CRPs anchoring conceptual specifications of dimensional adjectives. This finding basically means that language users know that a hill cannot be infinitely high, because at some point it will reach the categorical maximum (of height) for hills and will be conceptualised as belonging to another category, i.e. that of mountains. Here are some of the responses in this line: *vysokij xolm – čut' pomen'še gory* 'high hill – a little smaller than a mountain', *nizkaja gora – čut' pobol'še xolma* 'low mountain – a little bigger than a hill', *nizkoe derevo – povyše kusta* 'low tree – somewhat higher than a bush'. The question whether dimensional adjectives are indeed anchored by the categorical maximum and/or other salient endpoints of the scale will be pursued in Chapter 7.

Sixth, a very pervasive way of describing the height of various entities was comparing their vertical extent to *human* height: e.g. *nizkaja stena – v rost čeloveka* 'low wall – as tall as a human being', *vysokaja trava – vyše čelovečeskogo rosta* 'tall grass – taller than human', *nizkoe derevo – 3 čelovečeskix rosta* 'low tree – as tall as three human heights', *vysokij stul – po pojas vzroslomu čeloveku* 'high chair – reaching the waist of an adult human'. The reference-point status of EGO will be further investigated in a case study reported in Chapter 8.

And, finally, the subjects frequently referred to "best exemplars" of the category, as in *nizkoe derevo – bansaj* 'low tree – Bansai', *vysokij neboskreb – Ostankinskaja bašnja* 'tall skyscraper – Ostankino Tower', *nizkoe zdanie – izba* 'low building – peasant's hut'. This was taken as an indication of the possible orientation of dimensional adjectives to prototypes. I will take this issue up in Chapter 9.

The types of reference points yielded by the pilot study were elaborated in further studies reported on in the corresponding chapters of this thesis. In addition, analysis of two sets of data (elicited and non-elicited) revealed other CRP types that had not been identified in the pilot study (e.g. minimum "adjectiveness", discussed in Chapter 7).

To summarise, the pilot already provided strong indications that there is *more than one* CRP type relevant to a single group of adjectives. This is a significant departure from the previous studies arguing that each adjectival type is characterised by one reference point (Kennedy 2007; Kennedy & McNally 2005; Levanova & Tribushinina 1998; Ruzin 1994; Šramm 1979).

Another important finding from the pilot study was that the same person may use different strategies for different AN-combinations. For example, one of the subjects (female, 26 years old) explained the meaning of *vysokaja bašnja* 'tall tower'

and *vysokie kabluki* 'high heels' using a functional value as a CRP (*vidno otovsjudu* 'visible from everywhere' and *složno xodit'* 'difficult to walk on', respectively). The same subject, however, used EGO as an incidental landmark in the following definitions: *vysokie botinki – do ščikolotki* 'high boots – reaching the ankle', *vysokaja trava – po pleči* 'tall grass – reaching the shoulders'. The phrases *nizkaja bašnja* 'short tower' and *nizkaja gora* 'low mountain' were defined using the absolute zero as a reference point, i.e. by identifying the vertical extent from the ground level (30 and 2000 metres, respectively). The categorical maximum was used to specify the reference values of *vysokij xolm* 'high hill' (defined as *malen'kaja gora* 'small mountain') and *nizkoe derevo* 'low tree' (explained as *kust* 'bush'). And, finally, the phrase *nizkaja trava* 'short grass' was exemplified by its prototypical instantiation – *gazonnyj kover* 'lawn'.

What is more, language users seem to be very flexible and able to switch from one CRP to another very easily. For one thing, several subjects provided two types of explanations for the same AN-combination. Here are some examples of this: *nizkij stol – dlja detej 5-letnego vozrasta, 50 sm* 'low table – for 5-year-old children [functional value], 50 cm [absolute zero]'; *nizkaja trava – kak gazon s SŠA, 1 sm* 'short grass – like a lawn in the US [prototype], 1 cm [absolute zero]'; *nizkoe derevo – 2 m, ili bansaj* 'low tree – 2 m [absolute zero], or Bansai [prototype]'.

These observations provided a good reason to search for a *variety* of reference-point phenomena rather than focusing on one CRP per adjective type, as in previous studies. This was done by means of two methods – a corpus study and a survey. These two sets of data will be described in turn.

1.3.2. Corpora

The following corpora were used in this study: the British National Corpus, the Russian National Corpus, and two corpora of child language (the Brown corpus and the Manchester corpus).

1.3.2.1. British National Corpus. Non-elicited English data used in this investigation were extracted from the British National Corpus (henceforth BNC). The corpus covers British English of the late 20th century (1980s-1993) and includes both written and spoken texts. The written part of the BNC (90%) consists of a wide variety of texts, such as popular fiction, newspaper and journal articles, published and unpublished letters, and memoranda. The spoken part (10%) comprises transcripts of informal conversations, business and government meetings, radio shows and phone-ins. I used the complete version of the BNC World Edition (2001) comprising 100 million words.

One colour adjective (*red*) and two dimensional adjectives (*tall* and *short*) were targeted for analysis. To keep the thesis within measurable proportions, a choice had to be made between the English pairs *tall* : *short* and *high* : *low*. The former pair was selected for several reasons. First, *high* and *low* are more likely to denote positions rather than vertical size as such. Second, as will become apparent in the course of the thesis, an important part of this investigation is studying the reference-point status of EGO, i.e. dimensions and proportions of the human body. Notice that only *tall* and *short*, but not *high* and *low*, are normally used with reference to human height. Third, there is a large body of previous experimental research on *tall* and *short* to build on.

The data were extracted by means of the SARA programme (downloadable from http://www.natcorp.ox.ac.uk/tools/sara/index.xml). The searches were restricted to adjectival forms, labelled <AJ0> for the positive, <AJC> for the comparative, and <AJS> for the superlative, thus excluding nominal uses (NN*) as in (1) and (2), verbal uses (V*) as in (3) and (4), and uses marked "unclassified" (UNC) as in (5) and (6).

(1) This is because 'women in **red** do not seem approachable'. (BNC)

(2) I tell you, if I have a drink, when I have a drink, a **short** in the morning it goes to my head, it's not. (BNC)

(3) And in a few in a fraction of a second, if you try and if you **short** it all out, give it a very you know great big wide pipe to rush through, the virtually the whole contents of the electricity of the battery tries to get through that, and a spanner is like that … (BNC)

(4) We made our way to heaven, garage-bunting flagging us off, and a roundabout **redded** with poppies. (BNC)

(5) If the person that has had, been made redundant to make the claim, can claim for the other person and there's no **red** dependent, yeah. (BNC)

(6) I bet Luke's got a **tall** telling off today. (BNC)

From the total number of adjectival hits extracted from the corpus, I made a selection of relevant instances. This study deals only with prototypical uses of *red, tall,* and *short* (colour and size, respectively) and leaves extended uses out of consideration. Notice also that *short* in the dimensional sense can be used in two ways: it can denote vertical size and be antonymous to *tall*, or describe horizontal extent and be antonymous to *long*. Only uses in the former sense (vertical size) will be subject to

further consideration in this study. This will allow a fair comparison with the Russian dimensional adjectives denoting vertical extent (see Section 1.3.2.2). All the hits extracted from the corpus were reviewed and all non-relevant uses, including metaphorical extensions, proper names, and coding errors from the BNC, were removed manually. Below are some examples of excluded instances:

(7) Neil Kinnock is a **red-blooded**, hard-drinking, fist-swinging family-man.

(8) Eleanor was mainly just a **red** herring, he decided.

(9) A bewildered and shocked survivor can be guided through **red** tape, and practical alternatives can be found, as in the case of Liz and Tom who were burgled while on Income Support.

(10) The hunt was met at Parks' Lodge from where, at this time of year provided the scent was good, it was inevitably a **red** letter day.

(11) The features cover everything from the environment to business, from shutting down a nuclear power station, to opening up a **red-hot** Mexican restaurant.

(12) Other cars included a pre-1918 Buick, a Sunbeam and a 1910 renault AX, which belongs to Max De **Redder** from Great Clifton near Workington.

(13) The state's biggest banks may still be standing **tall**; but they are not lending freely.

(14) Going for medicine is a fairly **tall** order, isn't it?

(15) Bring your stories, **tall** tales and elaborate lies.

(16) 'Nothing is unrelated to health,' says Carola Caribe of the Women's Permanent Workshop (**Taller** Permanente de la Mujer) in Argentina.

(17) By er failing even once to meet a reasonable demand for a for something to eat in a **short** period of time, then there's a knock on effect to our business.

(18) Where you are **short** of garden space, try the dwarf varieties Pixie (large fruit) or Tiny Tim (small fruit) in tubs.

(19) And again I'm sorry I was **short** with you.

(20) In other words, he is a longer-term investor than the **short-sighted** institutions.

(21) The reply of the skins was to use a **short** wire, such as a paperclip, to replace the laces in a way which could not be spotted by the police.

The total number of hits and the number of selected relevant instances are listed per adjective in Table 1.1.

Adjective	Form	Relevant	Non-relevant	Total
red	positive	7,585	949	8,534
	comparative	46	11	57
	superlative	9	0	9
	Total (lemma)	7,640	960	8,600
tall	positive	4,235	92	4,327
	comparative	542	15	557
	superlative	164	0	164
	Total (lemma)	4,941	107	5,048
short	positive	326	16,610	16,936
	comparative	146	1,605	1,751
	superlative	19	290	309
	Total (lemma)	491	18,505	18,996

Table 1.1. Frequencies in the BNC

Each relevant instance of *red, tall*, and *short* was analysed in terms of CRPs presumably involved in its interpretation, in view of the immediate context. For example, the following instances of *tall* were coded as anchored by a relative standard and a maximum point (example 22), a relative standard and EGO (example 23), a relative standard and a prototype (example 24):

(22) A coach was just right; like being on a very **tall** horse, or even an elephant.

(23) It was a large field and I could see the barn at the far end as I walked with the **tall** grass brushing my knees.

(24) Sometimes I get a little dizzy and that and I sort of feel real **tall** --; you know, like a giant.

Further, all instances were classified in terms of their head-nouns. In the case of predicative uses, subjects were taken as head-nouns. In the case of pronominal subjects, head-nouns had to be identified in the preceding context. The results were compiled in a Microsoft Excel workbook.

Each head-noun was afterwards coded as belonging to one of the following superordinate categories: Animals, Body Parts, Clothing, Constructions, Containers, Eminences, Enclosures, Furniture and Appliances, Human Beings, Interior, Monuments, Openings, Supports, Vegetation, Vehicles, Other. This categorisation was performed in order to make generalisations about types of referents possible. By "referents" of *red, tall,* and *short*, I mean entities described by means of these adjectives.

The initial overall analyses in terms of CRPs and referent types were supplemented by additional searches and analyses carried out for the purposes of specific case studies. For example, a case study reported in Chapter 7 dealt with patterns of degree modification in dimensional adjectives. In this case study, all cases where *tall*, *short* and their Russian counterparts were modified by degree adverbs were subjected to additional analysis. More specifically, all degree modifiers combined with these adjectives in the corpus were classified into scalar and totality modifiers, following the criteria developed in Paradis (1997). The scalar modifiers were further categorised into boosters, moderators, and diminishers. The resulting pattern and its implications are discussed in Section 7.2.

The research reported in Chapter 8 required categorisation of referents into those taller than humans and those shorter than humans. To this end, each instance was coded as belonging to one of these two categories or to the category UNCLEAR, if this was the case.

For the purposes of the case study presented in Chapter 9, all instances of *tall* were classified into those denoting entities with or without canonical vertical orientation.

The investigation of CRP effects in colour terms (Chapters 3 and 4) required going beyond the examples involving *red* (and its Russian counterpart). Therefore, more specific searches were also implemented for other colour terms, such as *green, blue, white, black*, and *yellow*. These searches concerned, for example, participation of colour adjectives in the *as A as X* construction (e.g. *as green as emeralds*), cases of degree modification (e.g. *very white*), and comparatives of the type *blacker than black*.

1.3.2.2. Russian National Corpus. The non-elicited Russian data were extracted from the *Nacional'nyj korpus russkogo jazyka*, or Russian National Corpus (henceforth RNC), which is available for on-line public use at http://ruscorpora.ru/index.html.

The RNC consists of the following parts: Main Corpus, Parallel Corpus, Dialect Corpus, Poetic Corpus, and Educational Corpus. Only the Main Corpus will be used in this study and metonymically referred to as "RNC" in the rest of this thesis. Searches were made using the entire corpus, which contains both written and spo-

ken texts. The spoken part (4%) covers late 20th and early 21st century and includes transcripts of public and informal speech, as well as cinema. The written part comprises texts created between mid 18th and mid 20th century (34%) and texts produced between mid 20th and early 21st century (62%). Written texts include fiction, drama, biographies, newspapers articles, academic texts, personal letters and diaries.

A special remark must be made about the size of the corpus. The RNC is a dynamically growing corpus. The data for this investigation were extracted in September 2006, when the corpus contained about 120 million words. Currently, the RNC contains about 150 million words.

Adjective	Form	Relevant	Non-relevant	Total
***krasnyj* 'red'**	positive	13,399	4,457	17,856
	comparative	57	1	58
	superlative	3	0	3
	Total (lemma)	13,459	4,458	17,917
***vysokij* 'high/tall'**	positive	5,633	17,667	23,300
	comparative	589	9,597	10,186
	superlative	163	766	929
	Total (lemma)	6,385	28,030	34,415
***nizkij* 'low/short'**	positive	1,045	5,296	6,341
	comparative	245	4,719	4,964
	superlative	3	53	56
	Total (lemma)	1,293	10,068	11,361
***nevysokij* 'not.high'**	positive	1,490	499	1,989
	comparative	0	0	0
	superlative	4	0	4
	Total (lemma)	1,494	499	1,993

Table 1.2. Frequencies in the RNC

Four words were targeted for analysis: the colour adjective *krasnyj* 'red' and three adjectives of vertical size – *vysokij* 'high/tall', *nizkij* 'low/short', and *nevysokij* 'not.high'.[1] *Nizkij* 'low/short' is a lexical opposite of *vysokij* 'high/tall'; *nevysokij* 'not.high' is a morphological negation of *vysokij* 'high/tall' (see Section 8.2). The searches were restricted to adjectival uses (grammatical feature ADJECTIVE in the search menu). Each hit obtained was reviewed and a selection of relevant uses was made. Frequencies per adjective are presented in Table 1.2 above. The frequencies

[1] The adjective *vysotnyj* 'very tall (about buildings)' was not included in the analysis, because this adjective only functions as a classifying attribute, *viz.* it is used to label one specific variety of buildings, namely high-rises. Just as other classifying adjectives, it cannot be used predicatively. The focus of this thesis is, however, on qualifying uses of adjectives (see further Section 6.3.2.5).

of positive adjectives include both long and short forms (for details see Section 6.4.7); non-positive forms include both synthetic and analytic comparatives and superlatives (see further Section 6.4.6).

Relevant uses of *krasnyj* 'red' included only those cases where the adjective denoted colour. All metaphorical extensions and (wrongly coded) adverbial uses were excluded from the dataset. Some examples of sentences that were *not* selected for further analyses are given in (25)-(28):[2]

(25) А покажи, как **красная** девица
CONJ show-IMP.SG.PFV how red-(LF)SG.F.NOM maid-NOM

перед зеркалом прихорашивается.
before mirror-INS smartens.oneself

'Now show me how a bonny lass dolls herself up before the mirror.'

(26) Когда в Польшу вошла **Красная**
when in Poland-ACC came.in-SG.F.PFV red-(LF)SG.F.NOM

армия, двадцатичетырехлетний Марсель
army-NOM twenty.four.year.old-SG.M.NOM Marcel-NOM

выглядел на пятьдесят.
looked-SG.M.IPFV on fifty

'When the Red Army entered Poland, twenty-four-year-old Marcel looked fifty.'

(27) Вдруг кто-то захочет купить
suddenly somebody-NOM want-FUT.3.SG.PFV buy-INF.PFV

нашу святыню – **Красную** площадь?
our-SG.F.ACC sanctuary-ACC red-(LF)SG.F.ACC square-ACC

'And what if somebody suddenly decides to buy our sacred place – the Red Square?'

[2] A note on glosses is in order. In this thesis, I will only provide grammatical information that is not expressed by the English counterpart. For example, I will *not* make the number of the noun explicit, unless there is a discrepancy between English and Russian singularia/pluralia tantum, as in *volosy*-PL 'hair'. But I *will* indicate such features as the case marking of nouns and gender of adjectives. Further, the distinction between long (LF) and short (SF) adjectival forms will only be made explicit for adjectives having both forms.

(28) Удивительно ли, что все и каждый хотели
surprisingly PCL that all-PL and each-SG.M.NOM wanted-PL.IPFV

быть ораторами, хотели иметь влияние на
be-INF orators-INS wanted-PL.IPFV have-INF influence-ACC on

толпу посредством искусства **красно** говорить?
crowd-ACC by.means.of art-GEN red-ADV speak-INF.IPFV

'It is by no means surprising that all and each wanted to be public speakers, to exert influence upon the crowd by means of the art of beautiful speaking.'

For the dimensional adjectives, only those contexts where the adjectives were used to describe vertical *extent* were considered relevant. *Vysokij* 'high/tall', *nizkij* 'low/short', and *nevysokij* 'not.high' can also denote vertical *position*, as in (29)-(31). These uses were excluded from consideration in order to allow comparison with *tall* and *short*, which do not have positional uses.

(29) Она жила в глухом ауле **выше**
she lived-SG.F.IPFV in deaf-(LF)SG.M.LOC aul-LOC higher

облаков.
clouds-GEN

'She lived in a remote aul located higher than the clouds.'

(30) Небо было **низким** и серым и,
sky-NOM was-N low-(LF)SG.N.INS and grey-(LF)SG.N.INS and

действительно, вовсю мутилось дождём,
really to.its.utmost grew.dim-SG.N.IPFV rain-INS

крошечные капли которого расшибались
tiny-PL.NOM drops-NOM which-SG.M.GEN smashed-PL.IPFV.REFL

о стекло.
about glass-ACC

'The sky was low and grey; and, indeed, it was overwhelmed by rain, whose tiny drops smashed against the glass.'

(31) Она показала на большую бурую гиену
she showed-SG.F.PFV on big-SG.F.ACC brown-SG.F.ACC hyena-ACC

из Южной Африки, развалившуюся
from southern-SG.F.GEN Africa-GEN sprawl.out-PTCP.PST.ACT.SG.F.ACC

на **невысокой** полке.
on not.high-(LF)SG.F.LOC shelf-LOC

'She pointed to a big brown hyena from South Africa sprawled out on a low shelf.'

In addition, all metaphorical extensions of the dimensional adjectives were also excluded from the dataset, because this study deals only with the prototypical uses of *vysokij* 'high/tall', *nizkij* 'low/short' and *nevysokij* 'not.high' (i.e. vertical size). A few examples are given below:

(32) Они, как ни в чём не бывало,
they as NEG in something-LOC NEG was-IMPERS.ITER

по-прежнему на **высоких** постах в
still on high-(LF)PL.LOC posts-LOC in

правительстве РФ.
government-LOC RF-GEN

'As if nothing had happened, they are still holding high posts in the government of the Russian Federation.'

(33) Отец рассердился и закричал
father-NOM got.angry-SG.M.PFV and started.shouting-SG.M.PFV

трагическим **высоким** голосом.
tragic-SG.M.INS high-(LF)SG.M.INS voice-INS

'The father got angry and started shouting in a high tragic voice.'

(34) Это была **низкая** месть.
this was-F low-(LF)SG.F.NOM revenge-NOM

'It was a vicious revenge.'

(35) У любимого вами канала **невысокие**
at loved-SG.M.GEN you-PL.INS channel-GEN not.high-(LF)PL.NOM

рейтинги.
ratings-NOM

'Your favourite TV-channel has been given fairly low ratings.'

The rest of the procedure was identical to the one described above for *red, tall*, and *short*. The initial analyses included categorising the relevant examples in terms of referent types and CRPs involved. More specific searches were also made for other colour adjectives, such as *sinij* 'dark-blue', *zelenyj* 'green', *želtyj* 'yellow', *belyj* 'white', and *cernyj* 'black'. Additional analyses for the dimensional adjectives included, for example, categorisation in terms of degree modification (Chapter 7) and vertical size vis-à-vis human height (Chapter 8). In some of these analyses, only positive forms were taken into consideration; other analyses were performed on positive, as well as non-positive (i.e. comparative and superlative) forms. The reason to opt for one of these strategies is explicated separately for each case study.

1.3.2.3. The CHILDES corpora. The research reported in Chapter 9 involved investigating prototypicality effects in the acquisition of dimensional adjectives by English-speaking children. In this part of the study, I used fifteen longitudinal transcripts from two corpora available from the CHILDES (Child Language Data Exchange System) database (MacWhinney 2000). The Brown corpus (Brown 1973) consists of transcripts made in the course of a longitudinal study of three children learning American English. The Manchester corpus (Theakston et al. 2001) comprises transcripts of audio recordings of twelve children learning British English. The recordings were made at home, for an hour twice in every three-week period for one year.

Searches were made by means of the CLAN programme (downloadable from http://childes.psy.cmu.edu/). The age range of the subjects and the analyses undertaken will be further described in Chapter 9.

No Russian counterpart of this case study was performed, because the corpora of Russian child language available at the moment (the Protassova corpus and the Tanja corpus) are too small for the purposes of this study.

1.3.3. Survey

The findings from the corpus study will be compared to and supplemented by the elicited data obtained from 174 speakers of Russian by means of a Survey (Febru-

ary 2007, Kemerovo, Russia).[3] The subjects were undergraduate students attending either Kuzbas State Technical University (Faculty of Civil Engineering) or Kemerovo State Medical Academy (see Table 1.3). All subjects were monolingual speakers of Russian in the age range of 17–35.

	Female	Male	Total
Kuzbas State Technical University	52	52	104
Kemerovo State Medical Academy	53	17	70
Total	105	69	**174**

Table 1.3. Subjects of the Survey

The entire Survey can be found in Appendix 2. In this section, I will describe the procedure and explain the choice of tasks included in the questionnaire.

With the permission of a lecturer, the Survey was performed at the beginning of a regular class. The subjects were instructed to trust their native speaker intuitions and not to think too much about the advice from prescriptive grammars (which constitute a very important part of the curriculum in Russian secondary schools). On average, it took subjects about 15 minutes to fill in the questionnaire.

The Survey consisted of four tasks. These will be discussed in order.

Task 1 was used to elicit the prototypical head-nouns of *krasnyj* 'red', *vysokij* 'high/tall', *nizkij* 'low/short', and *nevysokij* 'not.high'. The following instruction was given, translated here for convenience (for the original see Appendix 2):

> *Please, give three nouns that you think go particularly well with a given adjective. Note that you may use not only masculine, but also feminine and neuter nouns.*
> *Example:*
> *Give three nouns that go particularly well with the adjective zelenyj 'green'.*
> *a)* ***grass***
> *b)* ***fir-tree***
> *c)* ***crocodile***

This procedure was introduced by Weydt & Schlieben-Lange (1998) in their study of spatial adjectives in German. I modified the procedure in two ways. Firstly, I introduced nine distracters (*dalekij* 'remote', *interesnyj* 'interesting', *sladkij* 'sweet', *krasivyj* 'beautiful', *čistyj* 'clean', *krasnyj* 'red', *dobryj* 'kind', *trudnyj* 'difficult', and *pustoj* 'empty'). Secondly, I made two versions of the test – one with *nevysokij* 'not.high'

[3] In the rest of the thesis, whenever I refer to the Survey described in this section, I will capitalise the word to distinguish this method from other types of questionnaires I will be incidentally referring to.

and one with its near-synonym *nizkij* 'low' – in order to avoid priming. In total, 87 subjects filled in version 1, and 87 subjects version 2 of the questionnaire.

The results for each adjective were compiled in separate workbooks of the Microsoft Excel program. The responses for *krasnyj* 'red' were divided into the following groups: Relevant Uses (as in *krasnaja mašina* 'red car'), Extensions (as in *krasnyj den' kalendarja* 'red letter day'), Wrong Values (e.g. adjectives provided instead of nouns), and Missing Values (no answer was given).

The responses for the dimensional adjectives were classified into Relevant Uses (as in *vysokaja gora* 'high mountain'), Positional Uses (as in *vysokij potolok* 'high ceiling'), Extensions (as in *vysokoe mnenie* 'high opinion'), Wrong Values (e.g. adjectives provided instead of nouns), and Missing Values (no answer provided). Only relevant uses were subjected to further analysis, where head-nouns were categorised according to referent types, as in the corpus study (Animals, Body Parts, Clothing, Constructions, Containers, Eminences, Enclosures, Furniture and Appliances, Human Beings, Interior, Monuments, Openings, Supports, Vegetation, Vehicles, Other). The findings from Task 1 will be discussed in Chapters 3, 8 and 9.

Task 2 was designed in order to test the hypothesis that *nevysokij* 'not.high' is used to describe taller-than-human entities, whereas *nizkij* 'low/short' is employed for referents whose height is smaller than human (Rakhilina 2000). This was part of the research into the CRP status of EGO reported in Chapter 8. On this task, the subjects were offered nine short contexts that clearly indicated whether the entity was shorter, as tall as, or taller than EGO (see Appendix 2). Three referents were taller than humans (house, mountain, and tree); one was approximately as tall as human beings (sideboard); and in five cases the adjectives referred to nouns denoting shorter-than-human objects (fence, grass, flower-pot, bath-house door, and tree-stump). Note that the respondents could construe the height of the referents vis-à-vis EGO either due to intrinsic dimensions of the entity (e.g. mountains are never lower than people) or due to the clues provided by the context (e.g. the fence was so low that we could easily see the neighbours). The subjects were asked to choose which of the two adjectives fits best in each context and to underline it.

The results were compiled in datasets of the SPSS 14.0 for Windows program, which was also used for statistical analyses. There were no missing values on this task. Thus, further analyses were performed on all 174 subjects.

Task 3, just as Task 1, was designed to compare prototypicality effects in the semantics of colour terms and dimensional adjectives. The difference between the two tasks was that Task 1 addressed prototypicality effects *qua head-nouns*, whereas the aim of Task 3 was to investigate prototypicality effects *qua best exemplars*. The two kinds of prototypicality were torn apart because, as shown by Dirven & Taylor

(1988) and Vogel (2004), prototypical head-nouns of spatial adjectives do not always name best exemplars of the property. Quite on the contrary, if an entity is considered to be a prototypical instantiation of the property denoted by the adjective (e.g. towers for *tall*), then it will not be frequently described by means of this adjective (as in *tall towers*), due to redundancy of this modification. Task 3 was formulated as follows:

> *Continue the following expressions.*
> *Examples:*
> *as bitter as* ***wormwood***
> *as thin as a* ***matchstick***

Three adjectives were targeted in this task: *krasnyj* 'red', *vysokij* 'high/tall', and *nizkij* 'low/short'. The adjective *nevysokij* 'not.high' was not included in the task, because it is uncommon in Russian to use negatively prefixed adjectives in this type of comparative construction.

The results were compiled in Microsoft Excel workbooks. In the case of *krasnyj* 'red', there were no missing values. For *vysokij* 'high/tall' and *nizkij* 'low/short', there were 1 and 2 missing values, respectively. The results of Task 3 will be presented in Chapters 3 and 9.

Task 4, finally, was used to study the issue of compatibility of *vysokij* 'high/tall', *nizkij* 'low/short' and *krasnyj* 'red' with the following degree adverbs: *ocen'* 'very', *dovol'no* 'rather', *nemnogo* 'a little', *edva* 'barely', *sovsem* 'completely', and *počti* 'almost'. The subjects were asked to make acceptability judgments on a five-point scale. I used a five-point scale, rather than a widely used seven-point scale, because the Russian school grade system includes five points – from 1 (bad) to 5 (excellent). I reckoned that similarity to this very familiar grading scheme would make the task easier for the subjects. At the beginning of the task, the following instruction was given:

> *How acceptable do you think the following phrases are? Evaluate their acceptability on a 5-point scale. Indicate your rating by encircling the appropriate grade. Choose 1 if you find the phrase totally unacceptable; choose 3 if you are not sure about the acceptability of the phrase, choose 5 if you find the phrase perfectly acceptable. A phrase is acceptable if it sounds natural, and you would not be surprised to hear it. A phrase is unacceptable if it sounds ungrammatical and non-Russian.*

The target sentences were presented in the form of a table, one per adjective. The labels for each point (e.g. 1 – absolutely unacceptable, 3 – I am not sure) were presented at the top of each table (see Appendix 2).

The results were compiled in a dataset of the SPSS 14.0 programme. Missing values were given a zero value. Only cases with values above zero were selected for

further statistical analyses. In total, the data from 5 subjects (3 female and 2 male) were excluded from consideration. The findings from this task will be discussed in Chapters 7 and 10.

No survey data were collected for the English adjectives, because there is a large body of previous experimental research on English, which we will build on and compare with the findings from the corpus study. For example, Dirven & Taylor (1988) conducted two elicitation tests addressing prototypical head-nouns and best exemplars of *tall* (cf. Tasks 1 and 3 of the Survey). Wierzbicka (1990) presents elicited data on best exemplars of the English colour terms (cf. Task 3). Syrett (2007) reports the results of a series of experiments studying combinability of relative adjectives with degree adverbs (cf. Task 4). Moreno et al. (1999) elicited spatial judgments from speakers of English; the results of this experiment are largely comparable to the pilot study described in Section 1.3.1. Further, a number of studies (e.g. Barner & Snedeker 2007; Clark et al. 1973; Rips & Turnbull 1080; Ryalls & Smith 2000; Syrett et al. 2005) used various psycholinguistic methods to study the processing of English dimensional adjectives (including *tall* and *short*) and colour terms. Conversely, there are no experimental Russian data to build on. With the exception of a few studies eliciting basic colour terms and focality judgments (Corbett & Davies 1997; Frumkina & Micheev 1983; Platonova 2007), no elicited Russian data relevant to this thesis are available at the moment. One reason is that Russian adjectives are less studied than their English counterparts. Another reason is that the Russian tradition of lexical semantic research is largely descriptive and non-experimental. Thus, the Russian corpus data were supplemented with the Survey in order to bridge this gap and make fair comparison with the English adjectives possible.

1.4. Theoretical assumptions

The research reported in this thesis has been conducted within the framework of cognitive linguistics. This section will outline the basic tenets of this approach to the study of language, focusing on the aspects relevant to the present study.

To begin with, cognitive linguistics holds that there is no autonomous linguistic faculty, since linguistic activities of human beings are based on the same cognitive principles as various non-linguistic abilities, such as perception, reasoning, memory, and motor activity. This principle stands in stark contrast to the basic assumption of generative grammar that language is an autonomous module separated from other cognitive abilities. To quote Langacker:

> Language is an integral part of human cognition. An account of linguistic structure should therefore articulate with what is known about cognitive processing in general, regardless of whether one posits a special language "module" (Fodor 1983), or an innate *faculté de langage*. If such a faculty exists, it is nevertheless embedded in the general psychological matrix, for it represents the evolution and fixation of structures having a less specialized origin. Even if the blueprints for language are wired genetically into the human organism, their elaboration into a fully specified linguistic system during language acquisition, and their implementation in everyday language use, are clearly dependent on experiential factors and inextricably bound up with psychological phenomena that are not specifically linguistic in character. Thus we have no valid reason to anticipate a sharp dichotomy between linguistic ability and other aspects of cognitive processing. Instead of grasping at any apparent rationale for asserting the uniqueness and insularity of language, we should try more seriously to integrate the findings of linguistics and cognitive psychology (Langacker 1987: 12-3).

Thus, cognitive linguistics posits that language should be studied as part of human cognition at large, which means that models of memory, perception, attention and categorisation developed in cognitive psychology are highly relevant to linguistic research. Below I will give some examples illustrating that cognitive processes involved in language use are intrinsically the same as in other cognitive tasks.

The first example is the figure/ground distinction discovered in Gestalt psychology and introduced into cognitive linguistics by Talmy (1972, 2000). A figure is perceived or conceptualised against the ground, rather than vice versa. The ground is usually larger, more familiar, more permanently located, more immediately perceivable, and of lesser concern than the figure. Due to these characteristics, the ground may be said to function as a reference "point" providing mental access to a more relevant, but less easily identifiable figure (Talmy 2000: 311ff.). This principle is equally applicable to perception and language. Therefore, (36) is felicitous and (37) is odd.

(36) The bike (F) is near the church (G).

(37) ?The church (F) is near the bike (G).

The figure-ground distinction is crucial not only in spatial predications, but also in various other kinds of relational expressions (e.g. in the active-passive distinction). In Cognitive Grammar, an entity endowed with special prominence and functioning as a figure within a relational profile is termed *trajector*. The trajector is generally conceptualised with respect to a less salient (but more easily identifiable) ground

element called *landmark* (Langacker 1987). I will return to these notions towards the end of this section.

A second example concerns the nature of linguistic categories. Cognitive psychologists have shown that category membership is not a matter of yes-or-no distinction; rather, categories have fuzzy boundaries and prototypical structure (Rosch 1973a, 1973b, 1975b). Some category members are more prototypical and function as CRPs, which non-prototypical members are seen in relation to. In the same vein, cognitive linguists have demonstrated that linguistic categories – not only lexical, but also grammatical and phonological – also have prototype structure and cannot be defined in terms of necessary and sufficient conditions. For example, prototypical adjectives can be used attributively, take degree modifiers and participate in comparative and superlative constructions. *A*-adjectives (e.g. *asleep, afloat, awake*) do not display any of these characteristics, and are therefore categorised as peripheral members of the adjectival category (e.g. Akodes 1987; Bhat 1994; Blokh 1994; Ferris 1993; Ivanova et al. 1981).

A third example of cognitive embedding of linguistic phenomena is metaphor. In their seminal work, Lakoff & Johnson (1980) have shown that "metaphor is pervasive in everyday life, not just in language but in thought and action" (p. 3). Thus, metaphors extend far beyond stylistic devices and rhetorical embellishment. We ubiquitously conceptualise one domain in terms of another domain (e.g. ANGER IS FIRE; LIFE IS A JOURNEY), hence the term *conceptual* metaphor. As further demonstrated by Johnson (1987) and Lakoff (1987), conceptual metaphors are largely motivated by *image-schemas*, i.e. recurrent structures of human experience, which function as patterns of understanding and reasoning. Examples of image-schemas include COTAINMENT, PATH, MASS-COUNT, and PART-WHOLE.

The type of image-schema particularly relevant to this study is a SCALE. By the view advocated in this thesis, scalar adjectives are interpreted against the background of a domain matrix comprising a content domain (e.g. SIZE, TEMPERATURE, WEIGHT) and an image-schematic domain (SCALE). The difference between degree adverbs and gradable adjectives is in the relative salience of the domains constituting the domain matrix. For gradable adjectives, the content domain is more salient, whereas for degree adverbs the schematic domain is in the foreground (Clausner & Croft 1999; Croft & Cruse 2004; Paradis 2001, 2005).

One of the reasons to choose adjectives of vertical size as a subject of this investigation is that the scale of HEIGHT is a primary conceptual domain that underlies cognitive representations of other scales (Johnson 1987; Lakoff 1987; Lakoff & Johnson 1980). Across languages and cultures, the increase in quantity (or intensity) is conceptualised as going UP and decrease is seen as going DOWN. The conceptual

metaphorf MORE IS UP/LESS IS DOWN is grounded in our bodily experience. For example, we know that a greater number of books in a pile constitute a *higher* pile. And, by analogy, a greater amount of warmth is conceptualised as a *higher* temperature. In more general terms, more of a property correlates with UP, and less of a property correlates with DOWN. Thus, a scale of height is an embodied image schema that frames our understanding of various phenomena involving scalarity. Put another way, the domain of HEIGHT may function as a matrix for scales triggered by different relative adjectives. It is then plausible to expect that the relevant findings in the domain of HEIGHT will shed more light on the workings of gradual scales evoked by other relative adjectives.

As explained at the beginning of this chapter, one of the major goals of this investigation is to study another facet of cognitive embedding of language, *viz.* reference-point reasoning. As will become apparent in the course of this thesis, a lot of cognitive skills, *language included*, are governed by a general cognitive principle of using prominent items for establishing mental contact with less salient entities.

Three further constructs – conceptualisation, construal, and conventionalisation – will prove invaluable in the following discussion. Cognitive semantics holds that meanings cannot be equated with entities or relations in some real or possible world. Rather meaning is understood as *conceptualisation*, in the sense that meanings correspond to concepts representing entities or relations through the prism of human mind. Meanings are not fixed; rather they involve dynamic construal and conventionalisation.

The notion of *construal* involves the finding that a single language may provide alternate ways of expressing the same 'objective' content. Compare examples (38) and (39):

(38) Mike is taller than Jim.

(39) Jim is shorter than Mike.

From the objectivist point of view, (38) and (39) are semantically equivalent, since they are truth-functionally identical (see, for example, Bierwisch 1989: 75). In contrast, cognitive semantics assumes that the two expressions encoding the information in two different ways are not semantically equivalent, since they conceptualise the same objective situation differently. In (38), Mike is a trajector, whose height is described vis-à-vis a particular reference point – Jim's height. Conversely, (39) construes Jim as a figure, whose height is conceptualised relative to an incidental landmark – Mike. Thus, (38) and (39) are alternative construals of the same objective scene which differ in terms of the figure/ground alignment.

Various construal operations roughly fall under four basic cognitive processes, which Croft & Cruse (2004) refer to as Attention, Comparison, Perspective, and Gestalt. Critically, the same processes are also active in cognitive areas outside the domain of language. The type of construal exemplified by (38) and (39) falls under the category Comparison. For a comprehensive overview of construal operations, I refer the reader to Verhagen (2007).

The finding that the same objective content can be construed in different ways should not, however, be taken as an indication that cognitive semantics is an "anything-goes" type of theory, since, by the cognitive view, "semantic structure is conceptualization *tailored to the specifications of linguistic convention*" (Langacker 1987: 99, my italics). Put another way, there are both default conceptualisations and contextually relevant construals. For example, as will be shown in this thesis, each semantic class of adjectives has its default CRP type (e.g. prototype for colour adjectives, relative standard for dimensional adjectives). However, defaults can be easily overridden by context and construal; as a result, other reference points may gain greater contextual salience than the default reference points. What is more, there are entrenched associations between types of constructions and CRPs involved. For instance, dimensional adjectives used in constructions with measure phrases (e.g. *six feet tall*) are usually interpreted vis-à-vis the absolute zero rather than the relative standard (i.e. default CRP).

Finally, it should be stressed that cognitive linguistics does not draw a line of demarcation between semantic and encyclopaedic knowledge (Geeraerts 1988; Langacker 1987). Nor do cognitive linguists maintain a divide between semantics and pragmatics (Janssen 2006).

1.5. Outline of the thesis

Part I is a general introduction. In the present chapter, I have introduced research questions, described methodology and theoretical background of this study. Chapter 2 gives an overview of applications of the reference-point model in a number of disciplines, including cognitive psychology and linguistics. The major purpose of the chapter is to demonstrate the pervasiveness of reference-point phenomena and to emphasise the need to study *linguistic* aspects of CRP reasoning.

Part II deals with reference points in the semantics of colour adjectives. Chapter 3 summarises key studies of prototypicality effects in colour terms and presents linguistic evidence of the so-called *natural prototypes* (e.g. snow for *white*, blood for *red*). Chapter 4 introduces the distinction between default prototypes (foci and natural CRPs) and *compound* prototypes (combination-specific instantiations of col-

our). To anticipate the results, Part II will show that the view treating colour adjectives as terms anchored *only* by prototypes is oversimplified, because the notion of a prototype as such encompasses more than one reference-point phenomenon.

Part III presents a reference-point analysis of dimensional adjectives denoting vertical size. Each chapter in this part deals with one CRP or a cluster of CRPs.

Chapters 5 and 6 discuss the role of a norm (relative standard) as a reference point in the semantics of dimensional adjectives. In Chapter 5, I consider advantages of using the norm as an analytic tool in the study of relative adjectives and provide arguments for the CRP status of the relative standard. In Chapter 6, I question the overall applicability of the norm. More specifically, I argue that it is not the case that relative adjectives *always* mean '*A*-er than average for comparison class C' (e.g. *tall woman* – 'taller than an average woman'). I give an overview of norm-free constructions and argue that applicability of the norm is a matter of construal rather than an invariant property of relative adjectives.

Chapter 7 investigates the reference-point function of three *polar anchors* – the minimum point, the maximum point, and the absolute zero. Counter to the previous research, I suggest that relative adjectives may trigger not only open, but also (partially or fully) closed scales, i.e. scales having endpoints. Furthermore, relative scales in Slavic languages have a different structure from their counterparts in Germanic languages, which is evidence that there is no one-to-one relationship between adjective type and scale type.

Chapter 8 examines the role of EGO – dimensions and proportions of a human body – as a CRP anchoring conceptual specifications of spatial adjectives. In this chapter, I report the results of a case study demonstrating that speakers of Russian tend to use the adjective *nizkij* 'low/short' for smaller-than-human referents and to apply its near-synonym *nevysokij* 'not.high' to entities that are as tall as or taller than humans. The results of this case study are discussed in the light of vantage theory.

Chapter 9 takes a closer look at the CRP status of prototypes in the semantics of dimensional adjectives. The chapter deals with dimensional prototypes in both child and adult language and compares prototypicality effects in colour terms and dimensional adjectives.

Part IV (Chapter 10) summarises the main findings and discusses the implications of the results for both the theory of adjectival semantics and the reference-point theory.

Chapter 2. Cognitive reference points

2.1. Introduction

This chapter gives an overview of reference-point models in psychology, linguistics, and other areas of research. My intent here is to show that *linguistic* aspects of reference-point reasoning constitute an important, but heavily underresearched area. As we will see in this chapter, cognitive reference points were shown to play a crucial role in numerous facets of human cognition. They have been studied quite intensely, for example, in cognitive and social psychology, behavioural economics, marketing and management research. Very little attention, by comparison, has been given to reference-point phenomena in linguistics in general and in lexical semantics in particular. The only type of cognitive reference points that has been quite extensively studied in lexical semantics are prototypes. In this chapter and repeatedly throughout this thesis, I will argue that the "monopoly" of prototypes in lexical semantics is inadequate. There is more to linguistic aspects of reference-point reasoning than prototypes.

Since the notion of cognitive reference points was introduced by Rosch (1975a), I begin this chapter by summarising the core issues of the Roschean reference-point model (Section 2.2). After that, I give an overview of some elaborations of the Roschean model in psychology and other areas of (non-linguistic) research (Section 2.3). I then turn to the applications of the reference-point approach in linguistics (Section 2.4). The main points are summarised in Section 2.5.

2.2. Rosch's Cognitive Reference Points (1975)

2.2.1. Introductory remarks

The notion of *cognitive reference points* (CRPs) was introduced by Eleanor Rosch (1975a). As a starting point she used Wertheimer's (1938) claim that among perceptual stimuli there are "ideal types" that serve as anchoring points in perception. Building on the preceding research on prototypes (Rosch 1973a, 1973b, 1974, 1975b), Rosch (1975a) pursued the question whether focal colours and prototypical members of other categories can "be actual examples of ideal types which serve as reference points within our cognitive categories and classification systems" (Rosch 1975a: 532). The paper under discussion investigated reference-point effects in

three domains: colour, line orientation, and numbers. Before summarising the findings obtained for each of these domains, I will briefly describe the methodology used by Rosch (1975a).

CRPs are defined by Rosch as stimuli that other items are seen in relation to (p. 532). Therefore, the main criterion of a reference-point status used in Rosch (1975a) is an asymmetry between a CRP and a non-CRP. Two different tasks – a linguistic and a spatial one – were used to examine whether subjects, in fact, made asymmetrical judgments about various non-CRP stimuli and the presumed CRPs. On a linguistic task, the subjects were provided with two stimuli – a prototype and a non-prototypical member of the same category – and asked to place one stimulus in each of the blanks in the following sentence frame "A _____ is almost (virtually, essentially, roughly, sort of) a _____". Control pairs were two non-prototypical stimuli. Rosch hypothesised that the supposed CRP will be placed in the second and a non-CRP in the first blank, since non-reference stimuli are seen in relation to reference points, and not the other way around.

On a spatial task, one of the stimuli was fixed at the centre of a line grid and the other stimulus was to be placed by the subject in a position that represented her perception of the distance between the two stimuli. The hypothesis was that deviations would be placed closer to the reference point than the reference point would be placed to deviations.

2.2.2. Focal colours

The first type of reference points studied in Rosch (1975a) were focal colours. This choice cannot be surprising in view of the fact that prototypicality studies originated from Rosch's investigations of focal colours as most cognitively prominent members of colour categories (Rosch 1971, 1972, 1973b; Rosch & Olivier 1972, see Chapter 3). In all cases, both the focal colour and the deviant item were from the same colour category, i.e. they could be labelled by the same colour term.

The results largely confirmed the experimental hypothesis. On a linguistic task, the experimental pairs significantly exceeded the control pairs in the probability of the CRP being placed in the second slot. On a spatial task, there was a significant effect of the CRP status in target pairs differing in *saturation*, but no significant effect for the target pairs where the deviant item differed from the reference point in *hue*. There was also no significant effect in control pairs, which indicates that there is no asymmetry in the representation of two non-focal colours.

2.2.3. Line orientation

Rosch (1975a) hypothesised that vertical, horizontal, and diagonal lines would serve as reference orientations. Vertical and horizontal lines were chosen because "they are the basic directions in which objects can be oriented in relation to gravity, a fact apparently programmed into the mammalian visual system" (p. 533). Diagonal lines were selected as the simplest third dimension that, as Rosch assumed, may function as a CRP in Western cultures.

The results in this domain were less uniform than in the case of colour. On a linguistic task, the subjects placed reference lines more often in the second slot, the difference with control pairs being significant. On a spatial judgment task, however, only the effect for the vertical and horizontal stimuli was significant; there was no significant effect for diagonal lines.

Rosch (1975a) explains the different patterns of results obtained from the linguistic and the spatial task by arguing that there are degrees of referentiality.[1] More precisely, she suggests that some reference points can be more prominent than others. Very prominent CRPs provide asymmetrical judgments on both linguistic and spatial tasks, whereas "less referential" stimuli yield asymmetry effects only on a linguistic task, where subjects are forced to "seize on any difference between the stimuli which made one more of a reference point than the other" (p. 543). For instance, diagonal lines, though revealing slight reference-point effects, are not as salient as vertical and horizontal lines.

2.2.4. Numbers

In the domain of numbers, Rosch (1975a) expected multiples of 10 to fulfil the CRP function, since "decimal systems are, by definition, constructed of multiples of 10" (p. 533). The reference stimuli used in the experiments were 10, 50, 100, and 1000. Control numbers – 17, 36, 164, and 1027 – were of the same order of magnitude, but not multiples of 10. Deviations were either slightly higher or slightly lower than the presumed CRPs.

The results for numbers were uniform. On both tasks, the judgments of CRPs *vs.* non-CRPs were asymmetrical.

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[1] Roschean definition of *referentiality* is different from the way this term is used in linguistics. Scholars of language define referentiality as an ability of a nominal to introduce potential discourse referents (e.g. Givón 1978). In contrast, Rosch (1975) defines referentiality as an ability of an item to fulfil a reference-point function, so that other items can be categorised in relation to it.

2.2.5. Rosch (1975a): conclusion

From the obtained results Rosch concluded that prototypes "can serve as reference points in relation to which other category members are judged" (p. 545). Crucially, this formulation implies that prototypes being an example of a reference-point phenomenon by no means exhaust the inventory of CRPs anchoring various aspects of our cognitive activities. To quote Rosch:

> The present type of study of reference points may prove applicable to domains of human experience considerably more general than those which have been considered here. For example, a landmark is an obvious example of a reference point which people use to navigate through the environment, particularly through cities. It would not be surprising if judged distance between locations in a city and landmarks were asymmetrical (just as the judgements in the spatial distance task in Experiment II). And people in everyday life may well actually navigate through those distances as if they were asymmetrical. If use of reference points is a general cognitive strategy it should be applicable in many domains of human activity (Rosch 1975a: 546).

The ubiquity of the reference-point phenomenon alluded to in the above passage is crucial to the study reported in this thesis. To anticipate further discussion, I will argue that the confinement of lexical semantics to prototypes is unfortunate, since prototypes are not the only CRP type relevant to the semantic make-up of a word.

2.3. Elaborations of the Roschean model

The notion of cognitive reference points introduced in Rosch (1975a) was eagerly taken up by scholars in many fields of research. This section briefly reviews some of the relevant studies in cognitive and social psychology, behavioural economics, marketing and management research. My purpose here is to show that reference-point reasoning discovered by Rosch through the study of prototypes has a much wider scope than prototypes as such. In other words, a prototype is but one realisation of a very pervasive cognitive strategy to use CRPs.

2.3.1. Similarity judgments

Perhaps the most straightforward application of the Roschean CRP model are studies of similarity judgments in cognitive psychology (Roese et al. 1998; Tversky 1977; Tversky & Gati 1978). These studies replicated Rosch (1975a) in that people usually have one preferred direction of comparison, *viz.* they usually compare a less prominent (e.g. salient, familiar, concrete) item to a more prominent item (CRP). To give

just one example, Tversky (1977) and Tversky & Gati (1978) showed that a non-prominent country is judged more similar to a prominent country than vice versa. For example, people often prefer *North Korea is similar to China* to *China is similar to North Korea*.[2]

More recently, Bowdle & Medin (forthcoming) extrapolated the results obtained for similarity judgments to difference judgments. Their study has shown, in line with previous research on similarity judgments, that a CRP-item is preferred in the base-position (i.e. standard of comparison), whereas a non-CRP element is generally used as a target of comparison.

2.3.2. Spatial cognition

Another well-studied CRP type are spatial landmarks that were shown to be crucial both in child development and in the learning of new environments by adults (for a comprehensive overview see Evans 1980). The finding that environmental learning hinges on landmarks can be easily illustrated by the following example. When getting to know a new city, people would usually start by memorising the most salient points, such as, for example, the central station, the main square, or the biggest shopping centre. Paths would subsequently develop as elaborations of the landmark network.

Pursuing the line of research anticipated by Rosch in the quotation given at the end of Section 2.2, Burroughs & Sadalla (1979) and Sadalla et al. (1980) have shown that cognitive location of various points in space is stored and retrieved in relation to a smaller set of prominent spatial reference points (see also Couclesis et al. 1987; Tversky 2003, forthcoming). Furthermore, they observed the same type of asymmetry as in similarity judgments discussed above. Locations without a reference-point status are usually judged nearer to spatial reference points than are reference points to non-CRP locations. At this point, we can tentatively conclude that despite being diverse in form and function, all reference points seem to display the kind of asymmetry Rosch (1975a) discovered for focal colours, straight lines, and round numbers. By virtue of being most salient items, CRPs organise the conceptual space in such a way that other entities are seen in relation to them.

[2] For a criticism of this approach, see Gleitman et al. (1996).

2.3.3. Judgments of symbolic magnitude

The reference-point model proposed in Holyoak (1978, 1983) and Holyoak & Mah (1982) describes the way people compare two items in terms of magnitude (e.g. magnitude of digits, size of objects, geographic distances). The model assumes that what people usually compare is not the distance between the two stimuli, but the distance from each stimulus to the salient reference point. The reference point can be indicated explicitly, as in *Choose the stimulus closer to* ***X***. It can also be established implicitly. For example, it has been argued that the question *Which is larger* may trigger the upper bound as a reference point, whereas the question *Which is smaller* is likely to activate the lower bound to which the stimuli will be compared (see also Potts 1974; Woocher et al. 1978). For this reason, reaction times increase when people have to judge which of the two large objects is smaller or which of the two small objects is larger. This is an instantiation of the so-called *semantic congruity effect* first described by Shipley et al. (1945) and later studied, among others, by Audley & Wallis (1964), Banks & Root (1979), Jamieson & Petrusic (1975), Ryalls (2000), Ryalls et al. (1998), Ryalls & Smith (2000), and Smith et al. (1988). I will return to the reference-point status of the endpoints and the semantic congruity effect motivated by it in Chapters 7 and 9.

2.3.4. Social judgments

Reference-point reasoning was also shown to play an important role in people's judgments about social concepts. For example, a study reported in McFarland & Miller (1990) has found a false consensus effect when the subjects estimated the proportion of people who were similar to them and a false uniqueness effect when the subjects compared themselves with others. Put another way, people usually judge others as more similar to themselves than vice versa (note again the CRP/non-CRP asymmetry). Similar results were reported in Holyoak & Gordon (1983), Srull & Gaelick (1983) and Kunda & Nisbett (1988).[3] In addition, Holyoak & Gordon (1983) showed that concepts serving as CRPs in social judgments vary across judgment contexts. The subjects in their experiments rated a friend as more similar to themselves than vice versa. However, when making judgments about the self and social stereotypes, the CRPs changed. The results have shown that well-

[3] Counter to these studies, Karylowski et al. (2000) argue that the self has no privileged status as a reference point in social judgments. They suggest that the high prominence of the self is triggered by the experimental settings in which subjects are asked to compare themselves with distant acquaintances, rather than with close relations, such as family or friends (but see Holyoak & Gordon 1983, Experiment 1).

known social stereotypes usually function as reference points for making judgements about the self (see also Karylowski et al. 2000). However, the self serves as a CRP for social stereotypes with few known attributes.

Another line of reference-point research in sociology deals with the use of reference points determining national identity of immigrants (see, for instance, Tan & Waldhoff 1996, cf. Ciompi 1988). Such reference points include beliefs, language, facial expressions, and gestures. The research in this tradition has shown, for instance, that first-generation immigrants tend to use the reference points of their country of origin, whereas the second and third generations usually shift to the reference points of the society of immigration.

2.3.5. Behavioural economics and marketing research

The notion of reference points in behavioural economics was introduced by Kahneman & Tversky (1979) within the framework of *Prospect Theory*. On this view, a reference point divides the space of outcomes into the regions of gains and losses. Thus, people do not see outcomes as neutral, but characterise them in terms of success or failure. Prospect Theory has been applied to the analysis of numerous aspects of human economic behaviour, such as gambling and betting, intertemporal consumption, and the endowment effect (see, for example, Kahneman et al. 1990 and Knetsch et al. 2001).

Kahneman (1992) applied this analysis to the study of negotiation behaviour. He has shown that depending upon the CRP chosen in negotiations, people will evaluate the same result as either gain (in case the outcome is higher than the CRP) or loss (in case the outcome is lower than the CRP). It is therefore possible to change the result of negotiations by manipulating reference points. What is more, if negotiators initially adopt different reference points, they will assess the decision outcomes differently (see further Kristensen & Gärling 1997a, 1997b, 2000).

The notion of a reference point also plays an important role in marketing research, where it is sometimes called *reference price* (e.g. Chen & Bei 2005; Nunes & Boatwright 2004; Thomas & Menon, forthcoming). To give just one example, consumers usually compare the actual prices with a standard price they have stored in their mind. This internal reference price can be adjusted, for instance, by broadening price dispersion (Chen & Bei 2005) or manipulating confidence associated with price expectations (Thomas & Menon, forthcoming).

Another CRP type that has been studied in marketing research are incidental prices. Nunes & Boatwright (2004), for example, have shown that a price of an unrelated product stored in the short-term memory can affect the decision to buy a

target product. For instance, if before buying a cooker you encountered a price of a BMW, your willingness to pay for the cooker will increase, for even an expensive cooker will still be a lot cheaper than a BMW. If, in contrast, you have stored a price of a chocolate bar in your short-term memory, it can foster the decision not to buy the cooker, since in this case the price of the cooker will be higher than the incidental reference point from short-term memory.

2.3.6. Management studies

Prospect Theory with its inventory of reference points has also been applied to the studies of human organisational behaviour in work settings. For instance, Heath et al. (1999) have shown that goals function as reference points and alter the value of outcomes. This explains why people strive harder when they have a specific goal, such as finishing the paper by the end of the month.

Labianca et al. (forthcoming) have demonstrated that people perform better and faster if the activity starts at prototypical points in time (e.g. 3:45, 4:00) than when they start at atypical times (e.g. 3:52, 4:07), even though they are given objectively the same amount of time. The reason for it, according to Labianca and colleagues, is that Western representation of time is organised around prototypical examples that serve as reference points for atypical times. When starting times and deadlines are prototypical, people easily calculate how much time they have and efficiently plan their activities. When the activity starts and/or is supposed to finish at an atypical minute, people are likely to extend the working time until the following prototypical moment (e.g. 4:07 becomes 4:15).

2.3.7. Ubiquity of reference-point reasoning

In this section, I hope to have demonstrated that CRPs are pervasive in human cognition. A lot of cognitive domains were shown to be structured in terms of a restricted set of salient reference points. Common to all these domains is that people usually start by activating a prominent CRP that will subsequently give them access to a large number of non-CRP entities. Another important aspect of reference-point reasoning observed across various kinds of human activity is the asymmetry between reference and non-reference items. A non-CRP is usually judged more similar to the CRP than vice versa. This asymmetry is motivated by the cognitive salience of reference points, as well as by their function of structuring the conceptual and/or perceptual space and providing mental access to non-reference entities.

Given the ubiquity of CRPs, we have reasons to expect that language also involves a lot of reference-point reasoning. This expectation is based on one of the major tenets of cognitive linguistics that language is not a separate module, but an integral part of cognition, whose organising principles stem from the general properties of the human mind. In this thesis, I will argue that one of such general cognitive properties intrinsic to language no less than to other facets of cognition is the use of CRPs. In the following section, I will present an overview of linguistic applications of the reference-point model.

2.4. Reference-point models in linguistics

2.4.1. Reference-point constructions in Cognitive Grammar

2.4.1.1. Possessives. Perhaps the most influential reference-point model in linguistics was developed by Langacker (1991, 1993, 1995, 1999) within the framework of Cognitive Grammar. Initially, Langacker (1991) introduced the notion of reference points in the analysis of possessive constructions, including possessive pronouns, *s*-genitive, and *of*-genitive.[4] On this view, what all possessives have in common is that a salient entity is evoked for the purpose of establishing mental contact with a less salient target entity. To establish mental contact with the target means to "single it out for individual conscious awareness" (Langacker 1991: 170). The following passage is worth citing in full, since it summarises the essence of the Langackerian reference-point model quite well:

> I propose that possessives are susceptible to schematic characterization intermediate in abstractness between such notions as ownership and part/whole relations on the one hand, and mere association on the other. Possessive constructions evoke an idealized cognitive model that is comparable to the billiard-ball model <…> in terms of being abstract, ubiquitous in its applicability to everyday experience, and fundamental to how we conceptualize the world. The essence of this model is simply that some entities are most easily located with reference to others. The world is conceived as being populated by countless objects of diverse character. These objects vary greatly in their salience to a given observer; like stars in the nighttime sky, some are immediately apparent to the viewer, whereas others become apparent only if special effort is devoted to seeking them out. Salient objects serve as **reference points** for this purpose: if the viewer knows that a non-

[4] For the relevant differences between the reference-point structures in the *s*-genitive and the *of*-genitive see especially Stefanowitsch (2003) and Keizer (2007).

> salient object lies near a salient one, he can find it by directing his attention to the latter and searching in its vicinity (Langacker 1991: 170).

Thus, on this view, a reference point is a cognitively salient item that gives mental access to a less salient target. The set of possible targets that can be accessed through a particular reference point is called *dominion* (see Figure 2.1).

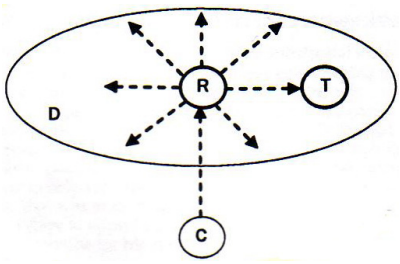

Figure 2.1. Reference-point relation.
C – conceptualiser, R – reference point,
D – dominion, T – target (Langacker 2001: 21)

The fact that a whole is more salient than its parts explains why whole objects are better reference points than parts of objects. Therefore, *the girl's neck* is felicitous and *the neck's girl* is odd (Langacker 1991: 171). Note that in this case, as in other instantiations of reference-point reasoning discussed in the preceding sections, we are again confronted with the CRP/non-CRP asymmetry.

The reference-point analysis of possessive constructions was adopted and further elaborated, among others, by Eckhoff & Berg-Olsen (2002), Janssen (2003, 2007), Stefanowitsch (2003), Taylor (1996), and Willemse (2006, 2007). One of the current topical issues is the status of the reference point with respect to the target. Both Langacker (1991: 175) and Taylor (1996: 210-7) suggest that in order to be easily accessible the reference point (possessor) must be definite and discourse-given, whereas the target (possessee) is usually new and indefinite. A corpus study reported in Willemse (2007), however, shows that this view is oversimplified in the sense that a "reference point mechanism (in nominal constructions) is not simply about anchoring a completely new entity to a given/known one". In about 70% of the cases in Willemse's corpus, the possessee was not fully new. Furthermore, Willemse (2006, 2007) distinguishes a separate type of nominal reference-point constructions – a so-called *esphoric NP* – where the reference point is usually new and the linear order of the reference point and the target is reversed (e.g. *the lights of a car*, where the car is a reference point).

An important contribution of the reference-point approach to the study of possessives is that it provides a unified account of numerous relations expressed by means of a possessive construction (e.g. ownership, kinship, part-whole, agent-process, experiencer-happening relationship, see Janssen 2003 for details). Rather than assuming that possessives have tens or even hundreds of different meanings, the reference-point view posits that there is an overarching schema, where mental contact with the target is established through a salient reference point, be that a possessor, a whole, an experiencer or an agent. In other words, the common core shared by all possessive constructions, irrespective of a great number of relations they can express, is that the relation between a reference point and a target is conceptualised as an asymmetric one.

2.4.1.2. Topic constructions. In a later publication, Langacker (1993) extends the reference-point model from the analysis of possessives to a wider range of grammatical phenomena that he calls *reference-point constructions*.[5] One of these is a topic construction. Consider the following example from Japanese:

(1)	sakana	wa	tai	ga	oisii
	fish	TOP	red.snapper	SUBJ	delicious

'(As for) fish, red snapper is delicious.'

Langacker (1993: 25) suggests that the topic element *sakana* 'fish' in (1) serves as a reference point identifying the domain for interpreting the utterance. Put another way, the class of fish, rather than the class of, say, sea-food or food in general, is in this case a reference point for assessing the taste of red snapper (see further Chapter 5 of this thesis).

Some presentational constructions can also be analysed in terms of reference points. See, for instance, Langacker's (1993) example in (2):

(2) On the table sat a nervous calico cat.

The locative *on the table* functions as a CRP that identifies "the set of trajector locations that satisfy its specifications" (Langacker 1993: 26). In this case, the reference point and its dominion coincide.

[5] Some of these constructions (e.g. topic, anaphora) had been anticipated already in Langacker (1991).

2.4.1.3. Deixis. In cognitive linguistics, deixis is defined as a "linguistic procedure by means of which a speaker relates an entity to the current speech situation in such a way that his addressee gains cognitive access to or mental contact with the entity concerned" (Janssen 2004: 983). The crucial role of reference points in deixis is already transparent from this definition. On the reference-point analysis, various deictics, such as personal and possessive pronouns, demonstratives, tenses, and local deictics, are seen as instantiations of the same general schema (cf. Janssen 1995). Consider example (3) from Langacker (1991):

(3) Ted scratched his nose, and so did Jimmy.

The anaphoric relation is established between *so did* in the second clause and *scratched his nose* in the first in spite of the fact that there were apparently two different noses involved. Langacker (1991: 179) explains this phenomenon by claiming that the subject in each clause serves as a reference point for the object (nose). By this view, an antecedent (reference point) gives mental access to its dominion, against which the target element is interpreted. Since there are two different reference points involved in (3), the targets are located in two different dominions: one nose is in the dominion of Ted and the other in the dominion of Jim.

A detailed reference-point analysis of pronominal anaphora can be found in Van Hoek (1992, 1995, 1997). Following Langacker (1991), Van Hoek suggests that an antecedent functions as a conceptual reference point, whose dominion specifies the context in which a pronoun is interpreted. Notice, for example, that (4) and (5) are ungrammatical if *he* and *Ralph* are supposed to be coreferential. According to Van Hoek (1997: 66), the reason is that a subject functions as a reference point with the rest of the clause in its dominion. Thus, pronouns are usually interpreted in the context of the dominion specified by the nominal subject. In (4) and (5), there is no dominion in whose context the pronouns can be interpreted, even when the pronoun is preceded by a nominal as in (5).

(4) # **He** saw a skunk near **Ralph**.

(5) # Near **Ralph**, **he** saw a skunk.

Van Hoek (1997) argues that the organisation of reference points is largely determined by prominence and semantic connectivity. Prominence involves relations such as profile/base and figure/ground distinctions. By semantic connectivity, she means that "other entities tend to be construed as belonging to the dominion of

the reference point to the extent that they are semantically connected with that reference point" (Van Hoek 1997: 218).

An analysis of temporal deictics in terms of reference points can be found, for example, in Hinrichs (1986). He uses the notion of reference points to distinguish between a deictic and an anaphoric use of tense morphemes. In their deictic use, tense morphemes locate the event time vis-à-vis the point of speech. In their anaphoric use, tense morphemes locate the event time vis-à-vis an independent reference point provided by the discourse. This independent reference point can be established, for example, by the use of temporal conjunctions (e.g. *when*-clauses) and adverbial phrases (e.g. *last week*). According to this line of reasoning, the interaction of reference points and event points results in various Aktionsarten (Hinrichs 1986: 72, cf. Langacker 1993: 17).

Following Langacker's (1993, 1995) analysis of tenses as a reference-point phenomenon, Cornillie (2005) uses the notion of a reference point to explain some relevant differences between deontic and epistemic modals. He suggests that deontic modals allow for tense and aspect marking due to their ability to be the profile of an expression, i.e. its maximally salient item. In contrast, epistemic modals do not allow aspect marking, since they fulfil a reference-point function, *viz.* their role is to provide mental access to the infinitival process. Given the CRP/target asymmetry, it is the infinitival process (target) that gets profiled and not the reference point.

2.4.1.4. Metonymy. In addition to the grammatical phenomena described above, Langacker (1993, 1999) uses the reference-point model in the analysis of metonymy. He argues that in metonymy "the entity that is normally designated by a metonymic expression serves as a reference point affording mental access to the desired target (i.e., the entity actually being referred to)" (Langacker 1993: 30). Thus, in a metonymic expression a salient entity can easily provide a mental path to a target that is less salient or harder to code. Witness (6):

(6) She bought Lakoff and Johnson, used and in paper, for just, $1.50.

The renowned authors of *Metaphors We Live By* are salient and easily-coded entities that enable the addressee to establish mental contact with the intended target, i.e. the book written by them. This example also shows that, in line with the general cognitive principles, people usually make better CRPs than inanimate objects.

A reference-point phenomenon closely related to metonymy is what Langacker (1993, 1995, 1999) terms *active-zone/profile discrepancy*. The profile of an expression is

its maximally salient part (Langacker 1987). The active zone includes those portions of an entity that participate most directly in a relationship (Langacker 1984). It is very common to use the profile as a reference point allowing mental access to the active zone, i.e. the intended target. For example, the dog is the profile of (7), but only its teeth constitute the active zone of the expression.

(7) The dog bit the cat.

Langacker (1993) argues that active-zone/profile discrepancy is a ubiquitous phenomenon precisely because it manifests the general image-schematic ability of reference-point reasoning. A dog is more salient than its teeth and is therefore a good "natural starting point for describing a situation" (Langacker 2003: 29). This example also shows that whole objects are better CRPs than their parts.

Further, Langacker (1995) uses the analysis in terms of active-zone/profile discrepancy to account for phenomena that have been handled in terms of raising rules in transformational grammar (see also Langacker 1993: 33-4). He suggests that raising constructions are one of the manifestations of the reference-point ability, where a profiled participant (the raised NP) "functions as a reference point for the entity that is most directly and crucially engaged in the designated relationship" (Langacker 1995: 37). For example, in (8), Don serves as a reference point through which the process of leaving is accessed.

(8) Don is likely to leave.

The view of metonymy as a reference-point construction was adopted and further elaborated, for example, by Alač & Coulson (2004), Blank (1999), Brône & Feyaerts (2003, 2004), Cienki (2007), Coulson & Oakley (2003), Dirven (1999), Paradis (2004), and Radden & Kövecses (1999). Within this approach, metonymy is understood as a very basic cognitive phenomenon extending far beyond the contiguity-based meaning transfer. For example, Cienki (2007) uses Langacker's reference-point model to deal with the metonymic sources in gesture and argues that both deictic (pointing) and representational gestures constitute reference points that provide mental access to their intended targets.

Metonymy as a reference-point phenomenon has also been applied to the study of humour. For example, Brône & Feyaerts (2003, 2004) suggest that humour generally employs so-called *marked reference-point* structures, where metonymy is a crucial means of incongruity resolution. These reference-point structures are distorted because they use a *non-salient* reference point as a frame unpacking device. This is different from "normal" reference-point constructions, where an entity be-

comes a reference point by virtue of its relative salience and is therefore able to give mental access to less salient items. Conversely, in humour salient elements are often intentionally suppressed and the "profile gap" provides additional non-salient reference points.

In summary, the reference-point model provides a very comprehensive account of metonymy at various levels of linguistic activity, from gesture to incongruity resolution in humour. And, what is more important, these phenomena are described as essentially grounded in our general cognitive ability to access one entity via a more salient entity serving as a reference point.

2.4.1.5. Further applications. In this subsection, I will briefly review a few further studies which use Langacker's reference-point model in the analysis of various, at first sight, unrelated phenomena. Rather than going into the details of each particular study, my purpose here is to demonstrate the ability of the reference-point model to provide a unified cognitive explanation of seemingly diverse phenomena.

Recently, Machida (2007) has applied the reference-point analysis to the study of adversative passives in Japanese. By way of illustration, see example (9).

(9) Ken-ga Taro-ni kaerareta.
Ken-NOM Taro.by go.home-PASS.PST

'Because Taro went back home, Ken was negatively affected.'

The Japanese sentence in (9) literally corresponds to 'Ken was gone home by Taro' and applies to a situation where Ken was negatively affected by the fact that Taro went home. Since strictly speaking Ken is not part of the act of going home, there must be a way of integrating him into the event described in (9). Machida suggests that in adversative passives an extra-participant is incorporated into the event through an intrinsic reference-point relationship between the patient and the event as a whole. In other words, the event of Taro's going home is salient enough to give mental access to Ken, who was negatively affected by this action. In this way, it is argued, the intrinsic reference-point relationship accommodates the extension of the Japanese passive construction to the adversative passive.

Smith (2006) uses the notion of a reference point in the analysis of the preposition-like word *er* in Palauan. This word has been traditionally treated as two homonyms – a specifier and a relational word. As a specifying word, it means that the objects of imperfective verbs are specific and singular and can therefore be glossed as a definite article (e.g. I like the fish *vs.* I like fish). As a relational word, it signifies such relations as possession, cause, location, time, goal, source, etc. Smith (2006)

argues that all these different senses are related through a general conceptual schema, viz. *er* designates a reference-point construction, in which a concrete object being intrinsically salient helps the conceptualiser establish mental contact with a less salient process. For instance, building on the above example, the fish may anchor the process (state) of liking it.

Another example of a unified reference-point account of what was traditionally treated as unrelated grammatical phenomena is Cienki (1995). Cienki discusses the parallels between spatial and possessive constructions in Russian and Bulgarian and argues that both are instantiations of the reference-point phenomenon. For instance, the Russian sentence *U Ivana kniga* 'at Ivan's book' has two readings: a spatial one (The book is at Ivan's, cf. *I am dining at my aunt's tonight*) and a possessive one (Ivan has a book). Cienki argues that in the case of a possessive reading, Ivan serves as a reference point giving mental access to the dominion of his possessions. On a spatial reading, the reference point serves as its own dominion, i.e. the dominion is equated with the reference point, cf. example (2) discussed above. The presence of an overarching schema involving a reference-point relationship provides a cognitively plausible explanation of the formal similarities between spatial and possessive constructions. In other words, this work shows that the similarities between the two constructions are not superficial, but well motivated by the general image-schematic ability to use salient entities for the purpose of establishing mental contact with less salient targets.

In a similar fashion, García-Miguel & Comesaña (2004) use the notion of a reference point to provide a unified account of cognition verb constructions in Spanish. They argue that the relevant differences between these constructions can be explained in terms of the relative prominence of entities that can function as reference points giving mental access to the propositional content. For instance, in the complex transitive construction (SUBJ-DO-OC), the object NP serves as a reference point providing mental access to its assessment by means of a predicative adjective (e.g. *The detective considered him* ***dead***), cf. Langacker (1995). In the ditransitive construction (SUBJ-DO-IO), an indirect object fulfils the function of a CRP from which the direct object can be located (see also Maldonado 2002 for an analysis of the Spanish dative along these lines). In the oblique transitive construction (SUBJ-DO-OBL), the role of a reference point is fulfilled by a prepositional adjunct.

In summary, the reference-point view presents an attractive monosemous account of various grammatical phenomena. It is plausible to assume, for example, that rather than having a myriad of different meanings, a possessive pronoun may have a single, very schematic meaning which receives various instantiations in different frames of reference (see Janssen 2003, 2006, 2007). It is also very plausible

that formal similarities between different constructions are not arbitrary, but stem from the general cognitive principles of reference-point reasoning.

2.4.1.6. Cognitive status of reference-point constructions. An important question that arises after the discussion of different reference-point constructions studied by cognitive grammarians is how these constructions relate to the CRPs identified by Rosch (1975a). In other words, are we dealing with the same cognitive phenomenon or with different phenomena referred to by the same term – *reference points*?

I would like to suggest that both the Roschean and the Langackerian reference points are essentially the same cognitive phenomenon. In the first place, Langacker (1993) himself places his reference-point constructions in the same group of phenomena as comparison (involving a point of reference and a target), metaphor (involving source and target domains), and prototypes (the Roschean CRPs).

In the second place, notice that Rosch defined CRPs as cognitively salient items that other items are seen in relation to. This is exactly the way dominions are defined in Cognitive Grammar: "The dominion consists of the conceptual structures that are construed *in relation to* the reference point" (Van Hoek 1997: 55, my italics).

In the third place, the crucial feature of a reference-point relationship on both the Roschean and the Langackerian account is the asymmetry between CRPs and non-CRPs. People judge a non-focal red as more similar to the focal red than vice versa. They also consider non-salient locations to be closer to salient landmarks than the other way around. The reason is that focal colours and important locations constitute better reference points than non-prototypical colours and less prominent locations. Similarly, language users find it more appropriate to say *Kate's car* than *the car's Kate*, because human beings are better reference points than non-human and/or inanimate objects.

Although Langacker (1991, 1993, 1995, 1999) applies the reference-point model only to the analysis of grammatical phenomena and metonymy, he strongly emphasises that reference-point reasoning is a very fundamental image-schematic ability and "we ought not to be surprised to find it manifested at multiple levels of conceptual and grammatical organization, even within a single expression" (Langacker 1993: 25). This means that we should be able to find aspects of reference-point reasoning not only in grammar, but also in other linguistic domains. In the following section, I turn to the use of the reference-point model in lexical semantics and show that semanticists (unlike psychologists and grammarians) adopted a very narrow understanding of CRPs that is largely equated with the notion of prototypes.

2.4.2. Reference points in lexical semantics

2.4.2.1. Round numbers. There have been a few linguistic studies developing Rosch's (1975a) ideas in the domain of round numbers. These studies focus on the linguistic peculiarities of numerals naming the CRP numbers. For example, Sigurd (1988) presents linguistic evidence that some numbers are more prominent ("rounder") than the others. Most prominent numbers are likely to be used in approximative expressions, such as *There were **thirty to forty** birds in the tree.* Approximatives usually involve round numbers, such as 10, 20, 25, 50, and 100. Some other numbers used in the approximative constructions are not round, but still very prominent, as in *four to five, seven to eight, ten to twelve.* Sigurd (1988) has also shown that the cognitive prominence of "round" numbers results in relatively high frequencies of reference numerals, as compared to non-reference numerals.

Relatedly, Dehaene & Mehler (1992) examined the frequency of numerals in seven different languages and came to a conclusion that there is a considerable decrease in frequency with magnitude, with occasional peaks for reference numerals, such as 10, 12, 15, 20, 50, and 100. Following Rosch (1975a), Dehaene & Mehler (1992) assume that reference numbers serve as anchoring points in the numerical domain and other, non-reference numerals are seen in relation to these salient CRPs. For this reason, reference numerals are used not only to refer to precise numbers, but also to make approximative numerical judgments, which accounts for their high frequency (cf. Hammarström 2004).

The same conclusions were made by Pollmann & Jansen (1996), a study of the approximative use of Dutch numerals. Like Sigurd (1988) and Dehaene & Mehler (1992), they found that it is not *any* numerals that can be used in approximatives. Only what they call *favourite numbers* can fulfil the approximative function. Their inventory of favourite numbers includes 0.01, 0.1, 1, 10, 100, 1000 and other *n*-powers of 10, as well as the doubles such as 0.2, 2, 20, 200, and 2000, the halves (0.5, 5, 50, 500), and the halves of the halves (0.25, 2.5, 25, 250) (Pollmann & Jansen 1996: 225).

In the same vein, Hammarström (2004) suggests that CRPs for numerals are those numbers that multiply the base (e.g. 10, 30, 1000, if the base is 10) and also the numbers between two base-multiples (e.g. 5, 15, 50).[6]

To summarise, the numerals naming CRP numbers were shown to behave differently from non-reference numerals. Only reference numerals can be used in approximative constructions, which increases their overall frequency.

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[6] As indicated by Sigurd (1988), the French numerals display some residual influence of the base 20. He shows that speakers of French, unlike speakers of English and Swedish, prefer counting in twenties or have prices such as 20, 40, and 60.

2.4.2.2. Spatial vocabularies. Another line of research using the notion of reference points is the investigation of spatial vocabularies. For example, a cross-linguistic study reported in Van der Zee et al. (2007) has shown that languages differ in how they code the relation between a target object and a reference point. In a series of experiments, the subjects were asked to describe the movements of a red dot (target) vis-à-vis a blue dot (reference point). The results yielded different strategies used by speakers of English and Finnish, on the one hand, and Dutch, on the other hand. The English and Finnish subjects did not code contact between the two dots, whereas in Dutch the presence or absence of contact proved relevant. For instance, the Dutch *vanuit* 'out of' signals the presence of contact with the reference point at the initial state of the target, whereas *tot bij* 'until, as far as' codes resulting proximity without contact. Notice that the same tools can be applied to the description of motion verbs. For example, the reference point for *leave* is the starting point of the path, whereas *reroute* involves a point of reference through which the journey takes place.

2.4.2.3. Prototypes. Both reference numbers and CRPs in spatial language have attracted relatively little attention as compared to the study of prototypes. In fact, a prototype is the only CRP type that has enjoyed huge attention in lexical semantics (Coleman & Kay 1981; Dirven & Taylor 1988; Geeraerts 1986, 1997; Geeraerts et al. 1994; Huang 1987; Kelly et al. 1986; Košelev 1999; Kuczaj 1982; Lakoff 1987; MacLaury 1995, 1997a; Rozina 1994; Šarić 2006; Taylor 1995; Tribushinina 2003b; Vogel 2004, *inter alia*).

Prototypes may indeed be taken as a prime example of reference points providing mental access to less salient, non-prototypical entities. For example, an experimental study reported in Kelly et al. (1986) has shown that in recall tasks subjects systematically change sentences so that prototypical instances of categories are mentioned before non-prototypical ones (Experiment 1). Further, sentences in which a prototype precedes non-prototypes are judged more natural (Experiment 2). Similarly, in dictionary definitions prototypes tend to occur before non-prototypes. Kelly and colleagues suggest that this pattern is determined by the reference-point status of prototypes: being more salient, prototypes are retrieved first and help to retrieve non-prototypical category members. Recall also that Rosch (1975a) developed her reference-point model based on the study of prototypes in the domain of colour.

The prototype-based approach to word meaning has expanded enormously over the last thirty years. It has become so pervasive in lexical semantics that a lot

of researchers started equating the notion of a reference point with the notion of a prototype. By way of illustration, consider a few quotations given below, my italics:

> Wittgenstein displaces the all or nothing demand of the classical approach with a tolerance for fuzzy boundaries, or, as he puts it in *Philosophical Investigations*, "blurred edges." Cognitive theorists like Eleanor Rosch and George Lakoff seek in addition to account for the predominantly "automatic and unconscious" human tendency to base categories on *"prototypical examples" or "cognitive reference points,"* such that (in contradistinction to the classical view) some members of a category will strike category users as "better" examples than others (Richardson 1997).

> A prototype, *also called cognitive reference point*, is a subcategory or category member that has a special cognitive status – that of being a "best example" (Fabbri 1999: 5).

> A cognitive reference point is a standard, which has a special cognitive status. It is a prototype (Bergen 1999).

These quotations nicely reflect the monopoly of prototypes in lexical semantics. Despite the fact that Rosch (1975a) strongly suggested that prototypes are only a special case of a ubiquitous strategy to use reference points, only this special case has attracted a lot of attention in lexical semantics. Other realisations of reference-point reasoning remained largely uncovered in semantic research.

I would like to argue that this state of affairs is problematic, since there is a lot more to the reference-point phenomena in word meanings than just prototypicality effects. I fully agree with Wierzbicka (1996: 167) that if a prototype is "treated as a magical key to open all doors without effort, the chances are that it will cause more harm than good". Prototypes proved useful for the semantic description of some lexical groups (see, for example, Chapter 3), but they cannot be applied throughout, since "a number of lexical items do not – or only partly – lend themselves to a prototypical description" (Cuyckens 1984: 174).

In this thesis, I will elaborate this idea focussing on adjectival semantics. I will show that prototypes provide a useful analytic tool for *some* groups of adjectives, such as colour terms. However, in other cases prototypes obviously fall short of adequate semantic descriptions. This is, for example, the case with dimensional adjectives which are to a much lesser degree oriented to prototypes than colour terms. However, these adjectives are vague and it is fair to assume that their conceptual specifications have to be anchored *somehow*. In other words, there must be other types of reference points involved in their production and interpretation. In Chapters 5-9, I will present a reference-point analysis of dimensional adjectives and

show that there is a whole range of CRPs facilitating the use of these adjectival words, prototypes being only one of these reference points, and not even the most salient one.

2.5. Summary

Cognitive reference points have been shown to play a major role in various aspects of human cognition. Reference-point reasoning is intrinsic to perception, categorisation, spatial orientation, social, organisational and marketing behaviour of human beings. All these domains seem to be structured by a restricted set of salient reference points that provide mental access to less salient entities.

Despite the growing interest of psychologists in reference-point reasoning, the notion of CRPs has generated relatively little interest in linguistics. A welcome exception is Langacker's reference-point model (1993) used to explore and describe a wide range of *grammatical* phenomena such as possessive constructions, pronoun-antecedent relationships, topic and topic-like constructions. What all these constructions have in common is that one salient entity serves as a CRP establishing mental contact with a less salient, associated entity. Crucially, Langacker's inventory of reference-point constructions constitutes the same cognitive phenomenon as CRPs studied in psychology and other research domains.

In this thesis, I will elaborate the CRP model by extrapolating it to cognitive *lexical* semantics. I will focus on two semantic groups of adjectives (colour and dimensional terms) and argue that prototypes are not the only CRP type relevant to the semantic make-up of these adjectival words. There are more reference points involved, which is especially obvious in the domain of vague scalar adjectives.

Part II. Colour adjectives

As has been explained in the preceding chapter, the notion of cognitive reference points in the semantic research has been primarily associated with prototypes (Rosch 1975a). The Roschean idea of prototypicality was largely shaped by her studies of categorisation in the domain of colour (Rosch 1971, 1972, 1973a, 1973b, 1975b). Since then, colour categories have often been cited as prime examples of natural categories organised around the prototypical core.

In view of this "colour-bias" in the studies of CRPs, I will start my account of reference-point phenomena in adjectival semantics with the analysis of colour adjectives. Chapter 3 summarises the key studies of prototypicality in colour terms and presents some *linguistic* evidence of the reference-point status of prototypes. In Chapter 4, I suggest further refinement of prototype theory and introduce the notion of *compound prototypes*, that highlights non-compositionality and non-absoluteness of colour adjectives.

Chapter 3. Prototypicality of colour adjectives

> ***It is by universal misunderstanding that all agree. For if, by ill luck, people understood each other, they would never agree.***
>
> Charles Baudelaire

3.1. Introduction

Given the fact that Rosch's work on prototypes in the domain of colour was inspired by Berlin & Kay's seminal book *Basic Color Terms* (1969), I start this chapter by discussing the main hypotheses put forward by Berlin & Kay (Section 3.2). Section 3.3 deals with the elaboration of Berlin & Kay's ideas by Rosch and her associates. Section 3.4 summarises the criticisms of the approach advocated by Berlin, Kay, and Rosch. Section 3.5 gives an overview of more recent studies of prototypicality effects in colour terms. In Section 3.6, I introduce Wierzbicka's approach to reference-point phenomena in the semantics of colour terms (the idea of natural prototypes) and present linguistic evidence in favour of her view. Section 3.7 provides further linguistic evidence of the reference-point status of prototypes. In Section 3.8, I discuss dynamic aspects of category construction determined by the per-

spective on the reference point (similarity or difference). The main findings are summarised in Section 3.9.

3.2. Basic colour terms

The principal aim pursued by Berlin & Kay (1969) was to challenge the radical relativist view that partitioning of the spectrum is determined by language and culture and not by the perceptual physiology. According to the relativist approach, people will distinguish the number of bands in a rainbow that is equal to the number of colour terms in their language. Counter to this view, Berlin & Kay claim that "a total universal inventory of exactly eleven basic colour categories exists from which the eleven or fewer basic colour terms of any given language are always drawn" (Berlin & Kay 1969: 2).

A basic colour term in the Berlin and Kay classification exhibits the following four characteristics: it is monolexemic, its signification is not embraced by another colour term, it is psychologically salient, and has a broad scope of application. Colour terms that do not possess at least one of these properties are non-basic (e.g. *crimson, snow-white, tawny*). According to these criteria, English has a complete inventory of eleven colour terms including *white, black, red, green, yellow, blue, brown, purple, pink, orange*, and *grey*.

The second basic claim made by Berlin & Kay is that the eleven pan-human colour categories become encoded in the history of a language in a fixed order: white, black ⇒ red ⇒ green/yellow ⇒ yellow/green ⇒ blue ⇒ brown ⇒ purple, pink, orange, grey. Thus, if a language contains only two colour terms, these will always be black and white. The next colour term to appear is red, which is usually followed by green or yellow, etc. It was also hypothesised that there is a direct correlation between the level of technological advancement and the number of colour terms that have already emerged in a language.

Kay (1975) and Kay & McDaniel (1978) revised the original Berlin & Kay hierarchy by introducing the notion of composite colour categories, i.e. categories made up of several *primary* basics (red, yellow, green, and blue). In languages having only two colour terms, one term would cover white, red, and yellow, and the other would cover black, green, and blue. Similarly, in languages having three colour terms – white, black, and red – red would be a composite category comprising orange, brown, purple, pink, and red as such.

Berlin & Kay arrived at their conclusions by analysing data for 98 languages. The data were collected from various sources, such as dictionaries, ethnographies, general descriptions, and personal communication with anthropologists. Whatever

the pitfalls of the methodology (see Section 3.4.1 for details), their hypotheses received various sorts of empirical support. For example, Dixon (1977) noticed that of the colour terms in English only four have inchoative derivatives: *blacken, whiten, redden*, and *yellow* (as a verb). Notice that these forms are derived from the first four adjectives in the Berlin and Kay hierarchy.

Corbett & Davies (1997) investigated the correlation of frequency of basic colour terms and their position in the Berlin & Kay hierarchy. The analysis of English and Russian corpora has shown that the most frequent terms in both languages are 'white', 'black', and 'red', i.e. the first three terms in the Berlin & Kay hierarchy. Similarly, Philip (2003: 136) found that the Berlin & Kay hierarchy corresponds quite neatly to the frequencies of colour terms in English and Italian corpora. There were some minor exceptions though. For example, instead of yellow and green appearing together, yellow was much less frequent, whereas green and brown appeared with similar frequencies. In the same vein, Moro (2007) has shown that frequencies of colour terms in English-lexifier Atlantic creoles reflect the basic patterns of colour evolution along the lines of Berlin & Kay (1969). The only exception in this case was 'grey' in Jamaican English.

Platonova (2007) conducted an experiment eliciting basic colour terms from speakers of Russian and Georgian. Russian speakers most frequently mentioned red, white, or black in the first place. Similarly, Georgians often started enumerating basic colour terms with 'white' and 'red'.

The evolutionary order of colour terms was only marginally relevant to Roschean studies of prototypicality effects. An aspect of the Berlin & Kay approach that directly inspired Rosch was their observation that best examples of colour categories are similar across different languages. I will take this issue up in the following section.

3.3. Cognitive salience of foci

Besides the literature research, Berlin & Kay did some experimental work on eliciting colour naming judgments from speakers of 20 languages. For this, they used a procedure introduced by Brown & Lenneberg (1954), a study that is considered to be the best elaboration of the Sapir-Whorf hypothesis with respect to colour. The subjects were asked to pick out the best examples of colours referred to by means of different colour terms. The choices were to be made from 330 chips of the Munsell colour chart. Berlin & Kay noticed that there was high between-subject agreement as to what counts as the most typical member of a colour category. What is more, the response patterns revealed a great degree of uniformity in the

choices of best colour samples *across different languages*. Berlin & Kay called these clusters of best examples *focal points*, or *foci*.[1] They concluded that colour categorisation is universal, because perception is universal. No matter what language one speaks, the human eye is more sensitive to focal areas than to other parts of the colour space. And since colour categories are formed around the universal foci, colour categorisation must be universal too.

Inspired by this finding, Rosch did extensive experimental work that has provided converging evidence of perceptual-cognitive salience of foci (Rosch 1971, 1972, 1973b). The experiments reported in Rosch (1971) have shown that focal points more readily attract attention. For instance, 3-year-old American children systematically preferred focal colours to non-focals in response to a request 'Show me a colour'. 4-year-old American children were able to match focal colours more accurately than internominal and boundary colours. In the same vein, 3- and 4-year-old American children more often chose focal colours as denotations of colour names than non-focal ones.

Rosch (1972) presented strong evidence that both American subjects and the Dani of New Guinea (whose language lacks all the chromatic colour terms) were able to remember focal colours more accurately than non-focals. Rosch (1973b) demonstrated that colour categories centred around focal colours were faster and more easily learnt by Dani subjects than categories whose central members were non-focal. These studies have shown, counter to the relativist view, that foci are perceptually and cognitively salient not only for speakers of languages having labels for these colours, but also for speakers of a language that only has composite categories, roughly corresponding to 'black' and 'white'.

In a similar vein, Mervis et al. (1975) presented experimental evidence that foci of colour categories become stabilised prior to boundaries. So, focal choices for kindergarteners in their experiment were the same as those for adults, whereas the children's boundary judgments significantly differed from the judgments obtained from adult subjects.

In summary, experimental research initiated by Berlin & Kay (1969) and continued by Rosch and her associates has presented compelling evidence of a privileged cognitive status of focal areas in the colour space. Colour terms attached to these areas proved to be more easily remembered and first learnt by children. The finding that foci of colour categories have a privileged status and are seen as the best examples of a category was crucial to the development of prototype theory. In

[1] Interestingly enough, the same observation was made by Brown & Lenneberg (1954: 458). However, following the relativist tradition, Brown & Lenneberg were more interested in culture-specific boundaries than in cross-linguistically stable foci.

later research, Rosch and her collaborators extrapolated these results to other domains and demonstrated that categories of various kinds may have a prototypical core that is most salient and first acquired by children (e.g. Rosch 1975a, 1975b). Furthermore, prototypes were shown to serve as cognitive reference points that other, non-prototypical category members are seen in relation to (see Chapter 2).

3.4. Criticism of the universalist approach

The work by Berlin & Kay (1969) and, to a somewhat lesser degree, Rosch has attracted widespread criticism of both methodological and theoretical nature. In this section, I will summarise the main criticisms that have been repeatedly made in the relevant literature. Section 3.4.1 gives an overview of pitfalls of the approach pursued in Berlin & Kay (1969). In Section 3.4.2, I summarise counterevidence to the ideas of Rosch and her collaborators.

3.4.1. Pitfalls of Berlin & Kay (1969)

Starting from the very first reviews of the book (e.g. Durbin 1972; Hickerson 1971; Newcomer & Faris 1971), critics have always paid a lot of attention to the methodological weaknesses of Berlin & Kay (1969).

3.4.1.1. Representativeness of the sample. Both sources of data used by Berlin & Kay have been severely criticised. In the first place, there was no systematicity and/or justification of the use of various written sources on the 98 languages. Numerous misprints, mislabelled colours, ethnographic mistakes, and phonemic mistranscriptions seem to confirm the conclusion often made by reviewers that "research was done hastily and unsystematically" (Hickerson 1971: 263, see also Saunders & Van Brakel 2002: 335; Van Brakel 1993: 12).

In the second place, we know from Berlin & Kay (1969) that colour naming and focus naming data were elicited from speakers of 20 languages. For one of these languages, Tzeltal, it is specified that 40 informants participated in the study. For the other 19 languages, no information is given on the number of subjects. Berlin & Kay do note, however, that for some of the languages only *one* informant was used. What is more, with the exception of the Tzeltal, all informants were bilinguals residing in the San Francisco Bay area.[2] The authors specify neither how

[2] There is evidence that bilinguals' performance on colour categorisation tasks significantly differs from the performance of monolingual speakers. For instance, Lenneberg & Roberts (1953) no-

long the subjects had been living in the United States, nor whether they were still using their mother tongue. It is also not known whether the same experimenters carried out all the studies, whether all the experiments were held in the same place, or whether experimenters were known to the subjects (Durbin 1972: 258).

3.4.1.2. American bias. Another often-repeated criticism is the use of the English lexicon as a metalanguage, which, according to various critics, led to the conclusion that at the meta-level there were exactly the same eleven basic colour terms as in American English (Saunders & Van Brakel 2002: 334). As Lucy (1997: 331) puts it: "*what is there is a view of the world's languages through the lens of our own category*, namely, a systematic sorting of each language's vocabulary by reference to how, and how well, it matches our own". I will return to this issue in Section 3.4.2.

3.4.1.3. Munsell colour chips. Quite a number of criticisms concerned the use of the Munsell colour chart. Firstly, on the foci elicitation task, all 330 colour chips were shown together. It is well-known, however, that the appearance of colour depends on the surrounding colours, so that a different order of colour chips could have resulted in different focality choices (Van Brakel 1993: 112-3).

Secondly, all the foci in the Berlin & Kay experiments were colour chips at maximum saturation. According to the opponents of the approach (e.g. Roberson et al. 2000; Saunders & Van Brakel 1997, 2002; Van Brakel 1993), it is saturation and not a cognitively privileged status that made focal chips more salient in the experiments. Therefore, so the argument goes, if saturation had been changed, there would have been no unequivocal agreement on foci. However, as shown by Miyahara (2003), varying saturation does not affect focality judgments. Miyahara randomly used four different levels of saturation and asked subjects to choose the best examples of red, green, blue, and yellow. There was no significant effect of saturation in this experiment. This result speaks in favour of Berlin & Kay (1969).

Thirdly, some languages not only discriminate colours on the basis of hue, brightness, and saturation, but also make such distinctions as unfaded *vs.* faded or dry *vs.* wet (Dedrick 1996, 1997; Lucy 1997; Roberson et al. 2000: 395; Saunders & Van Brakel 1997; Simpson 1991; Stanlaw 1997; Van Brakel 1991: 245). The domain of colour may overlap with the domains of form, ripeness, and ritual (Saunders & Van Brakel 1997: 178; Van Brakel 1993: 113-4; Van Kruysbergen et al. 1997: 209). Such dimensions cannot be elicited using the Munsell chart. For this reason, ac-

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ticed that bilingual Zunis who knew English were better at distinguishing orange and yellow than monolingual speakers of Zuni, since yellow and orange belong to the same category in Zuni, but not in English.

cording to Van Brakel (1993), 95% of the world's colour words were left out in Berlin & Kay's study.

3.4.1.4. Inattention to language use. The denotational tasks performed by means of the Munsell colour chart have another important disadvantage: they totally ignore the way colour terms are actually used in the languages under study. No notice is taken of how linguistic context, speech situation, and communicative constraints may influence the choice of a colour term (Lucy 1997; Van Kruysbergen et al. 1997; Wyler 1992: 12).[3]

To give an example, Zuni has two lexemes for the yellow part of the spectrum. One of them is used with reference to a great variety of objects, whereas the other can only be applied to objects that have become yellow through aging or fading (Newman 1954, quoted in Lucy 1997). Focusing on the denotational range of the Munsell chart does not capture these crucial aspects of the Zuni colour terms. Nor are the syntactic frames in which colour terms appear taken into account. To quote Broakes:

> It is important to know about the extension and focus of colour terms, which are the core of the important: the qualifiers and modifiers (like our 'light', 'dark', 'reddish') and comparatives (like 'redder than' and 'darker than'). And finally, we need to know about the use of phrases like 'there is some x in y' – as when we talk of the red in a certain pink. We need something like a whole grammar of colour. A mapping of extensions alone, for English, tells us the extent of 'red' and of 'orange', but says nothing about whether there is red in orange or orange in red. Yet it is that kind of judgment that is ultimately the most interesting (Broakes 1997: 184).

For this reason, Lucy suggests, the technique used by Berlin & Kay "cannot tell us how these other languages handle reference in general or even colour reference in particular; it can only tell us how close they approximate our own technique of colour reference" (Lucy 1997: 333).

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[3] Interestingly, the number of colour terms may vary not only across languages, but also within a language, since different areas of human activity use different colour vocabularies. For instance, the Horticultural Dictionary and Colour Chart of the Horticultural Society list the following *basic* colour terms: yellow, orange, red, pink, purple, violet, blue, and green. Note that these are not the basic colour terms of the Berlin & Kay hierarchy. The choice of colours in this case is "determined by the exigencies of the plants and flowers whose colours are to be described. It becomes obvious that the linguistic and the pragmatic reality of ordinary life and ordinary language differ from the systematic and scholarly approaches to colour and colour names" (Wyler 1992: 62).

3.4.1.5. Criteria for "basicness". A number of inconsistencies have also been indicated with respect to the criteria for distinguishing between basic and non-basic colour terms. For example, if we systematically apply the criterion that basic colour terms should not be derived, then we will have to reject not only *orange*, but also *purple* (from Lat. *purpure purpuram* 'mollusc'), *green* (from W.Gmc. *gronjaz* 'grow'), *yellow* (from IE *ghelwo* 'gold'), and many other basics (Simpson 1991: 413-4).

Yet another stumbling block of the Berlin & Kay hierarchy is that some languages seem to have twelve rather than eleven basic colour terms. For example, Hungarian presumably has two basic terms for red, and Russian has two basic colour words for blue (Corbett & Davies 1997; Frumkina 1984; Paramei 2005; Simpson 1991; Van Brakel 1993; Wierzbicka 1990).[4]

3.4.2. Counterevidence from Berinmo: against Roschean universalism

Not only Berlin & Kay (1969) attracted extensive criticism. Studies of focality and prototypicality conducted by Rosch have also been intensely criticised. Probably the most well-known publication arguing against Roschean claims is Roberson et al. (2000). Roberson and her associates conducted a series of experiments with speakers of Berinmo (Papua, New Guinea), whose language contains five basic colour terms. None of these experiments replicated the results reported by Rosch. In this section, I will briefly compare the main findings of Rosch with those of Roberson et al. (2000).

First, Rosch & Olivier (1972) found that colour memory did not depend on colour vocabulary. Experiment 1 reported in Roberson et al. (2000) provided no support that patterns of memory confusion are more similar across languages than patterns of naming and memory confusion within a language. Quite on the contrary, their results have shown that "Berinmo speakers' confusions in memory are strongly linked to their patterns of naming and bear little resemblance to the pattern of confusions in memory displayed by English-speaking participants" (Roberson et al. 2000: 377).

Second, Rosch (1972, Experiment 3) found that focal colours are more easily remembered. Roberson et al. (2000) argue that focal colours were more easily remembered in Rosch's experiments because they were the most saturated hues

[4] MacLaury et al. (1997), however, argue that only one of the Hungarian words for red – *piros* – is basic, whereas *vörös* is claimed to be non-basic. In a similar fashion, Taylor et al. (1997) suggest that only *sinij* is basic in Russian, and *goluboj* is non-basic. However, as shown by Paramei (2005), *goluboj* is currently undergoing further establishment as a basic colour term. Counter to Taylor and colleagues, Paramei argues that the relation between *sinij* and *goluboj* has already moved from co-extension to complementation.

available (see Section 3.4.1.3). When Roberson and colleagues randomised and reduced the array, the discriminability advantage for focals disappeared for both English and Berinmo (but see Miyahara 2003).

Third, Rosch (1972, Experiment 4) found that words were mapped onto focal colours more rapidly than onto nonfocal colours. In contrast, the analysis of error data from the Berinmo participants showed no advantage for focal over nonfocal targets. From this Roberson and colleagues conclude that prototypes are not universal and not salient from the very beginning. Rather, the argument goes, distinguishing foci is a later stage in the development of colour categories. As they put it:

> Evidence from the present series of experiments would suggest that Berinmo categories have not formed around prototypes, as for the most part, there is little agreement about best examples. Thus, the specification of best examples may not initially have great cultural salience. In any case, focal colors appear to play no part in facilitating recognition or encouraging new learning. The development of focal stimuli that are consistently selected with consensus across a community may represent a second phase of categorization in which the perceptual space at the center of the category shrinks (items become to appear more similar). Once a category has been delineated at the boundaries, exposure to exemplars may lead to the abstraction of a central tendency so that observers behave as if their categories have prototypes (identifying focal colors faster, making same judgments faster, but different judgments more slowly) (Roberson et al. 2000: 395).

Roberson et al. (2000) also conducted two additional experiments demonstrating that similarity judgments are based on language-specific category boundaries rather than on universal boundaries predicted by Berlin & Kay. For example, English speakers found it easier to learn the distinction between a blue and a green colour than between two different kinds of green. For Berinmo speakers, both tasks were equally difficult, because blue and green belong to one category in their language. This finding replicated the results reported in Lenneberg & Roberts (1953) and Brown & Lenneberg (1954). Lenneberg & Roberts (1953) demonstrated that speakers of English never confused orange and yellow on a recognition task, whereas Zuni subjects in their experiments systematically confused the two colours, because this borderline is not marked in their language. Much in the same vein, Brown & Lenneberg (1954) found that codability of colour terms influences recognition. So, their English-speaking subjects were better able to discriminate between colours that could be described by a singe colour word than between colours that could only be referred to by means of a descriptive phrase.

To summarise, Roberson et al. (2000) have argued that neither foci nor colour categorisation in general are universal. The way people divide colour space depends on how many colour terms their language has. However, it should be said that even pre-linguistic infants were shown to have categorical perception of colour, which can by no means be determined by language. Bornstein et al. (1976) was the first study to demonstrate that 4-month-old infants perceive primary colours categorically, i.e. colours from the same category are discriminated less easily than equivalently spaced colours from different categories. Franklin & Davies (2004) replicated these results and demonstrated that secondary colours (e.g. purple, pink) are also perceived categorically. Similarly, Franklin et al. (2004) have shown that language does not influence categorical perception of colour in toddlers (age range: 2-4). In one of their experiments, Himba toddlers (north-western Namibia), whose language contains five colour terms, showed the same pattern of categorical perception of colour as English-speaking children. Curiously enough, both English and Himba children have shown categorical perception of blue *vs.* purple, despite the fact that in the Himba language blue and purple are labelled by the same colour term.

It is interesting to note that the data from Berinmo were revisited by Kay (2005) and Kay & Regier (2007). These studies have shown, counter to Roberson et al. (2000), that colour naming data in Berinmo *confirm* the universality hypothesis rather than refuting it. More precisely, colour boundaries in Berinmo appeared to be very typical of other five-term languages. According to Kay & Regier, the fact that Roberson et al. (2000) could not replicate the results obtained by Rosch is not sufficient evidence in favour of radical relativism.

3.5. More evidence of focality

Partly in response to the extensive criticism, Kay and his co-workers collected a large database of colour naming data and focal choice data. This database is called *World Colour Survey* (WCS). The goals of the project were two-fold. They aimed to "assess the general hypotheses advanced by Berlin & Kay against a broader empirical basis", on the one hand, and to deepen their knowledge of universals in colour term inventories, on the other hand (Kay et al. 1997: 22). The WCS contains data elicited from 2,616 informants representing 110 languages. In most cases, the languages under study were represented by 25 speakers. The majority of these languages are spoken by pre-industrial societies. A methodological departure from Berlin & Kay (1969) was that chip naming judgments were elicited on individual chip presentations rather than on the presentation of the full array of the Munsell

colour chart. Judgments of focality were, however, elicited in the same way as in the original study, i.e. from 330 colour chips (Kay et al. 1997: 23).

Lindsey & Brown (2006) examined the clustering of colour naming patterns elicited from each informant in the WCS. Analysis of concordance has shown that there are small portions in the colour space that exhibited high concordance across different languages. These areas largely correspond to English colour categories PINK, BLUE, GREEN, BROWN, PURPLE, YELLOW-or-ORANGE, and GRUE (GREEN-or-BLUE).

In addition, the focus naming data from the WCS offer strong support to focality and universality of foci. Speakers of 110 (predominantly tribal) languages systematically focus on 4 of the 40 hue columns in the Munsell chart (MacLaury 1997b: 202).

Besides the WCS, there have been quite a number of experimental studies providing evidence of focality effects. For instance, Frumkina & Mikheev (1983) report a considerable degree of uniformity in focality judgments of their Russian informants (also Mikheev 1987).

The experiments reported in Linde & Paivio (1979) investigated symbolic comparison of colour similarity to foci. The results have shown that the time necessary to decide which of the colour chips is a better example of a colour name depends on the relative distance of the colour samples from the focus.

Jameson & D'Andrade (1997) present evidence that foci are maximally distant from one another (perceptually) and are in this sense maximally informative and thus linguistically privileged (cf. Sun 1983).

Further support for focality effects comes from Andrick & Tager-Flusberg (1986), a study investigating the role of focal colours in the acquisition of colour terms. On a comprehension task, the experimenters asked 2-, 3-, and 4-year old children to give them all the colours that are called by a certain colour word. The procedure was repeated until there were no more colours in the set with that name. On a production task, the children were presented with colour chips and asked to name the colour. Focality was a highly significant main factor in both comprehension and production tasks, i.e. all the age groups performed better on focal colours. Thus, Andrick & Tager-Flusberg (1986) confirmed earlier research demonstrating that foci influence the acquisition of colour terms. Their findings also strongly suggest that foci are acquired very early; it is the boundaries of colour categories that take a lot of time to learn (cf. Mervis et al. 1975). This result is not surprising, in view of the fact that foci are physiologically determined, whereas boundaries are language- and culture-specific. Thus, the acquisition of boundaries strongly depends on the input. It is then not correct to say that colour categorisation is deter-

mined *only* by universal physiology of perception (radical universalism) or *only* by language and culture (radical relativism).

In the same vein, Garro (1986) argues that both language and focality have strong effects on colour memory. Focal chips are indeed more easily remembered. But the fact that certain colours have linguistic labels facilitates recognition. This finding argues for a reconciliation of radical universalism and radical relativism by clearly demonstrating that both perception and language influence the way we conceptualise the world.

In a similar vein, Kay & Regier (2007) suggest that neither radical universalists nor radical relativists present a true picture of colour categorisation. They claim that there are *both* universal constraints on colour naming and the influence of colour naming difference on colour recognition and memory. I concur with Andrick & Tager-Flusberg (1986), Garro (1986), and Kay & Regier (2007) that colour categorisation cannot be reduced to universal physiology, nor is it the case that anything goes. Both universal constraints and the influence of language and culture are crucial in the way people conceptualise colour and perform cognitive operations with colours and colour terms.

Another crucial study of colour words taking a position in the middle of the universalist-relativist continuum is Wierzbicka (1990).[5] I will consider her proposal in greater detail in the following section.

3.6. Wierzbicka's approach: between relativism and universalism

3.6.1. Natural prototypes

As indicated above, Wierzbicka (1990, 1996) argues against both radical universalism and radical relativism. She suggests that colour perception is, by and large, the same for different communities, while colour *conceptualisation* varies. However, colour conceptualisation is not totally language-specific either. Universals in the domain of colour, Wierzbicka maintains, are provided by the universal rhythm of light days and dark nights, as well as various visually salient environmental entities such as the sun, the sky, the sea, fire, vegetation, and the earth. These environmental universals provide frames of reference for visual categories in general and colour categories in particular. In order to communicate about colour, we project our individual sensory experiences to salient entities in the shared environment (cf. Frumkina 1984: 77; Van Brakel 1993: 115). Meanings of colour words are under-

[5] An expanded version of Wierzbicka (1990) appeared as a chapter in Wierzbicka (1996).

stood in terms of similarity with these perceptual anchors, which Wierzbicka calls *natural prototypes*, or *natural reference points*.

By this view, foci are perceptually salient, but they do not make a category. In order for a linguistic category to appear, foci have to be linked to natural reference points. In Wierzbicka's words:

> <…> in Thai (like many other languages) it is the sky which is treated as a 'natural prototype' of a blue-like category; and this 'natural prototype' is different from the kind of 'blue' which is perceptually most salient and which is likely to become the focus of the not-yet-born basic 'blue' category. For this category to be born, the focal, perceptually salient 'blue' must become conceptually linked with some noticeable reference point in the speakers' experience – such as, for example, the idea of the sky on a sunny day (Wierzbicka 1990: 124).

In a similar fashion, Wierzbicka (1990, 1996) argues that a well-established prototype of *white* is a snowy landscape; *black* is thought of as the colour of the night, *green* is generally considered as the colour of vegetation, *brown* is largely associated with the earth, and *red* is often seen as the colour of blood and fire (cf. Alimpieva 1986: 23-5; Fetisova 2003, 2005; Makovskij 1996: 10; Tribushinina 2001b, 2006b).

Languages may, however, differ in the associations established between colours and environmental reference points. For example, in the British culture the sun is yellow, whereas in German and Russian it is sometimes conceptualised as red and sometimes as yellow (Philip 2003: 142). A great deal of variation has also been observed with respect to the blue category. For instance, English has only one basic colour term for 'blue'; this blue is then associated both with the sea and the sky. In Italian and Russian, there are two terms (light- and dark-blue): *azzuro* and *goluboj* are related to the sky, whereas the sea is typically *blu* in Italian and *sinij* in Russian (Philip 2003: 13). Interestingly, the Japanese term *aoi* has a triple model comprising the sky (primary point of reference), the sea (secondary point of reference), and vegetation after rain (tertiary point of reference) (Wierzbicka 1996: 312-3). These differences show that the meanings of colour terms are only partly determined by physiology. Meanings reflect conceptualisations, which, in their turn, may be shaped not only by the perceptual salience of foci, but also by the cultural salience of natural phenomena like the sea and the sky.

The idea of natural prototypes presented in Wierzbicka (1990, 1996) is very appealing. For one thing, since ancient times, the four elements (earth, sky, air, and water) have been fundamental to understanding the world in general and colours in particular. For instance, in the Platonic system blue was related to air, green to water, yellow to earth, and red to fire (Foss 1997: 189; Philip 2003: 16-8; Šramm 1979:

66). This is, however, not enough for linguistic research. Although intuitively we can easily admit that colours are largely associated with the natural reference points described by Wierzbicka (1990, 1996), what is needed is a search for *linguistic evidence* of these associations. This is what I am going to do in the rest of this section.

3.6.2. Linguistic evidence for natural prototypes

3.6.2.1. Etymology. To begin with, a lot of colour adjectives are etymologically related to the names of natural prototypes described by Wierzbicka (1990, 1996). For instance, in Walpiri (Australia), the adjective for red is *yaluk-yaluk* 'blood-blood', the term for brown is *walya-walya* 'earth-earth', and the word for green is *yukuri-yukuri* 'grass-grass' (Wierzbicka 1990: 137).

The English term *red* is presumably related to the Indo-European root **rhudira* that originally denoted 'blood' or 'saffron' (Wyler 1992: 143).[6] Likewise, in Nasioi (Papua New Guinea), the adjective for red is also the word for blood (Berlin & Kay 1969).

In Russian and Polish, the words for green are etymologically derived from 'herbs' (Baxilina 1975; Nagel 2000). The English word *green* is believed to be related to the verb *grow* (Wierzbicka 1996: 306). Similarly, the Swahili term for green contains explicit reference to leaves (Berlin & Kay 1969: 40).

These are but a few examples of a very pervasive tendency to derive colour words from names of salient environmental reference points.

3.6.2.2. Dictionary definitions. Wyler (1992: 51) characterizes colour terms as words that "escape definition". Indeed, mathematical and physical scientific definitions of colour names are of little use to an average language user. Meanings of colour terms cannot be identified with their referents, i.e. hues produced by particular wavelengths. Definitions in terms of unmixed and mixed colours are also of little use. A practical long-standing solution used by dictionaries is reference to well-known objects whose colour is their salient property. Thus, dictionary definitions can also provide clues about associations between colour names and prototypical possessors of the colours within a particular worldview (Frumkina 1984; Kul'pina 2001; Volkov 1989). By way of illustration, consider Table 3.1 summarising the entities used as examples of typical white, brown, red, and green in several dictionaries of English.

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[6] Swadesh (1972: 204) also notes a possible etymological relation between *red* and Latin *ardere* 'burn'. This observation is in line with Wierzbicka's (1990) proposal that fire might be a more salient prototype of redness than blood.

	white	**brown**	**red**	**green**
Collins Cobuild English Dictionary (1995)	snow, milk	earth, wood	blood, ripe tomato	grass, leaves
BBC English Dictionary (1992)	snow, milk	earth, wood	blood, ripe tomato	grass, leaves
Webster's Ninth New Collegiate Dictionary (1984)	snow, milk	between red and yellow	blood, ruby	grass, emerald
MacMillan English Dictionary (2002)	milk, snow	wood, coffee	blood	grass
Cambridge International Dictionary of English (1995)	snow, milk, bone	chocolate, earth	fresh blood	grass
Longman Dictionary of English Language and Culture (1998)	milk, salt, snow	earth, wood, coffee	blood, fire	leaves, grass

Table 3.1. Natural prototypes in dictionary definitions

As is evident from the table, there is a great deal of uniformity between dictionaries. Snow and milk are the most salient prototypes of whiteness. Earth and wood are strongly associated with the brown colour. Blood is by far the most dominant natural prototype of redness.[7] Grass and leaves are seen as the best instantiations of green. This might be taken as evidence that speakers of English associate colours with the natural prototypes pointed out by Wierzbicka.[8]

3.6.2.3. Comparisons: *as A as X.* The reference-point status of natural prototypes can also be illustrated by the frequent use of nouns denoting these prototypes in the comparative construction *as A as X*, where *A* is an adjective and *X* is a prototypical object (e.g. *as white as snow, as red as a lobster*). A lot of these comparisons have become either idioms or habitual collocations.

The analysis of such constructions in the two corpora – the BNC and the RNC – strongly suggests, in line with Wierzbicka (1990, 1996), that salient natural prototypes are often used as standards of comparison in both English and Russian. Let me give a few examples to illustrate the point. In both English and Russian, instan-

[7] Nagel (2000) studied the definitions of 'red' in Russian and Czech dictionaries. He observed that most definitions contain reference to blood as a prototypical possessor of the red colour.
[8] From the analysis of dictionary definitions of colour terms, Šramm (1979: 66) concludes that we, in fact, know nothing about the nature of colour and still use an ancient way of forming meanings in this domain, i.e. we conceptualise colour on the basis of similarity with a prototypical object (Šramm 1979: 66, cf. Foss 1997).

tiations of white are often compared to the colour of snow (examples 1 and 2), chalk (examples 3 and 4), milk (examples 5 and 6), paper (examples 7 and 8), and sheets (examples 9 and 10).

(1) The linen when dry is **as white as snow**. (BNC)

(2) Лошади были **белые, как снег**,
horses-NOM were white-(LF)PL.NOM like snow-NOM

стройные, сытые и поразительно
slender-(LF)PL.NOM replete-(LF)PL.NOM and strikingly

похожие одна на другую. (RNC)
similar-(LF)PL.NOM one-SG.F.NOM on other-SG.F.ACC

'The horses were as white as snow, slender, replete, and remarkably similar to one another.'

(3) No matter how carefully he sliced each shovelful in an arc out on the wind, there were certain unpredictable gusts that lifted the grains and blew them back towards the tractor so that by evening his clothes were filthy with lime, his face and hands **as white as chalk**, accentuating the inflamed red round his eyes. (BNC)

(4) Она стояла **белая**, **как мел**, –
she stood-SG.F.IPFV white-(LF)SG.F.NOM like chalk-NOM

усмехнулся Васенко. (RNC)
grinned-SG.M.PFV Vasenko

'She stood there as white as snow, – Vasenko said ironically.'

(5) Her skin was **as white as milk**, her eyes were green flecked with amber, and rather slanted. (BNC)

(6) Представьте себе: молодая женщина лет
imagine-IMP.PL self-DAT young-(LF)SG.F.NOM woman-NOM years-GEN

двадцати четырех, блондинка с **белой**, **как**
twenty-GEN four-GEN blonde-NOM with white-(LF)SG.F.INS like

молоко, кожей, высокая, с изумительной
milk-NOM skin-INS high-(LF)SG.F.NOM with marvellous-(LF)SG.F.INS

талией, несмотря на то что ведь она была без
waist-INS, despite on that what PCL she was-F without

корсета! (RNC)
corset-GEN

'Imagine a young woman of about twenty-four years of age, blond, her skin as white as milk, tall, and thin-waisted, even though she was not wearing a corset.'

(7) She saw the child white in the face, **as white as paper**, trembling all over, the eyes glazed, staring straight ahead and seeing nothing. (BNC)

(8) Невысокий, наголо стриженный,
not.high-(LF)SG.M.NOM bare-ADV cropped-(LF)SG.M.NOM

белый как бумага. (RNC)
white-(LF)SG.M.NOM like paper-NOM

'He was fairly short, closely cropped, as white as paper.'

(9) He went as **white as a sheet** and backed off immediately. (BNC)

(10) Стивен сидел в холле **белый как**
Steven-NOM sat-SG.M.IPFV in hall-LOC white-(LF)SG.M.NOM like

полотно. (RNC)
sheet-NOM

'Steven was sitting in the hall, as white as a sheet.'

The prototypes of redness most frequently mentioned in the comparative construction in the BNC are blood, rubies, and tomatoes; see examples (11)-(13). Of these prototypes, only blood quite frequently occurs in the Russian corpus, see example (14). Rubies and tomatoes are rarely used as standards of redness in the RNC (one and three occurrences, respectively). Anticipating the experimental results presented in Section 3.6.2.7, it should be noticed, however, that a tomato was by far the most salient standard of comparison elicited on two different tasks of the Survey. Other prototypically red objects frequently referred to in the RNC are crayfish, beetroots, poppies, and flag cotton (bunting). Relevant examples are given in (15)-(18).

(11) Luce gasped as the huge ruby glowed **as red as blood**. (BNC)

(12) His face was yellow, and in contrast his eyes were **as red as rubies**. (BNC)

(13) My face was **as red as a tomato** as I was shown to my seat. (BNC)

(14) И он поднимает огромный рог и пьет
and he raises huge-SG.M.ACC horn-ACC and drinks

красное, **как кровь**, вино. (RNC)
red-(LF)SG.N.ACC like blood-NOM wine-ACC

'And then he raises his huge horn and drinks wine that is as red as blood.'

(15) Гость Куликов стал **красный** **как**
guest-NOM Kulikov-NOM became-SG.M.PFV red-(LF)SG.M.NOM like

рак. (RNC)
crayfish-NOM

'Our guest Kulikov grew as red as a crayfish.'

(16) Он смутился и стал
he got.embarassed-SG.M.PFV.REFL and became-SG.M.PFV

красный, **как свекла**. (RNC)
red-(LF)SG.M.NOM like beetroot-NOM

'He got embarrassed and became as red as a beetroot.'

(17) Ординарец был **красен** **как маков**
orderly-NOM was-M red-(SF)SG.M like poppy-POSS.SG.M.NOM

цвет и прятал глаза. (RNC)
blossom-NOM and hid-SG.M.IPFV eyes-ACC

'The orderly was as red as a poppy and cast down his eyes.'

(18) Он лежал **красный,** **как кумач**, и
he lay-SG.M.IPFV red-(LF)SG.M.NOM like bunting-NOM and

судорожно, тяжело дышал. (RNC)
convulsively heavily breathed-SG.M.IPFV

'He was lying as red as a flag and convulsively gasping for breath.'

The last example I will consider here is green. As predicted by Wierzbicka (1990, 1996), the salient prototype of greenness most frequently mentioned in both English and Russian is grass, see examples (19) and (20).

(19) They were **as green as grass**, they were like a bunch of lost chickens outside the coop. (BNC)

(20) Один бок у мяча был розовый, как
one-SG.M.NOM side-NOM at ball-GEN was-M pink-SG.M.NOM like

пастила, другой – коричневый, как самый
lozenge-NOM other-SG.M.NOM brown-SG.M.NOM like most-SG.M.NOM

вкусный шоколад. Верх был
delicious-SG.M.NOM chocolate-NOM top-NOM was-M

синий, как небо, а низ
dark.blue-SG.M.NOM like sky-NOM CONJ bottom-NOM

зеленый, как трава. (RNC)
green-(LF)SG.M.NOM like grass-NOM

'One side of the ball was as pink as a lozenge, the other was as brown as the most delicious chocolate. The top was as blue as the sky, and the bottom as green as grass.'

Another prototypical object to which green is often compared in both languages is emerald; see (21) and (22).[9]

(21) Everything now is set in ice, mast-high, floating by, **as green as emerald**, as green as her eyes. (BNC)

(22) Эта любовь буквально выпрыгнула на
this-F.NOM love-NOM literally jumped.out-SG.F.PFV on

меня, когда я увидел золотоволосую девушку,
me-ACC when I saw-SG.M.PFV gold.haired-SG.F.ACC girl-ACC

высокую и стройную, с **зелеными**
high-(LF)SG.F.ACC and slender-(LF)SG.F.ACC with green-(LF)PL.INS

[9] Interestingly, a lot of people know that emeralds possess the prototypical green colour without having actually seen emeralds. Thus, the reference-point status of emeralds in the semantics of 'green' is part of the cultural topos rather than experientially based knowledge.

как изумруды глазами, неизвестно откуда
like emeralds-NOM eyes-INS unknown where.from

взявшуюся. (RNC)
appear-PTCP.PST.ACT.SG.F.ACC.REFL

'This love jumped out on me when I saw a gold-haired girl, tall and slender, with eyes as green as emeralds, who seemed to have appeared from nowhere.'

Further, in Russian, but not in English, the following entities are often used as standards of comparison in terms of their prototypical greenness: a frog, a cucumber, a marsh, and gooseberries. See examples (23)-(26), respectively.

(23) Она идет по коридору Ренатовой
she walks along corridor-DAT Renat-POSS.SG.F.GEN

квартиры и крутит диск **зеленого, как**
apartment-GEN and twists disc-ACC green-(LF)SG.M.GEN like

лягушка, телефона. (RNC)
frog-NOM telephone-GEN

'She is walking along the corridor of Renat's apartment and dialling a number on a telephone that is as green as a frog.'

(24) Слушай же внимательно: у господина Скока
listen-IMP.SG.IPFV PCL attentively at master-GEN Skok-GEN

действительно имелся автомобиль – "Форд"
really had-SG.M.REFL automobile-NOM Ford-NOM

прошлогодней модели, **зеленый, как**
last.year-ADJ.SG.F.GEN model-GEN green-(LF)SG.M.NOM like

огурец. (RNC)
cucumber-NOM

'Listen good: Mr. Skok did have a car, a year-old Ford that was as green as a cucumber. '

(25) Иволга тоже была крупная и **зеленая,**
oriole-NOM too was-F big-SG.F.NOM and green-(LF)SG.F.NOM

как болото, и черные ученые
like marsh-NOM and black-(LF)PL.NOM learned-PL.NOM

дрозды. (RNC)
thrushes-NOM

'There was an oriole, big and as green as a marsh. And there were also learned blackbirds.'

(26) У них были совершенно одинаковые глаза –
by them-GEN were perfectly same-PL.NOM eyes-NOM

зеленые, **как крыжовины,** в светлых
green-(LF)PL.NOM like gooseberries-NOM in light-(LF)PL.LOC

ресницах. (RNC)
eyelashes-LOC

'Their eyes looked perfectly similar – as green as gooseberries, in light eyelashes.'

For a detailed study of colour terms in the *as A as X* construction, I refer the reader to Philip (2003, 2006). The point of briefly considering some examples of this construction here was to show that entities most frequently referred to as standards of comparison across languages, by and large, coincide with the inventory of natural reference points proposed by Wierzbicka (1990, 1996).

3.6.2.4. Denotative adjectives. Another piece of evidence in favour of natural reference points is the existence and high frequency of what Ruzin (1994) calls *denotative* colour terms, i.e. adjectives whose form contains explicit reference to best exemplars of colours (e.g. *blood-red, chalky, parrot-green, primrose-yellow, wine-coloured*). I have argued elsewhere (Tribushinina 2001a) that denotative adjectives may fulfil two functions. In the first place, they can focus on the proximity of the colour being described to the prototypical core of the colour category (e.g. *blood-red, chalky, emerald-green, jet-black, leaf-green, lemon-yellow, lily-white, milk-white, sea-blue, sky-blue, snow-white*). This is what happens in (27) taken from Butler Greenfield's book *A Perfect Red*. The book describes an age-long search for a red dye that would be as close as possible to the true red colour. Eventually, such dyestuff was found inside the cochineal insects. To stress that the liquid obtained from the insects was of the *true* red colour, the writer uses the compound adjective *blood-red* rather than just *red* thereby excluding all non-prototypical instances of red from the denotation.

(27) Pinch a female cochineal insect, and **blood-red** dye pours out. (Butler Greenfield 2005: 36)

In the second place, a denotative adjective may specify a particular non-prototypical variety of a colour, as in *brick-red, cherry-red, dove-grey, olive-green, parrot-green, peacock-blue, steel-blue,* and *zinc-white.*[10]

The fact that colour terms easily lend themselves to compounds of this type strongly suggests that language users are inclined to use some "locally salient referents" (Wierzbicka 1990: 138) to anchor conceptual specifications of vague colour adjectives. By referring to typical instantiations of a colour category it becomes possible to specify which kind of, say, red the speaker has in mind: a prototypical red or one of the numerous non-prototypical varieties of the colour category. Adjectives that are to a lesser degree oriented to prototypes display a very restricted use in denotative compounds. This holds, for instance, for dimensional adjectives, which are to a much lesser degree oriented to prototypes than colour terms. I will return to this point in Chapter 9.

3.6.2.5. Antonymy *black* : *white*. It is well-established that colour terms usually do not come in antonymous pairs, but rather form non-binary contrast sets (Bierwisch 1967: 6; Broekhuis 1999: 33-4; Givón 1970: 835-6; Murphy 2003: 181; Tribushinina 2006a). An apparent counterexample is the pair *white* : *black* that does display a binary construal of the colour space. The following examples illustrate this antonymy quite well:

(28) I am led to believe a thing black when it is white, and short when it is long. (J. Swift, *Gulliver's Travels*)

(29) Every white hath its black, every sweet its sour. (proverb)

Wierzbicka suggests that the opposition black *vs.* white has as its reference point the alternation of light days and dark nights. Put another way, white is anchored by the light of days, and black is anchored by the dark of nights. This proposal is consistent with the observation that black and white are achromatic colours that occupy two poles of a uni-dimensional scale of *lightness* in the three-dimensional colour space (Apresjan 1974: 298; Cruse 1986: 259). Thus, it seems quite plausible that the opposition black *vs.* white is indeed mapped onto the alternation of dark nights

[10] Bolinger (1972: 55) distinguishes between the two types of compound adjectives (e.g. *blood-red* vs. *brick-red*) by paraphrasing them into comparative phrases *as red as blood* (intensification) and *red like brick* (similarity).

and light days.[11] This may also motivate their metaphorical mapping on good and evil "through further symbolism which dictates that goodness is pure and inspired by divine light, whereas its opposite, evil, is impure and has an affinity with the dark" (Philip 2003: 22). These associations are reflected in phraseology: e.g. *black sheep* 'disgrace to a family or group', *black looks* 'evil looks', *pot calling the kettle black* 'person who is criticising someone else is as guilty as the person he accuses', *not to be as black as somebody is painted* 'not to be as bad as people say'; *white lie* 'harmless lie', *white man* 'decent man', *white day* 'happy day', etc. (Alan 2007; Philip 2003). This brings us to the issue of extended uses of colour terms which will be dealt with in the following subsection.

3.6.2.6. Metonymies and metonymy-based metaphors. Colour terms are quite famous for having a wide range of connotations and extended uses. In this thesis, I will only deal with those extensions that are motivated by the natural prototypes described in Wierzbicka (1990, 1996). Consider the example in (30):

(30) Nanking is a very **green city** with beautiful plane-trees lining the main streets, where (as in all Chinese cities) there is comparatively little traffic except for crowded buses and trolley-buses, and of course hordes of pedestrians and cyclists. (BNC)

Notice that not everything in the city described in (30) is green. Its buildings, roads, and pavements are probably not green at all. Rather, the city is called *green* by virtue of having a lot of vegetation. The vegetation thus becomes a profiled part of the referent, its *active zone* (Langacker 1984). Interestingly, even in the absence of the specifying phrase *with beautiful plane-trees lining the main streets* we would be able to understand that the colour maps onto the trees and other sorts of vegetation. I would like to suggest that this metonymic use of *green* is largely facilitated by a reference-point status of plants in the semantics of this colour term. Consider a similar example in (31):

(31) It was symbolic, that stable clock; though nothing – despite the telegram – was ever really urgent at Winsyatt, **green todays** flowed into **green tomorrows**, the only real hours were the solar hours, and though, except at haymaking and harvest, there were always too many hands for too little work, the sense of order was almost mechanical in its profundity, in one's feeling that it could not be disturbed, that it would always remain thus: benevolent and divine. (J. Fowles, *French Lieutenant's Woman*)

[11] Interestingly, on an elicitation test reported in Paradis et al. (2007), the subjects provided both *black* and *dark* as antonyms of *white*.

In (31), the days spent in the countryside amid green trees and pastures are metonymically called *green todays* and *green tomorrows*. This is a so-called *transferred epithet* (hypallage), where an adjective is replaced from the noun denoting the possessor of the property to another noun denoting a contiguous entity or phenomenon (Dolinin 1978; Fedorov 1969; Nikitin 1983; Rajevskaja 2003; Sandakova 2004; Shelestiuk 2005: 140-1; Tribushinina 2001b). It is remarkable that in the case of colour terms, a lot of transferred epithets are based on the strong associations between colour words and salient natural prototypes, as in (30) and (31). The proverb in (32) is somewhat different:

(32) The grass is always greener on the other side of the fence (proverb).

(32) means that the thing another person possesses always seems better and more attractive than the one you have. As I have suggested elsewhere (Tribushinina 2006c: 88), this inference is accommodated by the salient cognitive status of vegetation as a possessor of the *prototypical* green colour. The green of grass is the best example of green. Greener grass is then closer to the standard of greenness and, by implication, better. Curiously enough, even though Russian does not have a similar idiom, Russian students of English rarely have trouble understanding what the proverb in (32) means, since just as speakers of English and many other languages, Russians *do* anchor the best example of greenness in the domain of vegetation. The same goes for the idiom *green thumb*, whose meaning ('a talent for gardening, ability to make things grow') is conceptually motivated by the salience of vegetation as a natural prototype of greenness.

Let us consider some further examples of prototype-based metonymies involving other colour terms.

(33) **Thursday** dawned bright and **blue** and it decided to stay that way all day through. (BNC)

(34) Sredni Vashtar went into battle. His thoughts were **red thoughts** and his teeth were white. His enemies called for peace but he brought them death. (BNC)

(35) While many children were hoping for a **white Christmas** more than 500,000 families were packing their suitcases and heading for the sun. (BNC)

The actual possessors of the blue, red, and white colour are not made explicit in (33)-(35). The metonymies in these examples are conceptually motivated by the

entrenched association of blue with the sky (example 33), red with blood (example 34), and white with snow (example 35).

Not only transferred epithets, but also metaphors are often based on metonymic associations between colours and natural prototypes (Levanova & Tribushinina 1999; Niemeier 1998; Philip 2003; Tribushinina 2002, cf. Barcelona 2000; Radden 2000). By way of illustration, consider the case of *red*. Blood is a well-known standard of prototypical redness. When people are excited, they feel blood surge to their head. Thus, the colour of blood is often metaphorically used to describe manifestations of emotion, such as anger (e.g. *go red, red in the face, red with anger, red-headed, see red, be as a red flag to someone, make someone red-hot*). For the same reason, war and revolution are also symbolised by red. Consider also the following example:

(36) One of the conspirators would ring the foreman to tip him off that the shop steward could be **caught red-handed** stealing company property if they searched him at the gate. (BNC)

The idiom *catch somebody red-handed* 'catch somebody in the act of doing something bad or illegal' originally meant 'to catch somebody while his hands are still red with blood spilt' (Alan 2007; Wyler 1992: 155). Observe that blood was not mentioned in the idiom, still language users were able to make the corresponding inferences activating the model of *red* in their minds. As shown by a corpus study reported in Philip (2003: 79), this idiom is not used with reference to violent crime in current English; rather, it is used speaking about illegal dealing or theft, as in (36). Yet, the conceptualisation of red as a colour of blood is still strong enough to make the idiom transparent to users of present-day English.

In sum, quite a number of extended uses of colour terms are motivated by the strong conceptual links between colour categories and natural entities anchoring their prototypical instantiations.

3.6.2.7. Elicitation tests. A good way to learn more about the salient objects typically associated with the best examples of colour categories are elicitation tests. For example, Wierzbicka asked speakers of English and Polish to give some examples of coloured objects. The responses largely confirmed the inventory of natural prototypes proposed in Wierzbicka (1990, 1996). For instance, for *green*, the informants consistently mentioned grass, leaves, or fresh vegetation, whereas for *blue*, the strongest association was with the sky.

Brüderlin (unpublished manuscript, quoted in Wyler 1992: 150-1) carried out a survey to study the relevant associations in German. The following associations

were most frequently elicited: *weiss* – winter, weather; *schwarz* – night, darkness; *rot* – blood, fire; *grün* – plants; *gelb* – sun; *blau* – water, sky; *braun* – earth, wood; *orange* – orange; *purpur* – king's robe; *rosa* – human or animal skin; *grau* – bad weather, old age. As is evident from this list, the elicited associations considerably overlap with the natural prototypes described by Wierzbicka (1990, 1996).

In a similar fashion, to elicit the objects thought of as best exemplars of redness, I asked 174 Russian speaking undergraduates to complete the phrase *krasnyj kak* 'as red as' (Task 3 in Appendix 2). The elicited entities and their frequencies are listed in Table 3.2.

Standard of comparison	Frequency	Standard of comparison	Frequency
pomidor 'tomato'	67	flag 'flag'	1
rak 'crayfish'	32	klubnika 'strawberry'	1
mak 'poppy'	20	malina 'raspberry'	1
krov' 'blood'	12	mašina 'car'	1
perec 'paprika'	6	nos 'nose'	1
zakat 'sunset'	6	peč' 'stove'	1
ogon' 'fire'	5	plamja 'flame'	1
jabloko 'apple'	3	raskalennyj šar 'red-hot sphere'	1
arbuz 'water-melon'	2	rubin 'ruby'	1
byk 'bull'	2	signal svetofora 'traffic light'	1
roza 'rose'	2	solnce 'sun'	1
serdce 'heart'	2	ugolek 'coal'	1
apel'sin 'orange'	1	žar 'glow'	1
barxat 'velvet'	1		

Table 3.2. *Krasnyj kak X* 'as red as X' (Survey, Task 3)

The figures in the table show that the elicited standards of redness differ in saliency. Several entities were provided with high frequency, whereas others were only occasionally mentioned, mostly by a single subject. By far the most salient standard of redness given by 38.5% of the subjects was a tomato. Other entities repeatedly elicited on this task include crayfish (18.4%), poppies (11.5%), and blood (6.9%).

It is noteworthy that blood was not the most frequent response. The reason could be that, as indicated by Wierzbicka (1990, 1996), blood is not as visually salient as the sun or the sky. She suggests that fire could be a better reference point for red than blood. This claim is not confirmed by the pattern of responses summarised in Table 3.2. The noun *ogon'* 'fire' was mentioned only by five respondents. In addition, several other phenomena in Table 3.2 also pertain to the domain of fire: *peč'* 'stove', *plamja* 'flame', *raskalennyj šar* 'red-hot sphere', *ugolek* 'coal', *žar* 'glow'. All these entities taken together constitute another relatively salient standard of comparison (6%), which is nonetheless *no more salient than blood*. Furthermore, both

blood and fire were significantly less frequent in the subjects' responses than tomatoes, crayfish, and poppies.

It could be hypothesised that the phrase *krasnyi kak pomidor* 'as red as a tomato' is more frequent in Russian than both *krasnyj kak krov'* 'as red as blood' and *krasnyj kak ogon'* 'as red as fire', which could possibly account for its high frequency in the Survey results. This hypothesis, however, is not confirmed by the results of the corpus study (see Section 3.6.2.3) demonstrating that the phrase *krasnyj kak pomidor* 'as red as a tomato' is quite infrequent (only three occurrences in the RNC). Thus, the high frequency of tomato-responses on Task 3 of the Survey is probably due to the reference-point status of a tomato as a possessor of the prototypical red colour rather than to a high frequency of the idiom.

Further support for the salience of tomatoes as prototypes of redness in the Russian worldview comes from the results obtained on Task 1 of the Survey. On this task, the subjects were asked to give three nouns that go particularly well with a number of adjectives, including *krasnyj* 'red', *vysokij* 'high/tall', *nevysokij* 'not.high', *nizkij* 'low/short', and eight distracters. The results for the three dimensional adjectives will be discussed in Part III of the thesis. The frequencies of nouns elicited for *krasnyj* 'red' are summarised in Table 3.3 below.[12] The figures in the table strongly suggest that tomatoes are indeed largely associated with the red colour in Russian. There are two words in Table 3.3 that denote a 'tomato' – *pomidor* mentioned by 38 respondents and *tomat* provided by 2 subjects, which gives a total of 40 elicitations (i.e. a tomato was mentioned by 23% of the subjects).[13] Although blood was again among the most frequent responses, its frequency was only half as high as that of tomatoes. Two other entities identified as standards of redness on Task 3 and in the corpus study – poppies and crayfish – were also repeatedly provided on Task 1 (by 10 and 9 subjects, respectively).

[12] There were also two missing values (no answer was provided) and three wrong values (adjectives were given instead of nouns).
[13] 25 subjects mentioned a tomato as a first choice, i.e. under *a* (see Appendix 2).

Nouns	Freq.	Nouns	Freq.	Nouns	Freq.
pomidor 'tomato'	38	krest 'cross'	2	kover 'carpet'	1
cvet 'colour'	34	list 'leaf'	2	kurtka 'jacket'	1
jabloko 'apple'	30	Mars	2	kvadrat 'square'	1
solnce 'sun'	30	mjač 'ball'	2	lenta 'ribbon'	1
zakat 'sunset'	28	oktjabr' 'October'	2	leto 'summer'	1
krov' 'blood'	22	ozero 'lake'	2	ljubov' 'love'	1
kofta 'jumper'	18	pidžak 'jacket'	2	majka 'vest'	1
flag 'flag'	16	plamja 'flame'	2	Mercedes	1
mašina 'car'	12	platok 'shawl'	2	moda 'fashion'	1
nos 'nose'	11	pomada 'lipstick'	2	motocikl 'motorcycle'	1
cvetok 'flower'	10	rubaxa 'shirt'	2		
mak 'poppy'	10	šapka 'cap'	2	nebo 'sky'	1
plat'je 'dress'	10	šar 'sphere'	2	nit' 'thread'	1
rak 'crayfish'	9	ščeki 'cheeks'	2	odejalo 'blanket'	1
svet 'light'	9	šljapa 'hat'	2	ograda 'fence'	1
more 'sea'	8	svetofor 'traffic light'	2	okno 'window'	1
perec 'paprika'	8			partizan 'partisan'	1
roza 'rose'	8	tomat 'tomato'	2	plesen' 'mould'	1
avtomobil' 'automobile'	7	znak 'sign'	2	polotence 'towel'	1
		bant 'bow'	1	polotno 'sheet'	1
ploščad' 'square'	6	barxat 'velvet'	1	pora 'season'	1
derevo 'tree'	5	buket 'bouquet'	1	risunok 'drawing'	1
lico 'face'	5	bumaga 'paper'	1	roža 'snoot'	1
rjabina 'ash-tree'	5	cena 'price'	1	ryba 'fish'	1
zarja 'dawn'	5	divan 'sofa'	1	sapogi 'boots'	1
zvezda 'star'	5	dom 'house'	1	signal 'signal'	1
karandaš 'pencil'	4	dorožka 'stair-carpet'	1	šlang 'hose'	1
odežda 'clothes'	4			slovo 'word'	1
ručka 'pen'	4	drakon 'dragon'	1	stol 'table'	1
šarf 'scarf'	4	dver' 'door'	1	stroka 'line'	1
serdce 'heart'	4	Ferrari	1	svekla 'beetroot'	1
ugol 'corner'	4	fon 'background'	1	sviter 'sweater'	1
den' 'day'	3	frukt 'fruit'	1	telefon 'telephone'	1
devica 'girl'	3	futbolka 'T-shirt'	1	tetrad' 'copy-book'	1
glaz 'eye'	3	galstuk 'tie'	1	tjul' 'curtain lace'	1
guby 'lips'	3	granat 'pomegranate'	1	trjapka 'rag'	1
jubka 'skirt'	3	guaš 'gouache'	1	tuman 'fog'	1
kniga 'book'	3	igry 'games'	1	učebnik 'textbook'	1
morkovka 'carrot'	3	jajco 'egg'	1	vagon 'carriage'	1
apel'sin 'orange'	2	jarkost' 'brightness'	1	vaza 'vase'	1
armija 'army'	2	jazyk 'tongue'	1	velosiped 'bicycle'	1
Ded Moroz 'Father Frost'	2	kalina 'guelder-rose'	1	žara 'heat'	1
		kamen' 'stone'	1	zdanie 'building'	1
fonar' 'lantern'	2	kardigan 'cardigan'	1	zmej 'kite'	1
ikra 'caviar'	2	karman 'pocket'	1	znamja 'banner'	1
jagoda 'berry'	2	klubnika 'strawberry'	1		
kraska 'paint'	2	kostjum 'costume'	1		

Table 3.3. The "best" referents of *krasnyj* 'red' (Survey, Task 1)

To conclude, the results of two different tasks of the Survey provide converging evidence that the most salient prototype of redness in the Russian worldview is a tomato, followed by somewhat less salient standards of comparison, such as blood, poppies, and crayfish. It is important to stress that these natural prototypes do not have to be universal. The focal reference points are presumably universal, because perception is universal. In contrast, natural prototypes belong to the domain of conceptualisation and are culturally specific (Ruzin 1994). Some of these natural prototypes, such as grass, the sun, or the sky, are very salient and may be found in numerous languages (Tribushinina 2002). Others, such as guelder-rose, lizards and worms, may be found only in few cultures. What is more, even the same object may be conceptually linked to different colour categories. For instance, as has already been mentioned, the sun is prototypically yellow in English, but prototypically red in Russian and German.

3.6.2.8. Linguistic evidence for natural prototypes: summary. The findings presented in this section suggest that natural prototypes of colour categories in the sense proposed by Wierzbicka (1990, 1996) may indeed be traced in the *linguistics* of colour. First, a lot of colour terms are etymologically related to the names of natural prototypes, such as blood, earth, and plants. Second, strong associations between colour names and environmental prototypes are reflected in dictionary definitions. Third, Wierzbicka's natural prototypes are frequently used as standards of comparison in the *as A as X* construction. Fourth, names of natural standards often function as the first elements in denotative colour terms restricting the referential range of the word to the prototypical area (e.g. *blood-red, snow-white*). Fifth, it seems plausible that the alternation of light days and dark nights forms the basis of the antonymy *white* : *black*, which is very common cross-linguistically. Sixth, natural standards of prototypical colours often motivate metonymic and metaphoric uses of colour terms. And, finally, on elicitation tests, language users show a high degree of uniformity in their choices of the prototypical possessors of colours.

3.6.3. Natural prototypes in the acquisition of colour terms

The preceding section has shown, in line with Wierzbicka (1990, 1996), that natural prototypes, such as vegetation, the sun, and the sky, function as standards of comparison anchoring the conceptualisations of colour. Furthermore, the results of the elicitation test reported above have demonstrated that language users show considerable agreement as to what counts as a prototypical instantiation of a given colour in their language. Put another way, the reference-point status of natural prototypes

– be it the sky, the sun, or merely a tomato – is culturally shared knowledge. The question then arises when this knowledge is acquired. Does the knowledge of the salient environmental prototypes facilitate the acquisition of colour terms? Or is the association between colours and their prototypical instantiations in the environment acquired at a later stage in ontogeny?

The evidence available at the moment points in the direction of the latter trajectory. The results of a corpus study presented in Tribushinina (2006a) suggest that knowledge of entities like snow, the sky, and the sun (let alone blood) does not facilitate the acquisition of colour terms. Toddlers do not speak about the colour of natural prototypes as often as they speak about the colour of objects in their immediate surrounding and they make as many mistakes naming the colour of the sky or grass as with any other objects. What is even more suggestive, they do not consider the colour of natural prototypes to be an intrinsic property of these entities and easily manipulate it, as in (37) and (38):

(37)
*MOT: what colour is this?
*MOT: this is orange.
*CHI: orange?
*CHI: what colour is dis?
*MOT: that is red.
*CHI: do we almost have one red balloon # two blue ones?
*MOT: one red and two orange.
*CHI: I want some orange milk. (adam36.cha, Brown Corpus)

(38)
*MOT: what's Fraser doing?
*CHI: writing a picture xxx.
*MOT: picture of what?
*CHI: a snowman.
*CHI: another snowman.
*COL: small one?
*COL: big?
*CHI: big.
*COL: I should drink my coffee # shouldn't I?
*CHI: are you writing a little one?
*COL: m:hm.
*CHI: with dat crayon!
*COL: I was using the crayon and the pencil # see?
*CHI: yeah.
*CHI: and a pipe.
*COL: and a pipe.
*COL: we'll make it a black pipe.
*CHI: another one.
*COL: another what?

*CHI: a red one.
*COL: a red what?
*COL: snowman?
*CHI: yeah.
*COL: okay. (eve19.cha, Brown Corpus)

As has been shown in Section 3.6.2, both milk and snow are prototypically white. However, the fact that Adam (3;8) uses the phrase *orange milk* and Eve (2;3) is drawing a red snowman suggests that they do not consider the white colour to be a property intrinsic to milk and snow. This missing link is, however, a crucial premise for an object to become a CRP shaping conceptual representation of colour.

Further, Tribushinina (2006a) has demonstrated that caretakers do not refer to natural prototypes to teach colours to children. On the contrary, they use the colour terms the toddlers already know to explain facts about snow, grass, the earth, the sky, and other salient natural phenomena. These findings bolster the conclusion that children at an early stage of their linguistic development do not use natural prototypes as reference points to learn colour terms.

The finding that the acquisition of colour terms is not influenced by the knowledge of natural prototypes does not, however, mean that there are no reference-point phenomena involved in the development of colour terminology in infants. Previous research has shown that there are, at least, two types of CRPs facilitating the acquisition of colour terms. Firstly, the foci of colour categories were shown to fulfil a reference-point function, in the sense that other category members are judged by their proximity to the early stabilised focal area (Rosch 1975a). Secondly, children use a series of contrasting objects from their immediate surrounding as reference points for learning colour terms. The corpus data suggest that children may use colour words randomly when speaking about individual objects, but correctly apply colour adjectives when contrasting objects of the same category on the basis of colour (Tribushinina 2006a). This observation is consistent with the results reported in Cruse (1977). At the age of 1;5, Cruse's son Pierre assigned colour words at random. The only cases where he performed well were situations of contrasting colours. For instance, Pierre could label adjacent stripes on his pyjamas with correct colour words. He also displayed sensitivity to different colours of plastic beakers. Thus, it may be hypothesised that children first learn colours of familiar objects in their immediate environment (toys, items of clothing, etc.) and then use these objects as reference points for communicating about the colour of other entities.

The finding presented in Section 3.6.2 that adults *are* aware of the natural prototypes of colour categories and actively use them in their production and interpre-

tation of language suggests that this knowledge, though not established in early childhood, is acquired at a later stage in ontogeny.[14] It is then plausible to suppose that natural models described in Wierzbicka (1990, 1996) facilitate the formation of the culturally relevant *boundaries* of colour categories rather than anchoring the foci. After all, the colour of natural prototypes does not always coincide with foci. For instance, as noticed by MacLaury (1997b: 630), despite the strong association between red and fire, the cross-linguistic choice of focal red is "five hue steps redder and two brightness levels darker than embers" (MacLaury 1997c: 630).[15] Moreover, there is no need to additionally anchor the foci, since their cognitive primacy is based on their perceptual salience which is presumably universal (Rosch 1971, 1972, 1973b). It is the language-specific boundaries that pre-schoolers are still learning (Andrick & Tager-Flusberg 1986; Mervis et al. 1975; Pitchford & Mullen 2001), and this learning process may indeed be facilitated by the knowledge of salient natural phenomena, which along with foci constitute an important part of colour conceptualisation.

3.7. Prototypes as a basis for gradability

3.7.1. Are colour terms gradable?

It has been suggested on several occasions that colour adjectives are non-gradable (Hatzivassiloglou & Wiebe 2000: 301; Paradis 2005: 66; Syrett et al. 2005[16]). In order to find out whether this viewpoint is correct, let us recall a well-established definition of gradability. Adjectives are gradable if they denote a property that can be present in an object to a greater or lesser degree. Gradability is manifested in

[14] In this connection, it is interesting to mention the experimental study reported in Gardner (1974) which has shown that 7-year-old children were able to map the adjective *red* to its metaphorical projection 'warm'. Even more interestingly, as an explanation the children would mention that red is warm because fire is warm. Thus, children probably learn the association between red and fire by the age of seven.

[15] I once attested a very illustrative misunderstanding. A person ordered a saucepan that was described on the Internet as *feuerrot*. Afterwards he was surprised to receive an orange pan instead of a truly red one. This case demonstrates a strong association of 'red' with fire, despite the fact that fire is orangey in colour, rather than truly red.

[16] In personal communication, Kristen Syrett explained that what they actually meant by "non-gradable" is the fact that colour adjectives, unlike canonical gradable adjectives like *tall* and *long*, do not stand in contrast to the opposite pole. In addition, colour adjectives do not have relative standards in the middle of the scale, the way *tall* and *long* do. This, of course, does not make them non-gradable. Simply, they evoke scales of a different structure than, for instance, spatial adjectives (Bolinger 1967a; Rusiecki 1985).

participation in comparative and superlative constructions and the ability to take degree modifiers (Lyons 1977: 271; Murphy 2003: 189; Sapir 1944).

Colour adjectives meet all three criteria for gradability. They can be used in comparative and superlative constructions (Section 3.7.2) and take degree modifiers (Section 3.7.3). These uses of colour terms are sanctioned by their ability to denote degrees of the property. More precisely, degrees of colour can vary along one of the following dimensions pointed out by Sapir:

> Different examples of "red" similarly exhibit "mores" and "lesses" with respect to intensity, size of surface or volume characterized as red, and degree of conformity to some expected standard of redness (Sapir 1944: 123).

The first dimension indicated by Sapir – colour intensity – displays degrees of colour in terms of saturation. A more saturated, brighter colour is more likely to be dubbed *redder* than less intensive, dull instantiations of these colour categories. And, the other way around, a less saturated instantiation of red can be dubbed *pinker*. Consider the following example from Bolinger (1967a: 8):

(39) This curtain is red, but that one is pinker.

The curtain in (39) is dubbed *pinker* by virtue of having a less intensive red colour. The second curtain is therefore less red than the first one, or, in other words, the second curtain is closer to the category PINK than the first curtain (cf. Gibson 1978: 95).

The second dimension of colour quantization pointed out in Sapir (1944) pertains to the coverage of a surface area of an object, whose boundaries may provide a maximum reference point, as in *completely red, mostly red,* and *partially red* (see also Červenkova 1974; McNally 2006, cf. Suzuki & Yamagischi 1999). An example in given in (40):

(40) He pulled a penknife out of his pocket and opened it. He cut his left forefinger across, and dunked it in his drink. He stirred, and colour bloomed in the whisky. 'Red.' The ribbons of blood spiralled together, and the liquid went **completely red**. (BNC)

The degree adverb *completely* in (40) maps onto the extension of the modified noun *liquid* rather than onto the colour property as such. I will exclude such cases from consideration in this section and concentrate on the third dimension along which colour can be graded, *viz.* conformity to the best exemplar. As Kay & McDaniel (1978) remind us:

> We can speak of something as (a) *a good red*, (b) *an off-red*, (c) *the best example of red*, (d) *sort of red*, (e) *slightly red*, (f) *yellowish-red*, (g) *blue-green*, (h) *light pink*, or (i) *dark blue*. All these constructions indicate the degree to which the color referred to approximates an ideal example of the root color term. A *good red* has a high degree of similarity to some norm for red. Something that is either *sort of red* or *slightly red* is, in a lesser degree, an approximation to this norm. <…> In (a)-(e), a color is denoted (1) by reference to some basic color category, and (2) by the use of a hedge which indicates how much the color actually named deviates from the norm for this basic category.
>
> Constructions (f)-(i) also indicate degree of approximation to a norm, but they indicate the direction of variation from the norm as well. <…> A phrase such as *slightly purplish blue* combines specification of both degree and direction of deviation from a norm, to denote a sensation that is only marginally a member of the class of purple things, but is a nearly perfect member of the class of blue things (Kay & McDaniel 1978: 622).

McNally (2006) argues that colour adjectives characterising "trueness of colour" evoke open scales, i.e. scales lacking the maximum endpoint (see also Chang 2004). Counter to this view, Kristen Syrett (p.c.) suggests that a prototype serves as a maximum reference point for colour terms, which means that colour scales are closed (also Apresjan 1974: 66). I concur with Syrett on this point. The observation that the best exemplar of a colour category provides a maximum point on a scale of colour can be illustrated by the following example:

(41) Для передачи всех оттенков красного – от
for tranfer-GEN all-PL.GEN shades-GEN red-GEN from

бледно-розового до кровавого – нужны
pale.pink-GEN to blood.coloured-GEN needed-PL

старые мастера. (RNC)
old-(LF)PL.NOM masters-NOM

'Old masters are needed to convey all shades of red – from pale-pink to blood-red.'

The instantiations of red are presented in (41) as a gradual transition from the worst example (boundary) of the category – pale-pink – to the most prototypical red hue construed here as the colour of blood (cf. Section 3.6). In what follows, I will analyse some examples demonstrating how proximity to the reference point is manifested by means of non-positive constructions (comparative and superlative) and degree modification.

3.7.2. Colour terms in comparatives and superlatives

As indicated above, colour adjectives may be used in comparative and superlative constructions. By way of illustration, see examples (42)-(49):

(42) The women must be changed; the skirts remain, but a **redder red**. (BNC)

(43) The gardens of Ireland have a special dreamlike quality, like gardens known as a child --; where everything was bigger and **greener**, and chattering rabbits abounded. (BNC)

(44) Her eyes were **less red** than they'd been, her skin less blotchy. (BNC)

(45) Soon the only things to guide you are the silhouettes of trees or rocks, black against an only slightly **less black** sky. (BNC)

(46) Her face was **as white as** her long dress, and her dark hair lay over her shoulders. (BNC)

(47) His wife smiles at him adoringly, her mouth **as red as** Snow White's. (BNC)

(48) The two children retired to a nearby bench where Richard ceremoniously selected the largest and **reddest** strawberries for his companion. (BNC)

(49) And more than once he lost his way because he was remembering the **bluest** eyes he had ever seen. (BNC)

As is evident from the above examples, colour adjectives can be used in all types of comparative constructions, including comparison of superiority (examples 42 and 43), comparison of inferiority (examples 44 and 45), and comparison of equality (examples 46 and 47). They can also be used in the superlative form, as in (48) and (49). In their non-positive uses, colour adjectives indicate that one colour is closer to the prototype of the category than the other colour(s). For instance, both old and new skirts in (42) are red, but the new ones should be closer in colour to focal red than the skirts the subjects were wearing. Superlatives, in their turn, denote the maximal conformity to a prototype. As is generally the case with the superlative construction, the maximum is usually contextually determined. For example, it is not the case that the strawberries in (48) cannot be even closer to the prototype of redness. It is just that in this particular set of strawberries, the ones dubbed *reddest* are the closest to the best exemplar of red.

In the following example, the colour of the face is conceptualised as reaching the maximal value of facial redness (in the next chapter, I will term this type of maximum *compound prototype*):

(50) Вон санки проехали, так у них и
there-PCL sledge-PL.NOM passed-PL.PFV so at them-GEN and

полозья скрипят, и из-под хвоста лошади
runners-NOM creak-PRS.3.PL and from.under tail-GEN horse-GEN

конские дымящиеся яблоки сыплются,
horse-ADJ.PL.NOM steaming-PL.NOM apples-NOM fall-PRS.3.PL.REFL

и у ямщика что кушак, что морда **краснее**
and at coachman-GEN that belt-NOM that mug-NOM redder

некуда. (RNC)
nowhere

'Look at the sledge that has just passed by. Its runners creak, warm apples fall from under the horse's tail, both the belt of the coachman and his mug are as red as red can be.'

As noticed by Philip (2003), conformity to the prototype can also be manifested by such set phrases as *whiter than white* (see examples 51-53) and their modifications mentioning prototypical possessors of a colour, as in (54)-(57).

(51) One touch of a button and the family wash comes out **whiter than white**. (BNC)

(52) They're **blacker than black** I had a lot of trouble with the photocopier, right. (BNC)

(53) Он плачет, этот военком, и я даю
he cries this-M.NOM commissar-NOM and I give-PRS.1.SG

ему чистый носовой платок. Но он
him-DAT clean-(LF)SG.M.ACC nose-ADJ.SG.M.ACC kerchief-ACC but he

достает свой, **белее белого**, он тихонечко
takes.out own-SG.M.ACC whiter white-GEN he quietly

хрюкает в него, а когда он подымает
grunts in 3.SG.M.ACC CONJ when he raises

глаза,	я	вижу,	что	они	у	него	**синее**	**синего**.
eyes-ACC	I	see-PRS.1.SG	that	they	at	him-GEN	bluer	blue-GEN

(RNC)

'He is crying, that commissar, and I give him a clean handkerchief. However, he takes out his own handkerchief that is whiter than white. He quietly grunts into it, and when he raises his eyes I see that they are bluer than blue.'

(54) Far across the valley the dark tree line cut sharp across a white snow ridge, the sky above it **bluer than the summer sea**. (BNC)

(55) 'My roses are white,' it answered; 'as white as foam of the sea, and **whiter than snow** upon the mountain'. (O. Wilde, *Nightingale and the Rose*)

(56) The dry thorn blossomed, and bare roses that were **redder than rubies**. (O. Wilde, *The Happy Prince*)

(57)

Краснее	**крови**	встало	солнце	и	озарило
redder	blood-GEN	rose-SG.N.PFV	sun-NOM	and	illumed-SG.N.PFV

вышины	Бородинского	поля. (RNC)
heights-ACC	Borodino-ADJ.SG.N.GEN	field-GEN

'The sun rose redder than blood and filled the heights of the Borodino battlefield with light.'

The colours in (51)-(57) are presented as surpassing the best possible realisation of the category, which reinforces their conceptualisation as maximally conforming to the prototype.

3.7.3. Degree modification and distance from the prototype

The distance of a colour instantiation from the prototype can be made explicit by means of adverbs of degree, such as *very, almost,* and *slightly*. Colour terms take two types of degree modifiers that are termed *restricted* and *non-restricted* adverbs in Syrett (2007) and *totality* and *scalar* modifiers in Paradis (1997). In this thesis, I will use Paradis' terminology. Totality modifiers include maximizers (e.g. *absolutely, completely, perfectly*) and approximators (e.g. *almost, nearly*), which denote the maximum of the property and approximation to it, respectively. Scalar modifiers indicate a subrange on a scale irrespective of boundedness and comprise boosters (e.g. *awfully, extremely,*

frightfully, highly, jolly, very), moderators (e.g. *fairly, pretty, quite, rather*), and diminishers (e.g. *a bit, a little, slightly, somewhat*).

The use of colour adjectives with maximizing adverbs is illustrated in (58)-(69). In examples (58)-(61), the degree modifiers map onto the surface area of the objects, whereas in (62)-(69) they indicate a perfect conformity of the property to the prototypical hue.

(58) Bateleur Eagles are unusual in having dimorphic plumage, the female displays grey secondary feathers whilst males have **entirely black** wings. (BNC)

(59) Where we were there was no snow at all but as soon as you started to get higher it was **completely white**. (BNC)

(60) Occasionally an otherwise **totally black** cat may have a single white whisker. (BNC)

(61)

Он,	правда,	не	**абсолютно**	**зеленый**,	а
3.SG.M	true	NEG	absolutely	green-(LF)SG.M.NOM	CONJ

еще	в	белую	шахматную	клеточку. (RNC)
still	in	white-SG.F.ACC	chess-ADJ.SG.F.ACC	stripe-DIM.ACC

'Strictly speaking, it is not absolutely green; it also has a pattern of white checks.'

(62) The South American rivers where the piranha lives appear **completely black** to us because most of the light is absorbed by molecules of decaying vegetation dissolved in the water. (BNC)

(63) If you saw somebody in a hospital bed who'd just suffered shock, they'd be the same colour as the sheet they're lying on their face is **absolutely white**, okay, very, very pale, very cold and very clammy, now supposing the doctor asks you why are they cold and clammy? (BNC)

(64) You look **absolutely green**. (BNC)

(65) Yes, it was he, with a broad, sunny grin revealing **perfectly white**, rather small teeth in a friendly smile. (BNC)

(66) Do you know what I mean? And ermhe's got **really red** rosy cheeks. (BNC)

(67) Идти было приятно: под ногами
walk-INF.IPFV was-IMPERS pleasant under feet-INS

толстый слой песка и иголок, а
thick-SG.M.NOM layer-NOM sand-GEN and needles-GEN CONJ

вокруг старый сосновый лес
around old-(LF)SG.M.NOM pine-ADJ.SG.M.NOM forest-NOM

иногда с **совершенно** **красными**, будто
sometimes with perfectly red-(LF)PL.INS as.if

сквозь них просвечивает солнце, стволами. (RNC)
through 3.PL.ACC shines.through sun-NOM trunks-INS

'It was pleasant to walk there. A thick layer of sand and needles and an old pine forest around us. Sometimes the tree trunks looked perfectly red, as if the sun was shining through them.'

(68) Лицо Перновского становилось **совсем**
face-NOM Pernovsky-GEN became-SG.N.IPFV completely

красным, влажное от чая и
red-(LF)SG.N.INS wet-SG.N.NOM from tea-GEN and

душевного волнения. (RNC)
soul-ADJ.SG.N.GEN agitation-GEN

'Pernovsky's face was growing absolutely red and wet from tea and emotion.'

(69) Все из-за того, что кожа у нее с
all because.of that-GEN that skin-NOM at her-GEN from

детства была **абсолютно** **белой** и
childhood-GEN was-F absolutely white-(LF)SG.F.INS and

совершенно прозрачной, как папиросная
perfectly transparent-(LF)SG.F.INS like cigarette-ADJ.SG.F.NOM

бумага. (RNC)
paper-NOM

'It was all caused by the fact that since her childhood her skin had always been absolutely white and transparent like cigarette paper.'

Sometimes it is quite difficult to tease the two readings apart, since the same adverbs can be used to indicate both full coverage of the surface area and proximity to the prototype, as, for example, *completely* in (59) and (62) and *absoljutno* 'absolutely' in (61) and (69).

By virtue of compatibility with maximizing adverbs, colour adjectives are similar to what Kennedy & McNally (2005) call *maximum-standard* adjectives, such as *empty, full, straight,* and *dead*. Combinations of these adjectives with maximizers suggest that the maximum of the property is reached, as in (70) and (71).

(70) The most important aspects of setting up instruments are: (i) there should be no air bubbles in the columns of paraffin oil; (ii) the instruments should be **absolutely straight**, bisecting the microscope field horizontally, and lying exactly parallel to each other. (BNC)

(71) I, I'm just getting our stuff, this is all going with David so, the van is packed, **absolutely full**. (BNC)

Colour terms, however, significantly differ from maximum-standard complementaries when combined with approximating adverbs such as *almost* and *nearly*. Compare examples (72) and (73) with (74) and (75):

(72) Your left leg should be bent and should nearly touch the floor. Slowly push upwards with your right leg until it is **almost straight**. (BNC)

(73) Last year when one of them had left after only a fortnight she had given Nurse Rose a travelling clock and a **nearly full** bottle of Rochas' Femme. (BNC)

(74) A medium-sized eagle exceptionally variable in colour from very dark brown, **almost black**, to pale brown, **nearly white**. (BNC)

(75) The Italians make wonderful blue cheeses of which the best known are Gorgonzola, from Lombardy, and Dolcelatte, which literally means sweet milk. The best Gorgonzolas should be clean and sharp and **almost green** in appearance rather than blue. (BNC)

Notice that approximators modifying the maximum-standard complementaries in (72) and (73) suggest that the *maximum* endpoint on the scale is almost reached. In contrast, in combination with colour adjectives *nearly* and *almost* indicate that the *minimum* of "adjectiveness" is almost reached. The colours dubbed *almost black* and *nearly white* in (74) are, in fact, not black and white, but rather instantiating borderline cases between brown and black, in the former case, and brown and white, in

the latter case. Likewise, the colour of the cheese in (75) is a borderline case between blue and green. The same holds for Russian colour adjectives:

(76) Сначала шли горы темно-коричневого,
first went-PL.IPFV mountains-NOM dark.brown-SG.M.GEN

почти **красного** цвета. (RNC)
almost red-(LF)SG.M.GEN colour-GEN

'First we passed along the mountains of dark-brown, almost red, colour.'

(77) Густо-красная, **почти** **черная** роза в
deep.red-SG.F.NOM almost black-SG.F.NOM rose-NOM in

суховатых руках Солоницына только
dryish-PL.LOC hands-LOC Solonitsyn-GEN only

подчеркивала это несоответствие, и,
underlined-SG.F.IPFV this-N.ACC discrepancy-ACC and

почувствовав взаимную неловкость,
feel-ADPTCP.PST mutual-SG.F.ACC awkwardness-ACC

Солоницын поспешил отдать розу
Solonitsyn-NOM hurried-SG.M.PFV give.away-INF.PFV rose-ACC

Тамаре Иннокентьевне. (RNC)
Tamara-DAT Innokentievna-DAT

'The deep-red, almost black, rose in Solonitsyn's dry hands made this disparity even more apparent. And having felt the mutual embarrassment, Solonitsyn hurried to give the rose to Tamara Innokentievna.'

The "almost red" mountains in (76) are, in fact, not red, but dark-brown. Similarly, the "nearly black" rose in (77) does not qualify for the label 'black', since its colour is on the boundary of two categories – red and black. In this sense, colour terms are similar to relative adjectives, such as *tall* and *expensive*, whose combinations with approximators also manifest proximity to the minimum rather than maximum of "adjectiveness" (see Section 7.4.6).

In combination with diminishers, colour adjectives denote peripheral members of a colour category only slightly resembling the prototype. (78)-(80) are examples of such uses:

(78) Vanished are her healthy pink cheeks, her **slightly red** winter nose, her mole, her little freckles and blemishes: she is smooth, new made. (BNC)

(79) And he counselled me to take note of the sea. 'It's at its bluest early. Later it turns **slightly green**.'. (BNC)

(80) The Princess's face went **a little pink** when she heard this. (BNC)

Moderators such as *rather* and *quite* suggest that a particular instantiation of a colour is fairly similar to the prototype, though still deviating from it. See, for example, (81) and (82):

(81) Masha entered, holding a rolled-up magazine, followed by Rozanov, a newspaper under his arm. They seemed faintly embarrassed. 'We've been walking,' said Masha, **rather red** in the cheeks. (BNC)

(82) The house in Jubilee Street was looking very drab, and the curtains in the parlour window – Nottingham lace, with a pattern of entwined leaves and flowers – had turned **quite yellow** with age, despite rigorous washing. (BNC)

And, finally, boosters indicate that the colour instantiation is very similar to the prototype, though not completely conforming to it. By way of illustration, see (83)-(85):

(83) The landscape, like all deserts, had a familiar look, 'Please say something, Ruth.' Ruth said, 'It bled.' 'Is that what interested you?' 'It was **very red**.' 'You've seen blood before,' said Rachaela. Had she? She must have done, she had been born in it. 'It was **very red** blood'. (BNC)

(84) Never before have I seen puffins that are **so red**, **so yellow**, **so black**. (BNC)

(85)

А	я	всегда	крашусь	одинаково:	**очень**
CONJ	I	always	paint-PRS.1.SG.REFL	same	very

черные	глаза,	**очень**	**красные**	губы. (RNC)
black-PL.NOM	eyes-NOM	very	red-(LF)PL.NOM	lips-NOM

'I always wear the same make-up: very black eyes, very red lips.'

To summarise, colour terms modified by adverbs of degree indicate the position of the described colour with respect to the prototype of its category. A particular instantiation can be identical to the prototype; in such cases maximizers are used. A

very close, but non-identical relation to the prototype can be manifested by the use of boosters. Moderators and diminishers signal intermediate and peripheral category members, respectively. Combinations of colour adjectives with approximators suggest that a given instantiation, strictly speaking, does not fall under the category in question, but is rather located on the borderline of two adjacent colour categories.

3.8. Zooming in on foci

3.8.1. Perspective on a reference point: similarity or difference?

As has been shown in the preceding section, colour adjectives may denote various instantiations of a colour category that may be very close to the reference point (prototype) or quite distant from it. What is more, depending on the location of a given hue in the colour space with respect to a focal reference point and a perspective taken by the conceptualiser, the same hue may receive different labels. For instance, under different circumstances we could call the same colour either *pink* or *red*. As shown by MacLaury (1995, 1997a, 2002), when attention to similarity dominates over attention to difference, language users are inclined to use the same colour term for a broad range of values significantly deviating from the prototypical reference point (e.g. pink can also be dubbed *red*). In other circumstances, however, attention to difference may be more prominent, in which case the range of a colour category is conceptualised as being fairly close to the focal area (e.g. even lighter shades of red could be excluded from the category RED). Thus, a local conceptualisation of colour is a matter of how an individual person dynamically construes a colour category around the reference point.

3.8.2. Standard condition: balancing between similarity and difference

Minor distinctions between hues are very often irrelevant in our daily practice. As noticed by Philip (2003: 62), "while a bride might assign great importance to precise shades of *white*, from *ivory* to *pearl, cream* to *vanilla*, the general public is on the whole unconcerned with such fine details". Thus, basic colour terms usually denote parts of the colour space embracing the subranges of their hyponyms. For example, the range of *red* usually excludes the realms of adjacent basic colour terms (*pink, orange,* and *purple*), but includes the subranges of *crimson*, *scarlet*, *dark-red*, *coppery*, *blood-red,* and other hyponyms (Wyler 1992: 91-3). This is what Lessmöllmann (2002) terms *standard condition* for the use of adjectival words.

This type of use is very frequent, since it, by and large, meets the criteria for relevance proposed by Sperber & Wilson (1986). On the one hand, distinction is made between parts of the colour space that have a categorical status in a language, which renders the utterance informative. On the other hand, greater degree of specificity is avoided by subsuming the ranges of hyponyms under a single label, which prevents an utterance from being redundant. After all, slight differences between, say, crimson and scarlet are often irrelevant and thus do not have to be separately specified. In this way, the standard use of a basic colour term provides an optimal balance between processing effort and contextual effects.

By way of illustration, consider the following examples:

(86) Cordyline terminalis 'Tricolor', a cabbage palm, has lance-shaped leaves impressively streaked with creamy white, **pink and red**. (BNC)

(87) The plane is taxiing, pursued by a group of running Masai warriors, glorious in their **red and purple robes**, ochred hair, lion head-dresses and so on. (BNC)

Observe that what is called *red* in (86) and (87) does not have to strictly conform to the focal red colour. Rather, instantiations of red in these examples may include any hues within the basic category RED, *but excluding pink and purple,* respectively.

In some cases, however, finer distinctions have to be made. I will turn to such cases in the following subsection.

3.8.3. Attention to difference

Sometimes basic colour terms are used to describe only the reference-point area rather than the whole range of values covered by the standard condition. On such local construals, the term *red* is no longer superordinate to *scarlet, crimson*, or *dark-red*, but is rather an indicator of the focal area around which the realms of *scarlet*, *crimson*, and *dark-red* are clustered. See, for instance, (88)-(90):

(88)

Плоды	плоскоокруглые,	**красные**	и
fruits-NOM	flat.roundish-PL.NOM	red-(LF)PL.NOM	and

темно-красные. (RNC)
dark.red-PL.NOM

'The fruits are flat and roundish, red and dark-red.'

(89) Если же вы идете на прием, у вас
if PCL you-PL go-PRS.2.PL on reception-ACC at you-PL.GEN

торжественный ужин и на вас темное
ceremonial-SG.M.NOM dinner-NOM and on you-LOC dark-SG.N.NOM

вечернее платье, помада должна быть
evening-ADJ.SG.N.NOM dress-NOM lipstick-NOM must-SG.F be

яркой, насыщенной, **красной или алой**. (RNC)
bright-SG.F.INS saturated-SG.F.INS red-(LF)SG.F.INS or scarlet-SG.F.INS

'But if you are going to a reception or a gala dinner and you are wearing a dark evening dress, then your lipstick should be bright and rich-coloured, red or scarlet.'

(90) Богатый ассортимент цветущих растений
rich-(LF)SG.M.NOM assortment-NOM blooming-PL.GEN plants-GEN

позволяет подобрать гармоничные цветовые
allows select-INF.PFV harmonious-PL.ACC colour-ADJ.PL.ACC

сочетания для композиций из лилий с
combinations-ACC for composition-GEN from lilies-GEN with

красными и вишневыми цветками. (RNC)
red-(LF)PL.INS and cherry.coloured-PL.INS blossoms-INS

'A rich assortment of blossoming plants allows to choose red and cherry-coloured flowers that will be a harmonious match for lily bouquets.'

Notice that the basic colour adjective *krasnyj* 'red' in (88)-(90) is coordinated with what is normally seen as its hyponyms – *temno-krasnyj* 'dark-red', *alyj* 'scarlet', and *višnevyj* 'cherry-coloured'. The use of coordinating conjunctions *i* 'and' and *ili* 'or' suggests that in these contexts *krasnyj* is used not as a covering term for all varieties of red, but as a term focusing on the prototypical red hue that is opposed to other, non-prototypical members of the category KRASNYJ.[17]

Let me give another example to illustrate the point. In his essay *Portret* (Portrait), Iraklij Andronikov, a Georgian literary theorist, describes how he found evi-

[17] This type of use illustrates intrinsic metonymic structure of categories. As noticed by Lakoff (1987: 79-90), the prototypical member of a category can be referred to by a general category label, whereas deviant items have to be named by a hyponym (see also Radden & Kövecses 1999: 18).

dence that the portrait he was interested in depicted Mikhail Lermontov, XIX century Russian poet and writer. A basic cue was the military uniform of the man in the portrait. The scholar was wondering whether that uniform belonged to the regiment of which Lermontov was an officer. Andronikov asked Yakov Davidovich, a lawyer with considerable expertise in Russian history, for help. This is part of their conversation, translated here for convenience:[18]

(91)

Andronikov: Yakov Ivanovich, which regiment could an officer belong to in the XIX century if he had a red piping on his collar?

Davidovich: What do you mean by red? A Russian military uniform was characterised by a wide range of colour hues. Could you tell me what kind of red you mean?

Andronikov: This one (giving him a picture of the piping).

Davidovich: **This is not red, and it has never been red! It is real crimson**, which, as far as I remember was used in uniforms of the Life Guards rifle battalion, 17th Novomirgorod uhlan regiment, 16th Tver dragoon regiment, and Grodnensk hussar regiment of the Life Guards. I will check it for you …

In this conversation, we observe a clash of two categorisations of colour. Andronikov focused on similarity and labelled the colour of the collar piping *red*. In this case, RED is a broad category including crimson. Davidovich took a professional perspective of a uniform expert. For the purpose of identifying the regiment on the grounds of the piping colour, a much higher degree of precision is required. Hence, the lawyer dubs the piping colour *crimson*, thereby construing the crimson segment of the spectrum not as part of the category RED, but as a separate colour category with its own focus. What, in fact, happens here is that attention to dis-

[18] The original Russian text is given below:
- Яков Иваныч, в форму какого полка мог быть одет офицер в девятнадцатом веке, если на воротнике у него красные канты?
- Позвольте... Что значит красные? - возмущается Яков Иванович. - Для русского мундира характерно необычайное разнообразие оттенков цветов. Прошу пояснить: о каком красном цвете вы говорите?
- Об этом! - И я протягиваю клочок бумаги, на котором у меня скопирован цвет канта.
- Это не красный и никогда красным не был! - отчеканивает Яков Иванович. - Это самый настоящий малиновый, который, сколько мне помнится, был в лейб-гвардии стрелковых батальонах, в семнадцатом уланском Новомиргородском, в шестнадцатом Тверском драгунском и в лейб-гвардии Гродненском гусарском полках. Сейчас я проверю...

tinctiveness results in a creation of a new reference point in the crimson part of the spectrum (cf. Taylor 1995: 17). This new reference point is then contrasted with the narrowly construed focus of the category RED. In this condition, only hues maximally approaching the focal red colour may be dubbed *red*.

One way to emphasise that the range of the colour term should be restricted to the focal area is to reduplicate the colour adjective, as in (92)-(95):

(92) What are the measurements for this train case. Also would you say it is **white-white** or off white? (http://cgi.ebay.com)

(93) For ruby, the intensity of the red color is the primary factor in determining value. The ideal stone displays an intense, rich crimson without being too light or too dark. Stones which are too dark and garnety in appearance, or too light in color, are less highly valued. The finest rubies display a color similar to that of a red traffic light.
There is a tendency for the market to favor stones of the intense **red-red** color. Certainly the highest prices are paid for these. But do not overlook the slightly less intense shades. Such gems have a brightness missing in their more saturate brethren and often look better in the low lighting that one typically wears fine jewellery. Like beautiful women, rubies do come in many shades, the preference for which is a matter of personal taste. Ah, but isn't that what makes life worth living? (http://www.ruby-sapphire.com/ruby_connoisseurship.htm)

(94)

Что	же	касается		всего	остального		в
what	PCL	touch-PRS.IMPERS.REFL		all-GEN	remaining-GEN		in
номере,	то,	напротив,	у	вас		есть	
number-LOC	then	contrary	at	you-PL.GEN		is	
возможность		смаковать		его		на	берегу
possibility-NOM		savour-INF.IPFV		3.SG.M.ACC		on	shore-LOC
синего-синего		моря,	лежа	на	**белом-белом**		
blue.blue-SG.N.GEN		sea-GEN	lying	on	white.white-SG.M.LOC		
песке,	жмурясь	от	**желтого-желтого**		солнца. (RNC)		
sand-LOC	blinking	from	yellow.yellow-SG.N.GEN		sun-GEN		

'As for the rest of the issue, you can even enjoy it on the shore of a very blue sea, lying on very white sand, and blinking in a very yellow sun'

(95)

Я	была	цвета. ..	ну	вот	как	ваша
I	was-F	colour-GEN	PCL	here	like	your-SG.F.NOM

сумка – **красная-красная**. (RNC)
bag-NOM red.red-SG.F.NOM

'I was of the colour … the colour of your bag – very red.'

The type of syntactic reduplication exemplified in (92)-(95) is known as *double* (Dray 1987; Horn 1993) or *contrastive reduplication* (Ghomeshi et al. 2004; Whitton 2006). Its function is to indicate that the prototypical instantiation of the property (entity) is meant. For instance, the white colour in (92) is not *any* variety of white, but the best example of this colour category, the one that serves as a reference point for non-prototypical category members (like off-white). As shown by the above examples, the contrastive reduplication construction can be found in both English and Russian, though in Russian it is more common than in English (Israeli 1997: 591). For one thing, a corpus search in the RNC provides tens of hits for every colour adjective, whereas there is no single use of this construction in the BNC.[19]

The focal instantiation of colour categories can also be referred to by means of compound adjectives, such as *blood-red, jet-black,* and *snow-white* (see Section 3.6.2.4). However, as shown by Goodwin (1996, 1997, 2000), even these terms are sometimes not sufficient to make fine-grained distinctions in situated practices. Goodwin (1997) used as data a videotape of geochemistry students attempting to determine when the fibre they were working with was *jet-black* in order to stop the time-sensitive chemical reaction. The term *jet-black* used in the journal description of the procedure they were involved in was supposed to denote the "blackest of blacks, that is, the focal point for defining what constitutes the colour, the most prototypical case" (Goodwin 1997: 120). However, this term proved to be too abstract for their purposes, since they had to make the slightest distinctions between the truly blackest colour and various approximations to it, all covered by the term *jet-black*. To label these distinctions, the instructor coined colour terms *gorilla fur* to refer to the desired colour and *orangutan hair* to dub the colour that was not yet the right one.[20]

To summarise, in this subsection I have considered construals based on the maximum attention to difference from the reference point of a category. Attention

[19] The contrastive reduplication construction originated in American English.

[20] In another study, Goodwin (1996) showed that archaeologists attempting to categorise the colour of soil specimens do not use colour terms at all. For minor contrasts relevant in their subject area they start operating with indexical language, i.e. finger-pointing at the reference colour matching the colour of the material they are working with. As a second choice, they use numbers in the Munsell colour chart to label colour categories. The use of linguistic colour terms comes into play only at a later stage of their work, when they need to report research results in scientific documents and journals.

to distinctiveness is intrinsic to the use of colour terms in situated professional practices, where slightest distinctions between category members are highly relevant. The following subsection sets out to explore the effects on the opposite vantage point – attention to similarity.

3.8.4. Attention to similarity

Increased attention to similarity may result in a broad use of colour terms when their ranges cover not only the area around their own focal point, but also the realms of adjacent basic colour categories. For example, *red* may be used with reference not only to various instantiations of red, but also for pink, orange, or purple. Consider example (96):

(96) **Красным** Саню зовут потому, что **вся**
red-SG.M.INS Sanja-ACC call-INDF because all-SG.F.NOM

кожа у него розовая, таким он
skin-NOM at him-GEN pink-SG.F.NOM such-SG.M.INS he

родился. (RNC)
was.born-ACT.M.PFV.REFL

'People call Sanja "red" because his skin has been totally pink since the time he was born.'

The subject in (96) received the attribution 'red', because of having pink skin. Notice that in languages drawing a distinction between red and pink, PINK is not a subordinate of red, rather it is a separate basic colour category (Berlin & Kay 1969; Franklin & Davies 2004; Lindsey & Brown 2006). However, attention to similarity motivates the use of *krasnyj* 'red' with respect to a colour from an adjacent category. This use is what Lessmöllmann (2002) calls *minimal condition*, when the property denoted by the adjective is only distantly similar to the prototypical reference point. Similarly, the purple robes in (97) are dubbed *red* due to emphasis on similarity to prototypical redness:

(97) These texts notwithstanding, the pope decreed in 1295 that cardinals would henceforth wear '**red**' robes – **actually a reddish shade of imperial purple** – which Church officials obtained at great expense from Byzantine Constantinople, by then the sole source of the old Roman dye. (Butler Greenfield 2005: 22)

Notice that a change in the degree of specificity is manifested in (97) by the use of *actually*, an operator whose primary function is to shift the focus to a default categorisation (Tribushinina 2007), i.e. the one where *red* maps only onto members of the basic category RED, thus excluding purple. A similar effect is achieved in (98) and (99) by using two colour terms imposing two different construals of the property – one with emphasis on similarity and the other with emphasis on distinctiveness.

(98) Above the collection of stone-built houses that comprise Cotterdale, the fields were giddy with colour. Buttercups, daisies, cranesbill, **the red purple of clover**, all were pushing through the new grass of the meadows. (BNC)

(99)

А	по	бокам	от	соуса	сверкают
CONJ	along	sides-DAT	from	sauce-GEN	sparkle-PRS.3.PL

оранжевые	**капельки**	**красной**	**икры**. (RNC)
orange-PL.NOM	drops-NOM	red-SG.F.GEN	caviar-GEN

'And orange drops of red caviar are sparkling on each side of the sauce.'

Indeed, what is usually called *red clover* is, strictly speaking, light-purple. Likewise, red caviar is, in fact, orange. Yet, as noticed by Wyler (1992: 93), the minimal condition of use (which he calls *radicalised* use), though lacking precise description facilitates the formation of oppositional groups and provides a simple means of classificatory distinctions (e.g. *red clover* vs. *white clover*, *red caviar* vs. *black caviar*).

Sometimes such broad, similarity-based construals of colour are employed for argumentative purposes. This is, for example, the case in (100):

(100)

Singer	А сам? Красные кроссовки с ярко зеленой кофтой. Look at yourself. Red gym shoes with a bright green sweater.
Journalist	Это не зеленый. It's not green.

(100) is an attested dialogue that took place on a talk-show *Častnaja žizn'* [Private Life] broadcasted by one of the leading Russian TV-channels (RTR-Planeta, 24.04.2006). Marina Khlebnikova, a Russian pop-singer, was offended by a straightforward journalist, who accused her of spending too much time on make-up. As a reaction to this reproach, the exchange in (100) took place. What Khlebnikova called 'bright green' was, in fact, a greenish sort of blue, hence the journalist's ob-

jection 'It's not green'. Russians sometimes use contrast between focal red and green, complementaries in the colour wheel and opposites in the traffic light system, to show that a person is dressed in bad taste.[21] By emphasising the similarity of the colour at hand with focal green, the singer shows that the person dressed in bad taste has no right to judge her. This effect could not be achieved so vividly if she categorised the colour as part of the blue category. This example is very illustrative, since it shows that dynamic category construal may be determined not only by the perceptual properties of colours, but also (and sometimes primarily) by the communicative goals of language users.

Similarly, in the Belarusian opposition media (and in anti-Lukashenko Russian media) the residence of president Lukashenko is often called *Krasnyj dom* 'red house'. See, for instance, (101) and (102):

(101) **"Красный дом"**, что в Минске по улице К.Маркса, сделал откровенную ставку на силу страха. Накануне "выборов" по весям поползли мерзкие слухи-страшилки, призванные выдавить обывателя на избирательные участки. Говорили о тотальном контроле, о черных списках тех, кто не принял участие в голосовании, о разборках по месту работы. Выборочно слухи подкреплялись конкретными действиями. (БелаПАН, 28.10.2000)

The "Red House" located in K. Marx street in Minsk literally counted on the power of fear. The day before the "election" the horrifying rumours were spread in order to squeeze average people out to the polling stations. There were rumours of overall control, of black lists of those who would not vote, of problems one would get at work. In some cases the rumours were put in practice. (BelaPAN, 28.10.2000)

(102) Если в 1994 году Александр Лукашенко по воле большинства избирателей стал президентом страны, то в 2001-ом его фактически избрала коллегия счетчиков из специально отобранных в избирательные комиссии людей. Это принципиальное отличие. Мы оцениваем выборы как жесткую политическую кампанию, проходившую без всяких правил. Точнее по правилам, провозглашенным когда-то Сталиным: неважно, кто и как голосует, важно, кто и как считает. Власть постаралась, чтобы ни одного представителя демократических партий не включили ни в одну избирательную комиссию. Контроль за ходом голосования

[21] Here is another example from the RNC:
Передонов надел белый шейный платок, Володин — пестрый, красный с зелеными полосками. 'Peredonov put on a white neckerchief, and Volodin – a motley one, red with green stripes'.

> осуществлял только один политический центр – **Красный дом**. (Известия, 23.11.2005)
>
> Even though in 1994 Alexander Lukashenko became president by a majority of votes, in 2001 he was, in fact, elected by the carefully selected returning board. This is a crucial difference. We consider these elections as a harsh political campaign carried on without any rules. Or rather, according to the rules once proclaimed by Stalin: it does not matter who votes and how they vote, what matters is who counts the votes and how they count. The authorities did their best not to admit a single democrat to election committees. The election was being controlled by only one political centre – the Red House. (Izvestija, 23.11.2005)

It is noteworthy that the building called 'red house' is, in fact, not red, but pink.[22] Thus, a more chromatically precise colour term would be *rozovyj* 'pink'. However, the use of *rozovyj* would not suggest the inferences the opposition media want to make that the Lukashenko regime disregards democratic values and brings Belarus back to communist totalitarianism. The association with communism is typical of the focal red colour, but not of pink. Thus, driven by the communicative needs of the anti-Lukashenko media, the category KRASNYJ is extended to include the pink part of the spectrum.

To conclude, the analysis presented above suggests that linguistic conceptualisations of colour categories are not totally predetermined by the properties of colour vision. Rather, language users dynamically construe colour categories with respect to salient reference points, such as focal colours and/or colours of salient environmental prototypes. Attention to similarity with the reference point leads to category expansion; attention to distinctiveness sets category boundaries close to the prototype. Which vantage point is taken, depends on the degree of specificity required in particular situated practices and, more generally, on the communicative goals of language users.

3.9. Summary

The findings reported in this chapter provide evidence that prototypes function as CRPs anchoring conceptual specifications of colour terms. Distance from the reference point is made explicit by the use of colour terms in comparative and superlative constructions and modification by adverbs of degree. The denotational range of colour adjectives is determined by the conceptualiser's vantage point. If atten-

[22] The picture of the "Red House" can be viewed at www.belembassy.it/index.aspx?lang=ru&cat_id=2&page_id=10.

tion to similarity with the reference point is stronger than attention to distinctiveness, colour categories expand. If, on the contrary, attention to difference from the reference point is more prominent, then colour categories are conceptualised as an area close to the prototype.

Following Wierzbicka (1990, 1996), I have suggested to distinguish between two kinds of CRPs relevant to colour adjectives – focal colours and natural prototypes. Foci are areas of colour space that have perceptual and cognitive salience, as indicated by numerous studies in cognitive psychology reviewed above. Natural reference points are culturally determined entities (such as the sky and the sun) that are seen as best exemplars of particular colours. Etymologically, colour adjectives are often derived from names of natural prototypes. These prototypes are made explicit in denotative colour terms, comparative constructions, and dictionary definitions. The reference-point status of salient environmental prototypes often provides a basis for metonymical and metaphorical extensions of colour adjectives. It is also plausible that the conceptual links between light days and white, on the one hand, and dark nights and black, on the other hand, largely motivate the antonymy *black* : *white*.

The two types of reference points may coincide. For example, the colour of blood is at the same time the perceptually determined focus of the category RED. Sometimes, however, the colour of a natural prototype does not coincide with the perceptually determined focus, as is the case with fire as a CRP for 'red'. This notwithstanding, both types of reference points proved relevant to the linguistic construal of colour. The meanings of colour words are not based entirely on physiology, nor are they totally anchored by culturally determined standards of comparison. Rather, dynamic meaning construal involves establishing complex links between the colour instantiation at hand, a perceptually salient focus, and culturally selected environmental prototypes.

The distinction between the two kinds of reference points provides a possible solution to the universalist-relativist debate. The view advocated in this thesis suggests that there are both universal and language/culture-specific facets of colour terms. Common aspects stem from the perceptual salience of focal areas, which are presumably universal. Language- and culture-specific variation may be related to the reference-point status of natural prototypes. Some of these are fairly universal (e.g. the sun, the sky); others are determined by the specific environment of the linguistic community (e.g. types of vegetation, essential types of food) and conventional associations maintained by it (e.g. the sun is prototypically red in Russian, but yellow in English).

Chapter 4. Default and compound prototypes

The truth is always a compound of two half-truths, and you never reach it, because there is always something more to say.

Tom Stoppard

4.1. Introduction

In Chapter 3, I have discussed the CRP-status of prototypes in the semantics of colour adjectives. I have argued that both perceptually salient foci and culture-specific environmental reference points may serve as prototypes of colour categories. Does this mean that we evoke focal red (or even the concept BLOOD) every time we hear the adjective *red*? If this were the case, it would mean that the colour of, say, red wine is seen as a deviation from the focal colour of fresh blood. This seems very unlikely. Thus, there must be more to the reference-point story of colour adjectives than the existence of foci and natural prototypes.

In this chapter, I will offer some reflections on the applicability of default prototypes as CRPs anchoring conceptual specifications of colour terms. In Section 4.2, I introduce the notion of *compound prototypes* to refer to a non-focal, entity-specific kind of prototypes. In Section 4.3, I discuss the implications of compound prototypes for two basic assumptions about colour adjectives. More precisely, I will suggest that applicability of compound prototypes can be taken as evidence of non-absoluteness of colour adjectives and non-compositionality of AN-combinations containing colour terms. Conclusions are summarised in Section 4.4.

4.2. Degree of entrenchment

4.2.1. The red cow

I would like to start this section with an anecdote. When I was about four years of age, I heard my grandmother say:

(1)	На	Урале	много	красных	коров.
	on	Ural-LOC	many	red-PL.GEN	cows-GEN

'There are a lot of red cows in the Urals.'

I still remember how surprised I was that cows could be red. I knew that they could be white, black, or ginger-coloured, but I could not believe (and quite rightly so) that cows could be bright red. Only later, I found out that what is dubbed *krasnaja korova* 'red cow' is, in fact, not red, but ginger-coloured. So, my misinterpretation of (1) was caused by the lack of the encyclopaedic knowledge about the entities typically called 'red cow' in Russian. Lacking the foreknowledge of the compound, I used a default strategy of combining the concept of a prototypical cow with the concept of a prototypical red hue (focus), which resulted in a compound concept of a blood-red cow (cf. Quine 1960: 105).

4.2.2. Compound prototypes

It is noteworthy that in the example discussed above I activated the prototypical hue rather than any other kind of red that can be described by the Russian colour term *krasnyj*. It is plausible to think that the cognitive salience of focal areas discussed in the previous chapter facilitates their activation as a default instantiation of a colour in newly encountered AN-combinations. Much in the same line, Sweetser (1999) suggests that language users are likely to evoke focal colours when processing non-entrenched AN-combinations containing colour terms.

However, if one already has foreknowledge of the resultant compound, there is no need to activate the default prototype, unless the compound calls for it, as in *red carnation* or *red telephone-box*, where the typical colour of the entities is focal red. Critically, people do not use focal red as a starting point for interpreting phrases like *red hair, red grapes*, or *red corals*. Language users can immediately access the information about the hues referred to by means of these entrenched AN-combinations. We know that red hair is prototypically ginger-coloured, that red grapes are usually purple, and that the prototypical colour of red corals is pink. I will term a property typically associated with an entrenched AN-combination *compound prototype*. Compound prototypes should be distinguished from what I will call *default prototypes*, i.e. instantiations of a property typically evoked by adjectives taken in isolation and by non-entrenched AN-combinations. In the case of colour adjectives, foci and environmental reference points may function as default prototypes.

The distinction between default and compound prototypes gained support from the intuitions of my informants. As part of the pilot study aimed at the preparation of the Survey (Section 1.3), I asked twenty-four Russian speaking undergraduates to describe varieties of red denoted by twenty-two AN-combinations, such as *krasnyj mjač* 'red ball', *krasnaja ikra* 'red caviar', and *krasnoe vino* 'red wine'. The subjects tended to describe the colour of, for example, red wine as being dark-

red, and the colour of red caviar as orange. They also characterised the colour of red cherries as *višnevyj* 'cherry-coloured', the hue of red bricks as *kirpičnyj* 'brick-coloured', and the variety of red specific to red flames as *ognennyj* 'fire-coloured'. However, when asked to describe the colour denoted by non-entrenched AN-combinations, such as *krasnyj mjač* 'red ball' or *krasnaja šapka* 'red cap', they more often used the default prototype than any other kind of red (e.g. *prosto krasnyj* 'just red', *jarko-krasnyj* 'bright red', *čisto krasnyj* 'pure red').

Consider also the following examples from the corpora:

(2) I felt my face go red, **as red as it was physically possible for it to go red**, and a surge of hate and rage and fear swept through me from nerve ending to brain cell to nerve ending. (BNC)

(3) Vitamin deficiency can only be properly diagnosed and treated by a doctor, but there are certain fairly obvious signs which should be noted, bearing in mind that an old person who is obese can still be suffering from malnutrition and vitamin deficiency through eating the wrong kinds of food. The corners of the mouth may be cracked and sore and the **tongue unusually red**. (BNC)

(4)

При	этом	он	полностью	открыл		рот	и
by	this-LOC	he	entirely	opened-SG.M.PFV		mouth-ACC	and
высунул		язык,	и	мне	показалось,		что
put.out-SG.M.PFV		tongue-ACC	and	me-DAT	seemed-IMPERS.PFV		that
у	него	**необыкновенно**	**красный**		**язык**,		
at	him-GEN	unusually	red-(LF)SG.M.NOM		tongue-NOM		
наверное	мальчик	болен,	и	у	него	начался	
probably	boy-NOM	ill-(SF)SG.M	and	at	he-GEN	started-SG.M.PFV	
приступ, –	так	я	подумал. (RNC)				
attack-NOM	so	I	thought-SG.M.PFV				

'He opened his mouth and thrust out his tongue. It seemed to me he had an unusually red tongue. I thought that the boy was probably ill and must be suffering from an attack.'

(5)

Это	брусника, –	сказала	женщина	с	собакой. –	
this	cowberry-NOM	said-SG.F.PFV	woman-NOM	with	dog-INS	
Нет,	для	брусники	она	**слишком**	**красная**,	
no	for	cowberry-GEN	3.SG.F	too	red-(LF)SG.F.NOM	

клюква, наверно. (RNC)
cranberry-NOM probably

'This is cowberry, – the woman with the dog said. No, it is too red for cowberry; it must be cranberry. '

Observe that the colour of the face in (2) is construed as maximally red, and thus conforming to the prototype of redness, *the way redness is instantiated in the compound concept RED FACE*. In other words, a prototypically red face is not the same colour as prototypically red blood. The maximum reached in (2) is a *categorical maximum* associated with the compound prototype of facial redness. Similarly in (3) and (4), the instantiation of red is conceptualised as surpassing the categorical maximum for the category of tongues. It is not the case that the red colour as such cannot be redder, but rather that the maximum of "red-tongueness" (compound prototype) has been exceeded. What is "unusually red" for a tongue can be "usually red" for a tomato. In the same vein, the berry in (5) is too red to be a cowberry, i.e. it surpasses the maximum redness associated with a prototypical red cowberry and better conforms to the prototype of a red cranberry.

It could be argued that the distinction between default and compound prototypes is one of idiomatic *vs.* non-idiomatic AN-combinations. This is, however, not the case. Although idiomatic phrases easily lend themselves to interpretation based on compound prototypes, non-idiomatic combinations may also evoke compound prototypes. For instance, an individual language user may have expectations about the prototypical colour of a green fence, which will not necessarily coincide with her idea of a prototypically green car. It follows then that the inventory of compound prototypes is not only culture-specific, but also contingent on the world knowledge of individual language users.

4.2.3. Interaction of two prototypes

The activation of a compound prototype usually implies that the corresponding default prototype will not be actively involved in the interpretation of the adjective. Sometimes, however, both prototypes are evoked and an interesting interaction may be observed. Witness examples (6)-(11):

(6) Susan's face was **as white as snow** and she was shaking with cold. (BNC)

(7) She met me with a friendly smile, shook my hand and introduced me to the class: 'This is Wanda, our new pupil who has come to live in our vil-

lage. She doesn't know any body, so please be kind to her and I am sure you will become good friends.' Every eye was fixed on the new foreign girl, and then there was a clapping of hands. My face was **as red as a tomato** as I was shown to my seat. (BNC)

(8) А рядом вся **красная**, **как** **спелый**
CONJ near all-SG.F red-(LF)SG.F.NOM like ripe-SG.M.NOM

помидор, стояла злая тетушка
tomato-NOM stood-SG.F.IPFV wicked-(LF)SG.F.NOM auntie-NOM

Манефа. (RNC)
Манефа-NOM

'Next to me stood auntie Manepha, angry and as red as a ripe tomato.'

(9) Billy looked terrible. His face was yellow, and in contrast his eyes were **as red as rubies**. (BNC)

(10) Her ma had been a lovely well-bred, dark-haired colleen then, with eyes **as green as the meadows** in which she'd played before Paddy Byrne had won her heart. (BNC)

(11) Эта любовь буквально выпрыгнула на
this-F.NOM love-NOM literally jumped.out-SG.F.PFV on

меня, когда я увидел золотоволосую девушку,
me-ACC when I saw-SG.M.PFV gold.haired-SG.F.ACC girl-ACC

высокую и стройную, с
high-(LF)SG.F.ACC and slender-(LF)SG.F.ACC with

зелеными **как** **изумруды** глазами, неизвестно
green-(LF)PL.INS like emeralds-NOM eyes-INS unknown

откуда взявшуюся. (RNC)
where.from appear-PTCP.PST.ACT.SG.F.ACC.REFL

'This love jumped out on me when I saw a gold-haired girl, tall and slender, with eyes as green as emeralds, who seemed to have appeared from nowhere.'

Snow is an established natural prototype of the white colour (Philip 2003: 143-8; Ruzin 1994; Tribushinina 2001b; Wierzbicka 1990, 1996). Comparison to snow in terms of whiteness therefore suggests that the colour of the referent approximates

the prototype. But what kind of prototype: a default or a compound one? Apparently, it is a default prototype that is referred to by means of the comparative construction *as white as snow*. On the other hand, the typical colour of a white face is by no means snow-white; rather it is a pale sort of pink (compound prototype). Thus, what we see in (6) is the application of a standard reinforcer from a different prototype resulting in a conceptual integration of two kinds of reference points: a default prototype (snow-white) and a compound prototype (face-white). In the resulting compound, the colour of the face is presented as close to the prototype of whiteness, the way it is represented in the complex concept WHITE FACE.

Similarly, tomatoes and rubies are well-known instantiations of prototypical red (see Section 3.6). However, not everything that is said to be 'as red as a tomato' is necessarily attributed the bright red colour of ripe tomatoes. It could simply mean that the entity is very red, for its own kind of entities. For instance, due to conceptual integration of the two kinds of prototypes, the face in (7) and (8) is not claimed to have the prototypical red colour of tomatoes. Rather, (7) and (8) suggest that the speaker's face was very pink, since the prototypical colour of a red face is dark pink, and not bright red. The same holds for (9), where the colour of Billy's eyes is not directly compared to the colour of rubies. Rather, comparison to the prototypical instantiation of redness intensifies the property REDNESS, the way it is represented in the compound prototype RED EYES.

The same analysis applies to (10) and (11). Vegetation and emeralds are entrenched instantiations of the prototypical green colour (Philip 2003: 26-7; Ruzin 1994; Wierzbicka 1990, 1996). However, the eyes in (10) are not claimed to have the focal green colour of fresh grass. Nor do the eyes in (11) look like emeralds. Rather, the colour of the eyes in these examples is presented as maximally conforming to the compound prototype – the best example of greenness, the way this colour is instantiated in eyes.

In summary, comparative constructions of the type *as A as X*, where X is an established prototypical standard of comparison, often involve an interaction of default and compound prototypes, which results in an intensification of the property, or rather of its variety specifically evoked by a given AN-combination.

4.3. Implications of compound prototypes

4.3.1. Introductory remarks

There are two long-standing assumptions about the semantics of colour adjectives. First, they are considered to be absolute terms whose meaning, unlike that of rela-

tive adjectives (e.g. *tall, rich, good*), is not contingent on the modified noun; hence the term "absolute". Second, in view of the noun-independency of colour adjectives, combinations of nouns with colour terms have often been cited as prime examples of compositionality in language. In what follows, I will attempt to demonstrate that compound prototypes provide counterevidence to both absoluteness and compositionality assumptions.

4.3.2. Colour terms are not absolute

The distinction between absolute and relative adjectives can be traced back to Sapir (1944), who distinguished between absolute terms, such as colour adjectives, and relative terms, such as dimensional adjectives and quantifiers. Being relative, according to Sapir (1944: 122-3), means functioning in relation to a certain norm established for a comparison class. Since norms for different comparison classes do not coincide, relative adjectives cannot be generalised to superordinates; see example (12) taken from Rips & Turnbull (1980: 147). In contrast, absolute adjectives, so the argument goes, do not have such a relative standard of comparison and are therefore noun-independent. By this view, the colour of a green referent can be more or less similar to the prototypical colour of fresh leaves and grass, but "what is green about insects will be green with respect to other things as well" (Rips & Turnbull 1980: 148). Hence, the generalisation in (13) is appropriate.

(12) a. A grasshopper is a large insect.
b. *A grasshopper is a large animal.

(13) a. A grasshopper is a green insect.
b. A grasshopper is a green animal.

In an experimental study, Rips & Turnbull (1980) asked subjects to verify sentences containing either relative or absolute adjectives used attributively (e.g. *A flamingo is a big/pink bird*) and predicatively (e.g. *A flamingo is big/pink*). Reaction times and error rates for dimensional adjectives decreased when the comparison class was made explicit (i.e. in attributive uses). No such effects were found for colour adjectives. These results were taken as evidence that reference points for relative adjectives depend on a comparison class established by the head-noun, whereas reference points for colour adjectives are independent of such a standard (see also De Schutter 1976: 17; Dixon 1977: 31; Draškovič 2003; Eisenberg 1994; Kamp & Partee 1995; Katz 1972: 254; Kennedy 2007; Kennedy & McNally 2005; Lehrer & Lehrer

1982: 485; Nelson & Benedict 1974; Paritosh 2004; Pocelujevskij 1974: 236; Rips & Turnbull 1980; Siegel 1980; Syrett 2007; Syrett et al. 2005; Vendler 1968: 95-6).

Several studies have brought the assumption of absoluteness into question. In the first place, colour adjectives were shown to denote different colours in different noun-contexts (Clark 1992: 371; Clifton & Ferreira 1989; Cohen & Murphy 1984; Halff et al. 1976; Murphy 1988; Springer & Murphy 1992; Taylor 2002: 449). For instance, in combination with nouns such as *carnation, poppies*, and *peppers,* the adjective *red* denotes a bright red colour (very close to focal red). In combinations such as *red cherries, red meat*, and *red wine*, the adjective describes a dark-red colour. Red fish, red caviar, and red palm oil are orange. Red hair and red fur are ginger-coloured. Red corals are pink. Red grapes and red cabbage are purple. And the colour of red onions may vary from brown to pink (Tribushinina 2006a).

Experimental support for context-sensitivity of colour terms comes from a study reported in Halff et al. (1976). The subjects made judgments about the word *red* used in 19 sentences (e.g. *Red apples were used in the salad., The red fire engine raced down the street., The teacher wrote her comments in red ink.*). The respondents were asked to indicate whether the red object mentioned in a sentence was redder, less red, or as red as the red object mentioned in each of the other sentences. Two important conclusions were made. First, the subjects' representations of *red* depended upon the head-noun and varied along a real-valued interval of redness. Second, there was a remarkable lack of agreement among subjects, which suggests that compound prototypes are vastly individual.

In the second place, several experimental studies have shown that people do not activate the same invariant property for different AN-combinations in which an adjective is used. Rather, language users immediately *instantiate* properties, i.e. use a "specific representation of a property that is specific to the combination" (Wisniewski 1998: 1343, see also Heit & Barsalou 1996; Wisniewski & Love 1998). Furthermore, the more similar the nominal concepts are, the more similar the evoked adjectival instantiations will be. For instance, the redness of a fire-truck will be more similar to the redness of a car than to the redness of an onion (cf. Sandhofer & Smith 1999).

In the third place, non-absoluteness of colour adjectives is manifested in attribute correlation observed by Medin & Shoben (1988). For instance, people say that grey hair is more similar to white hair than to black hair. However, the correlation changes when the adjectives are combined with different nouns. For instance, white clouds and grey clouds are judged less similar than grey clouds and black clouds. For shoes, black and blue are similar, whereas for eyes blue is similar to

green. Likewise, red leaves are closer to brown leaves, whereas a red sunset is similar to a yellow sunset.

In the fourth place, as convincingly shown by several developmental studies (Graham et al. 2005; Klibanoff & Waxman 2000; Mintz 2005; Mintz & Gleitman 2002; Waxman & Klibanoff 2000), acquisition of adjectives (and not only relative adjectives!) is interwoven with and facilitated by the knowledge of modified nouns. For instance, children ranging from 21 months to 3 years are able to extend novel adjectives (including colour terms) to objects within the same basic-level category and fail to do so for objects from other basic-level categories (Klibanoff & Waxman 2000). In the same vein, Mintz (2005) and Mintz & Gleitman (2002) demonstrated that toddlers attend to the noun used to label the described object. In order for adjective acquisition to be successful, a property denoted by the adjective must be mapped onto a specific taxonomic class of entities.[1]

If the account presented in this chapter is on the right track, then compound prototypes may be taken as additional evidence of non-absoluteness of colour adjectives. Recall that the accounts maintaining a distinction between absolute and relative adjectives use the invariability of the standard value for colour terms (CRP in my terminology) as a crucial indicator of their absoluteness. On this view, reference points for relative adjectives, such as *weak* or *tall*, are context-dependent. And, conversely, the CRPs for absolute adjectives, such as *red* and *wet*, are claimed to be independent of noun-contexts. According to this line of thought, redness denoted by *red poppies* is, for instance, closer to the prototype (focal red) than the redness in *red cabbage*, but the reference point (prototype) itself is context-invariant.

However, as I have argued in the preceding section, it is plausible that the prototypes of colour adjectives may vary per context. Focal red (often conceptualised as the colour of blood) is a default CRP, which is evoked by adjectives in zero-contexts and by non-entrenched AN-combinations, such as *red ball* and *red cap*. But it is very unlikely that the colour of a red face is seen as a deviation from the focal red colour. Likewise, as Taylor (2002: 449) reminds us, "no one <…> would fancy drinking a red wine of the colour of blood". Rather, there are compound prototypes of red faces, red wine, red hair, and red corals. Moreover, as indicated earlier, individual language users may have stored compound prototypes for red carpets, red sweaters, or red buses. For instance, to me what is called *krasnyj avtobus* 'red bus' is orange, since the 'red buses' riding in my home city used to be orangey in colour.

[1] According to Waxman (forthcoming), the fact that adjectives are acquired later than nouns can be explained by their semantic, morphological, and syntactic dependency on the modified nouns.

The work of Heit & Barsalou (1996) is also suggestive in this context. In a series of experiments they found that complex concepts have their own prototypes. For example, the subjects never produced *hummingbird* or *hawk* as instances of *bird*, but most frequently mentioned *hummingbird* for *small bird* and *hawk* for *dangerous bird*. Heit & Barsalou (1996: 414) conclude that "knowledge about a general category reflects a great deal of detailed information about the diverge range of its instances". This view is remarkably consistent with the hypothesis presented in this chapter that colour categories include not only overarching default prototypes (foci and natural prototypes), but also more specific, idiosyncratic compound prototypes.

Thus, taking the above discussion into account, we have reasons to conclude that reference points used for anchoring relevant conceptual specifications of colour terms are to a large degree context-sensitive. This can be a result of piecemeal learning of AN-combinations along the lines proposed in Tomasello (2003). Children start learning adjectives in particular AN-combinations. They may, for instance, know what *tall* means in combination with nouns *tower* and *bridge*, but make comprehension mistakes when this adjective is used in other noun-contexts (Keil & Carroll 1980, see also Chapter 9). In a similar fashion, toddlers may use *red* correctly for plastic beakers or stripes on the pyjama, but err on other object categories (Cruse 1977). Later in development, generalisations are made about different instantiations of tallness and redness, and abstract schemas emerge, which enables children to apply adjectives to other objects. These generalisations, however, do not erase the small-scale prototypes acquired for specific AN-combinations. After all, we all know what prototypically red hair looks like and how red typical red cherries are. Thus, it may be assumed that colour categories present clusters of compound prototypes centred around the overarching default prototypes (focal areas and natural reference points). Further experimental work is needed to test the psychological reality of this model. I leave this for future investigation.

4.3.3. AN-combinations are not compositional

4.3.3.1. Principle of compositionality. Formal semanticists have often used combinations of nouns with colour adjectives as evidence of full compositionality. The principle of compositionality reads as follows: "a lexical item must make approximately the same semantic contribution to each expression in which it occurs" (Fodor and Pylyshyn 1988: 42). The meaning of the conjunction is then taken as a function of the meanings of its parts. Thus, by this view, the meaning of an AN-combination is an intersection of two sets of entities, one denoted by the modified noun and the other by the modifying adjective. For example, the meaning of *black*

horse is an intersection of the set of horses and the set of black things. Therefore, if one is able to understand the phrases *black horse* and *brown cow*, one will also be able to understand the phrases *black cow* and *brown horse*. In this way, it is argued, compositionality explains systematicity in language.

There are, however, a number of grave problems with this view. I will briefly discuss two stumbling blocks for the principle of compositionality (Sections 4.3.3.2 and 4.3.3.3) and suggest that compound prototypes provide another crucial piece of evidence that AN-combinations are not compositional.

4.3.3.2. The case of *red house*. What can be easier than combining the concept HOUSE with the concept RED into a compound concept RED HOUSE? In the following quotation, Taylor (1992: 1-2), for instance, suggests that the case of *red house* is very simple and different from non-compositional (and supposedly exotic) cases like *fake Picasso* and *mere child*:

> *Fake Picasso* and *mere child* do not exhibit a simple "summation" of meanings of their component terms, in the manner of *red house*. Rather, the meaning of the composite expression emerges from a subtle interaction between the meaning of the noun and the meaning of the adjective.

Notice, however, that if the compound concept RED HOUSE was produced by a mere summation of the constituent concepts, as suggested by Taylor in the above quotation, then we would get a house that is blood-red all over. Its roof, walls, windows, doors, chimney, its exterior and interior would be bright red. This is probably not what comes to our mind when we hear the AN-combination *red house*. A red house, by default, may have red exterior walls and/or a red roof, but not the windows and not the interior (cf. Lahav 1989: 264).

Following Fauconnier and Turner (1998, 2002), I suggest that adjectival modification is carried out through conceptual integration of (at least) two mental spaces. In the case of *red house* the two input spaces are COLOUR and HOUSE (see Figure 4.1). Crucially, there is no one-to-one mapping between the two input spaces. Only certain elements are selected, activated, and projected into the blend. In other words, not everything about the red house is red, as we have already seen. Thus, prerequisite to conceptual blending is the identification of the *active zone*, in the sense proposed by Langacker (1984). In zero-contexts, a default active zone is identified (cf. Sweetser 1999). For the concept HOUSE, it could be the outside of the house, excluding windows (and, perhaps, also doors, roofs, chimneys, rainwater-pipes, and minor elements, such as door handles). A mapping is thus established between the

active zone of the HOUSE SPACE and its colour in the COLOUR SPACE. Only these elements are brought into the blend by selective projection.

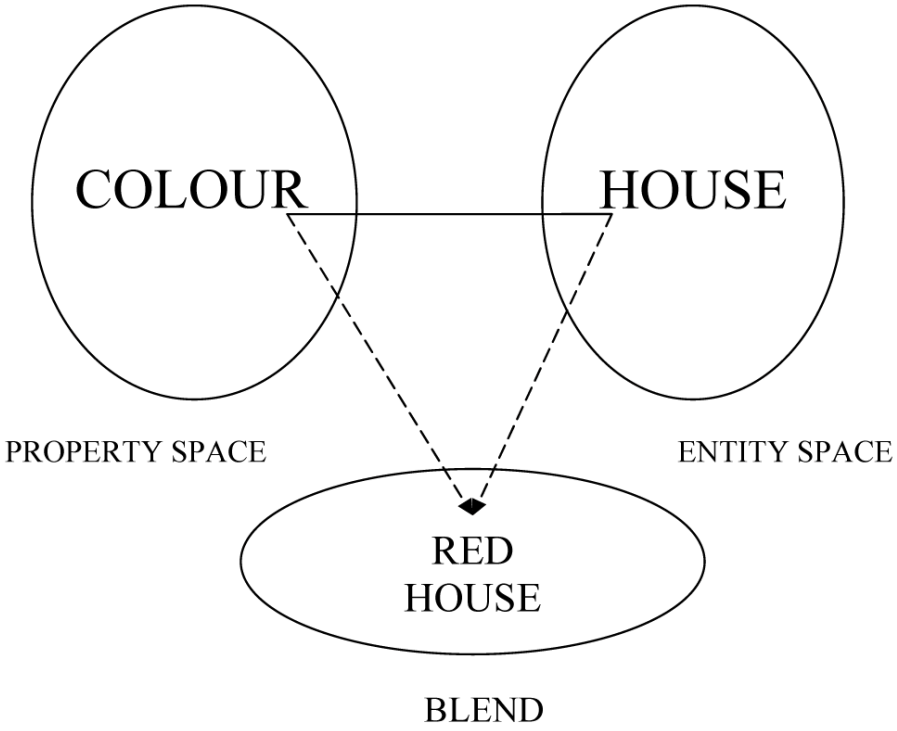


Figure 4.1. The red house blend

Note that the activation of exterior walls in the HOUSE SPACE is a default operation working in zero-contexts and when there are no further constraints. I fully agree with Turner and Fauconnier (1995) that theory of compositionality evidently depends on default principles. However, defaults, no matter how strong they are, can easily be overridden. Consider example (14):

(14) I live in the red house.

Taken out of context, (14) is likely to be interpreted along the lines graphically represented in Figure 4.1. This is, however, not what was meant by the speaker – an American-Dutch girl called Eulalie. When Eulalie was between three and four years of age, she was repeatedly using (14) to refer to their house, which has a very con-

spicuous red door (personal communication with parents). The perceptual salience of the door enables her to describe their greyish house as *red house*. A mapping is thus established between the active zone of the HOUSE SPACE (door) and its colour (red) in the COLOUR SPACE. Only these elements are brought into the blend by selective projection.

Perceptual salience is only one of the numerous factors determining the active zone of the entity space. In Lahav's words:

> The redness of an object is determined by such factors as the point of view from which the object is usually encountered (as in the case of a red star); the important part of the object (as in the case of a red water melon); its sensory conspicuousness when encountered from without (a red house is not red in what is usually its most interesting or important part, namely, its rooms); the object's functional effect (e.g., a red glaze or a red pen); the aspect of the object that varies within the category to which the object belongs (the window, bumper, and wheels of a car do not count as defining the color of a car, probably because they are not expected to vary); biological, geological, and other scientific and classificatory interests (a red bird and a red diamond are red even when painted white); and so on (Lahav 1993: 80).

All these factors interact, often in a very unpredictable manner, so that there is no unitary compositional formula one can develop to account for most, let alone all, AN-combinations. Thus, counter to the principle of compositionality, in order to understand what a previously unfamiliar combination, such as *red cigarette*, means it is not enough to know what red houses, cars, pens, and cows mean (Lahav 1993: 80, see also Coulson 2001: 161; Quine 1960: 103-5; Sweetser 1999; Turner & Fauconnier 1995: 90).

4.3.3.3. Emergent properties. Another problem of the strictly compositional approach is that a combination of the adjectival and the nominal concepts may have emergent properties that neither of the constituents possesses. For example, in the study reported in Murphy (1988), the subjects said that yellow jackets are likely to be worn by fishermen, whereas neither yellow things nor jackets in general are directly associated with fishermen. Thus, the association with fisherman is a property of the combination, and not of the constituents.

To explain the existence of emergent properties formal semanticists suggest that the borderline between linguistic and encyclopaedic knowledge should be maintained and claim for the division of labour between lexical semantics and pragmatics. For example, a connectionist model proposed by Blutner (2004) and Blutner et al. (2004) distinguishes two stages in the interpretation of AN-

combinations. At the first stage, two concepts are compositionally combined to produce a conjunction. This stage, so the argument goes, is in the realm of lexical semantics. At the second stage, pragmatics comes into play, and the initial default hypothesis is modified by the encyclopaedic knowledge.

Let us try to apply this model to the AN-combination *red apple*. According to Blutner, at the first stage a default hypothesis is formed. This means that we should apply the property RED to the whole referent of *apple*. The referent is in this case bright red through and through. At this point the semantic analysis is completed, and the world knowledge comes in to modify the initial hypothesis. Our world knowledge tells us, among other things, that a colour term is used to refer to the *surface* of fruits with edible outside (Montague 1970). As Blutner and colleagues put it: "After learning that the colour of the outside of fruits is more discriminating than the colour of its inside, the learning mechanism correctly reproduces the expected sort of modification" (Blutner et al. 2004: 10).

Unlike strictly compositional approaches, this model is able to account for emergent properties of AN-combinations. However, this approach is not unproblematic either. For example, it cannot account for the so-called *nouns-slowest effect* described by Springer & Murphy (1992). Their experimental study has shown that properties associated with a combination are verified prior to properties of the constituents. For example, *Peeled apples are white* is verified faster than *Peeled apples are round*, since white is the property of the combination, and round is the property verified by virtue of the noun alone. These results strongly suggest that, in fact, there is no line of demarcation between linguistic and encyclopaedic knowledge. They also demonstrate that conceptual integration of nominal and adjectival components cannot be reduced to a mere summation of component parts supplemented by an independent pragmatic module.

Consider also the following example from the RNC:

(15) Да и сами предприниматели сегодня уже
PCL and self-PL.NOM entrepreneurs-NOM today already

далеко не те "новые русские" с
far NEG those-NOM new-PL.NOM Russians-NOM with

несимпатичным обликом – неприменными
unattractive-SG.M.INS outlook-INS indispensable-PL.INS

золотой цепью на шее, **красным пиджаком**,
gold-ADJ.SG.F.INS chain-INS on neck-LOC red-SG.M.INS jacket-INS

“Ролексом”	на	руке,		отдыхом	на	Канарах	и
Rolex-INS	on	arm-LOC		rest-INS	on	Canaries-LOC	and

толстым	пузом. (RNC)
fat-SG.N.INS	belly-INS

‘In addition, Russian entrepreneurs today are quite different from those unattractive nouveau riches who always wore gold chains on their necks, red jackets on their bodies, and Rolex watches on their arms, spent vacation in the Canaries, and had a round belly.’

Readers that are not familiar with modern Russian culture may evoke either the prototypical red colour or some darker variety of red as an instantiation of a ‘red jacket’. However, the actual colour referred to by means of *krasnyj pidžak* ‘red jacket’ in the context of (15) is crimson, since it is part of the shared cultural knowledge that in the first years after the collapse of the Soviet Union, Russian nouveau riches used to wear crimson jackets.

Conceptual integration of the adjectival concept RED and the nominal concept JACKET in (15) calls forth emergent properties of two kinds. Firstly, neither jackets nor red things are associated with nouveau riches in the Russian culture. Association to “new Russians” and their traits (rich, ill-bred, tasteless) is an emergent property in the blend. Secondly, I claim that the evocation of crimson rather than focal red or some other type of hue is an emergent property residing not only in the blend, but *in the entire conceptual integration network*. The activation of the crimson instantiation of redness in the PROPERTY SPACE occurs under the influence of the second input space (type of entity involved) prior to the construction of the blend. I will take this issue up in the following subsection.

4.3.3.4. Compound prototypes as evidence of non-compositionality. In the analysis of example (15) above, I have suggested that the association of red jackets with richness and tastelessness is an emergent property in the blend, whereas the activation of a particular type of red is a property of the network established through complex links between the input spaces in a particular contextual configuration. Crucially, a change of a head-noun, context, or communicative goals may have impact not only on the elements projected into the blend, but on the whole structure of the PROPERTY SPACE in the sense that different reference points may get activated. For instance, when red jackets are mentioned in the context of Russian businessmen, as in (15), the active zone of the PROPERTY SPACE is accessed through the compound prototype with the crimson instantiation of redness. However, in another context (for example, on a fashion forum) the active zone of the

PROPERTY SPACE could be identified through a default prototype, which would probably result in projection of a different shade of red into the blend. Thus, the landmark of *red* – a particular range of the spectrum – remains unchanged across contexts of use. What changes is the internal structure of this landmark in the sense that different points of it become cognitively salient (i.e. receive the CRP status) once integrated with a given ENTITY SPACE under certain contextual constraints.[2]

An important implication of this finding is that in addition to the ability of colour adjectives to denote various hues (and even colours) in different noun-contexts and to apply to different parts of the described entity (active zones), even the reference-points used for the processing of colour terms may be context-sensitive. Apparently, if different CRPs can be evoked by the same adjective in different contexts, then the adjective cannot be said to make the same semantic contribution to every combination in which it occurs, which is against the principle of compositionality.

4.4. Summary

In this chapter, I have argued that colour categories include not only overarching default prototypes (foci and/or natural prototypes), but also a great deal of more idiosyncratic, combination-specific reference points, which I call *compound prototypes*. The existence of compound prototypes accounts for the fact that we do not judge the colour of a red face as a deviation from focal red. Having sufficient foreknowledge of compound prototypes, languages users are able to immediately access the right instantiation of the property. On the view advocated in this thesis, focal or natural prototypes are, by default, activated in zero-contexts and in the case of non-entrenched AN-combinations.

I have also suggested that compound prototypes provide important evidence in support of non-absoluteness of colour adjectives and non-compositionality of AN-combinations containing colour terms. If specific AN-combinations evoke different locally relevant prototypes as their CRPs, then the meaning of colour adjectives cannot be context-independent, nor can colour terms make the same semantic contribution to every noun phrase in which they occur.

The compound concept as such can be very simple. For example, it is unlikely that anybody would have trouble with the integration of the concepts RED and

[2] These results are consistent with the recent claim of Fauconnier (2005: 529) that emergent structure is not "the structure of the blended space by itself, but rather the dynamic structure of the entire network, and in particular the compressions and projections that link the input mental spaces to the novel blended spaces".

HOUSE into the compound concept RED HOUSE. Although the structure in the blend (an entity having a property) is very simple, the mental chemistry behind this structure is not that straightforward: not everything about the red house is red, and the instantiation of one particular kind of red is not self-evident either. The emergent structure of the AN-network thus resides in the complex links between the active zone of the ENTITY SPACE and the active zone of the PROPERTY SPACE identified vis-à-vis different types of CRPs.

Part III. Dimensional adjectives

Chapter 5. Cognitive zero

…change of scale seems to qualify as a kind of thought by performing a transformation in which everything is altered but remains the same.

R. Harbison

5.1. Introduction

Having considered the most typical and famous example of prototype-oriented adjectives, I now turn to scalar terms that do not display the same degree of orientation to prototypes as colour adjectives. Kamp & Partee (1995), for instance, formulate the difference between a colour term such as *red* and a dimensional adjective such as *tall* in terms of prototypicality. The former is considered to be prototype-oriented, whereas the latter is viewed as a prototype-free item which can be applied to an infinite number of entities, since there is no upper bound to height. Although in the following chapters I will show that not everything about this analysis of *tall* is watertight (especially the idea of unboundedness and absolute lack of prototypes), I agree with Kamp & Partee on a basic issue that dimensional adjectives are to a lesser degree prototype-oriented than colour terms. People are usually quite sure about what to call prototypically red (e.g. blood and tomato) or prototypically sweet (e.g. sugar and honey). Are language users equally confident about what to call prototypically high or low? Probably not.

The problem is even more apparent if we take a look at other semantic groups of scalar adjectives. For instance, what are the prototypes of the properties denoted by adjectives like *loud, blunt* or *warm*? In these cases prototypes are obviously insufficient for adequate semantic descriptions. A fairly straightforward hypothesis suggests itself: if scalar adjectives are only marginally anchored by prototypes, then there might be other reference points anchoring their conceptual specifications.

In this part of the thesis, I will discuss CRPs relevant to dimensional adjectives denoting vertical extent. As suggested in Chapter 1, these adjectives are interpreted relative to a domain matrix, including a schematic domain SCALE and a content domain HEIGHT. In the analyses presented in Chapters 5 through 9, I will focus on the English adjectives *tall, short,* and the Russian adjectivals *vysokij* 'high', *nizkij* 'low'

and *nevysokij* 'not.high'. I will only consider dimensional uses of these adjectives, i.e. cases where they are used with reference to the vertical extent of objects. All positional uses, as well as metaphorical extensions will be excluded from consideration (see H. Clark 1973: 38; Clark et al. 1973: 353; Durrell 1988: 107; Lyons 1977, II: 701; Taylor 1995: 103; Weydt & Schlieben-Lange 1998: 219 for the distinction between dimensional and positional uses of spatial adjectives).

Probably, the most well-known CRP type for dimensional adjectives is a norm, i.e. the average value of the property denoted by the adjective. I will start this part of the thesis by considering advantages (Chapter 5) and disadvantages (Chapter 6) of using the norm as a primary CRP. I will propose that the norm, although explanatory and to a certain degree indispensable in the semantic description of relative adjectives, is not the only reference point associated with the gradual scale. No less important are the endpoints on the scale (Chapter 7) and EGO, i.e. a cluster of dimensional and spatial reference points provided by the human body (Chapter 8). The role of prototypes and their position on the gradual scale of height will be dealt with in Chapter 9.

5.2. Standard-value approach

5.2.1. Terminological issues

As has already been mentioned in the previous section, dimensional adjectives are considered to be different from colour terms in that they are not maximum-, but medium-oriented (Leech & Svartvik 1975: 105; Levanova & Tribushinina 1998; Ruzin 1994; Šramm 1979). A medium is a value on a gradual scale, which instantiates standard dimensions for a given class of objects. When this average value is exceeded, a supra term[1] is used (e.g. *big, tall, wide*). When the dimensions of an object are below the standard for its reference class, a sub-term is opted for (e.g. *short, narrow, little*). It has therefore often been suggested in the literature that the interpretation of dimensional adjectives consists in locating the property on a gradual scale along a particular dimension (e.g. HEIGHT, WEIGHT) relative to a reference point in the middle of the scale. This reference point has traditionally been called *norm* (Apresjan 1974; Arutjunova 1987, 1988, 1999; Bierwisch 1967; Bierwisch & Lang 1989; Broekhuis 1999; Chafe 1970; Gibson 1978; Klein 1997; Lang 1989; Lehrer & Lehrer 1982; Leisi 1975; Lyons 1977; Nikolaeva 1983; Počepcov 1990; Rakhilina

[1] I will use the terms *supra term* and *sub term* introduced by Croft & Cruse (2004) to refer to what in more formal approaches is usually called (+Pol) and (-Pol) adjectives, respectively (e.g. Bartlett 1975; Bierwisch 1967; Bierwisch & Lang 1989; Blutner 1989; Lang 1989).

2000; Sapir 1944; Taylor 1992; Vendler 1968). In other, especially more recent theories the terms *standard value* (H. Clark 1973; Kearns 2007; Kennedy 1999a, 1999b; Pander Maat 2006; Rotstein & Winter 2004; Vendler 1968), *pivotal region* (Cruse 1986; Paradis 1997), *cognitive zero* (Levanova & Tribushinina 1998, 2002; Litvintseva 2004; Šabes 1989; Tribushinina 2006a, 2006b) and *imaginary zero* (Weydt & Schlieben-Lange 1998) are used.

The term *norm* is quite ambiguous. It is used for both the medium of the property associated with polar antonyms such as *tall* : *short* and the maximum of the property associated with one of the poles triggered by complementary adjectives (Mettinger 1999: 107; Pocelujevskij 1974: 243; Wolf 1985: 54). In the latter sense, the AN-combination *sharp knife* denotes the norm (i.e. the desirable state of affairs), whereas *blunt knife* denotes a deviation from the norm, the undesirable property.

The term *standard value* is ambiguous too, for it is used with reference to both average values for a given reference class and various incidental standards of comparison (e.g. tree in *My house is as tall as that tree over there*).

To avoid the ambiguity indicated above I suggest using the term *cognitive zero* proposed by Šabes (1989) with reference to the middle part of the gradual scale and reserve the term *norm* for the optimal (desirable) extreme of the scale (Tribushinina 2006b).[2] The properties denoted by polar antonyms take the cognitive zero as their staring point (Clark 1971: 511). It is in this sense that this reference point is a kind of *zero* (cf. zero point in the Cartesian coordinate system). For instance, on the scale of human height the subscales of TALLNESS and SHORTNESS start at the cognitive-zero area and diverge in the opposite directions: the subscale of TALLNESS goes in the direction of the maximum endpoint or infinity, and the subscale of SHORTNESS runs towards the absolute zero (see Figure 5.1).[3] As suggested by Cruse (1986: 206), the values of sub terms, such as *short* and *slow,* never actually reach that absolute zero, but approach it asymptotically (cf. Lehrer 1985: 420; Paradis & Willners 2006). This is a linguistic, rather than physical fact. In extra-linguistic reality, we may, of course, imagine a situation of maximal shortness flowing into the absolute zero of the property. For instance, when a plant is fading and dying, it gradually becomes shorter till it is no longer visible (see Chapter 7 for more examples). In language,

[2] I will, however, make use of the terms *norm* and *standard value* when referring to accounts operating with these terms.

[3] It is noteworthy that scales with the structure illustrated in Figure 5.1 can be triggered not only by linguistic expressions (e.g. gradable adjectives). Similar scale types were shown to play an important role in marketing behaviour. Prospect Theory, for example, holds that people construct internal reference prices (cognitive zeros) from experience (e.g. previous shopping trips). Everything to the left of the cognitive zero is estimated as losses and everything to the right of it is viewed as gains (see Section 2.3.5).

however, the absence of the property cannot be labelled by the adjectival phrase #*completely short* (Cruse 1986: 206). In Chapter 7, I will consider the issue of maximal shortness *vs.* absolute zero in greater detail and suggest that the absolute zero *is* relevant to particular construals of height in both English and Russian.

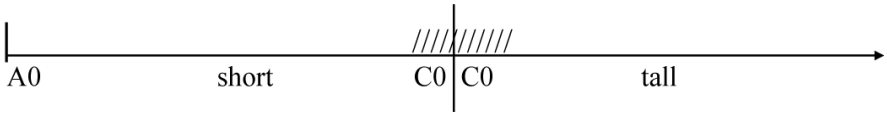


Figure 5.1. The scale of height. A0 = absolute zero, C0 = cognitive zero

It should be noted that the most important aspect of the cognitive zero is that it represents a zone of uncertainty where neither subs nor supras apply. By default, this mid-zone coincides with the average value on a particular dimension. It does not, however, always have to be the case. A cognitive zero may separate the realms of the supra term and its sub partner even if the average as such is not relevant (e.g. see Section 6.4.3). Notice also that the cognitive zero is a region, not a point (cf. Bonini et al. 1999; Kennedy 1999b: Ch.3; Wolf 1985: 53; contra Šabes 1989). This has been illustrated, for instance, with respect to the temperature domain, where *lukewarm* − the adjective naming the cognitive-zero area − can take degree modifiers (Clausner & Croft 1999; Pander Maat 2006). Consider also the following example from the domain of human height:

(1) They come in all shapes and sizes, from tall and skinny to short and round, **with every conceivable variation in between**. (BNC)

(1) provides a good illustration of the fact that a cognitive zero is not a point, rather it is an area stretching in the opposite directions up to the minimum values of TALL and SHORT (see further Section 7.2). This idea is also confirmed by the ontological fact that not all medium-sized people are of precisely the same height. The representation of the cognitive zero as a region facilitates the fuzziness of relative adjectives in the sense that there is "no precise point on the dimension of, e.g., tallness, which clearly cuts off the class of 'tall' entities from the class of 'not tall' entities" (Taylor 1992: 10-1).

5.2.2. Scale structure

The properties denoted by dimensional adjectives vary from VERY SMALL to VERY LARGE. Linguistically, however, scale structure displays a skewed distribution, i.e. not all parts of the scale are equally represented in the lexicon. A study reported in Tribushinina (2006b) has shown, for example, that the majority of dimensional adjectives in English profile the extremes of the gradual scale (VERY LARGE and VERY SMALL). In contrast, the fewest number of dimensional adjectives name the cognitive-zero area (see Figure 5.2). Similar results were reported for Russian in Šabes (1989). This skewed pattern might be explained by the general tendency of human cognition to attend to anomalies and deviations, rather than to a normal state of affairs (Arutjunova 1999: 65; Počepcov 1990: 111). It is also remarkable that supra terms are more numerous than sub terms (for similar results in the domain of temperature adjectives see Koptjevskaja-Tamm & Rakhilina 2006; see also Hoeksema 2004 for an asymmetry between high- *vs.* low-degree adverbs). The interest in greater dimensions, higher temperatures, and higher degrees is probably an instantiation of a more general THE-BIGGER-THE-BETTER cognitive model. Another factor playing a role here could be perceptual salience of bigger objects, for, as suggested by Cruse (1986: 248), properties such as length, speed and weight are more attention-drawing than shortness, slowness and lightness, respectively.[4]

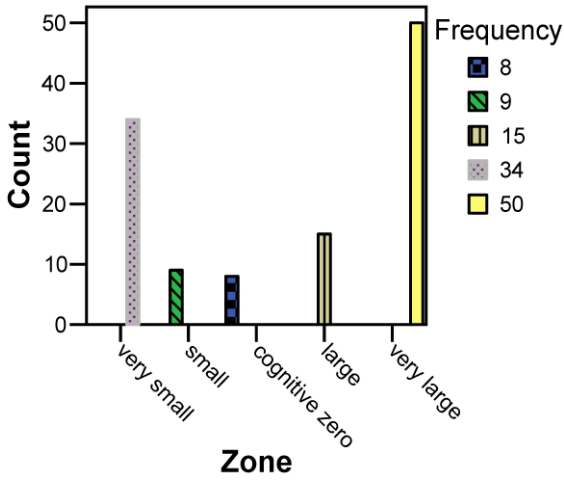


Figure 5.2. Quantitative ratio per zone (Tribushinina 2006b)

[4] Another manifestation of the sub-supra asymmetry is a general preference of language users for stating a relation between *x* and *y* as *x is taller than y* rather than *y is shorter than x* (Atlas 1984: 360). See further Section 7.5.5.

5.2.3. Cognitive zero of height in linguistic expressions

In (1) we have already seen one of the possible ways of referring to the cognitive zero on the scale of height. Other expressions evoking this notion in English are exemplified by (2)-(7):

(2) My lack of means is extreme, granted, and I look bad, skin white, mouth chapped, body apparently even shorter than **usual**, eye roaming and I daresay a bit fretful, trousers in bad shape, attention astray for a book lying around to pinch or even an old magazine, since I sold a few volumes I should now like to have kept, in exchange for a slug of what turned out to be the world's nastiest though cheapest whiskey. (BNC)

(3) While every clothes store carries a petite range, there isn't one range for the taller than **average** woman. (BNC)

(4) Thin or fat? Not fat, definitely. Short or tall? Time to ponder, then: **Medium height**, perhaps … (BNC)

(5) Robert Beaumont, earl of Leicester like his father before him, was a man barely a year past forty, squarely built and no more than **medium tall**, dark of hair and darker of eyes, rich but sombre in his attire, and carrying the habit of command very lightly, not overstressed, for there was no need. (BNC)

(6) Because there are fewer short than **medium-sized** men, a suit made to their measurements is less likely to find a buyer, and is knocked down accordingly. (BNC)

(7) The stranger was **neither short nor tall**, and very thin, with a figure of the Twenties, slightly spidery, ineluctably elegant. (BNC)

Russian is quite similar to English in this respect. The most common way to refer to the cognitive-zero area in the domain of height is to use one of the following adjectives: *srednij* 'medium, average' (and its obsolete form *serednij*), *obyknovennyj* 'usual, normal', *obyčnyj* 'usual, normal', and *standartnyj* 'standard'. Witness examples (8)-(12), cf. (2)-(6):

(8)

Почему-то	все	вспоминают,	что	Шиловский
why.PCL	all-PL.NOM	recall-PRS.3.PL	that	Shilovsky-NOM

был	высокого	роста.	На	самом	деле,
was-M	high-(LF)SG.M.GEN	stature-GEN	on	very-SG.N.LOC	affair-LOC

роста	он	был	**среднего**,		просто	так
stature-GEN	he	was-M	medium-(LF)SG.M.GEN		simply	so
носил	форму,	так	держал	выправку,		что
wore-SG.M.IPFV	uniform-ACC	so	held-SG.M.IPFV	bearing-ACC		that
казался	выше	своих	172 сантиметров. (RNC)			
seemed-SG.M.IPFV.REFL	higher	one's-PL.GEN	172 centimetres-GEN			

'For some reason, everybody remembers Shilovsky as a tall man. In fact, he was of medium height. It was the way he was wearing his uniform and the way he was carrying himself that made him look taller than his 172 centimetres.'

(9)

Вообще-то	он	был	**классического**	**среднего**	
generally.PCL	he	was-M	classic-SG.M.GEN	medium-SG.M.GEN	
роста,	но	иногда	выглядел	выше	
stature-GEN	but	sometimes	looked-SG.M.IPFV	higher	
среднего,	а	иногда	ниже. (RNC)		
medium-GEN	CONJ	sometimes	lower		

'He was actually of classical medium height, but sometimes he looked taller than average, and sometimes shorter.'

(10)

Толстый,		выше	**обыкновенного**			роста,	
thick-(LF)SG.M.NOM		higher	usual-SG.M.GEN			stature-GEN	
широкий,		с	огромными		красными	руками,	
broad-(LF)SG.M.NOM		with	enormous-(LF)PL.INS		red-(LF)PL.INS	hands-INS	
он,	как	говорится,		не	умел	войти	
he	as	say-PRS.IMPERS.REFL		NEG	could-SG.M.IPFV	enter-INF.PFV	
в	салон	и	еще менее	умел		из	
in	salon-ACC	and	still less	could-SG.M.IPFV		from	
него	выйти,	то	есть	перед	выходом		
3.SG.M.GEN	go.out-INF.PFV	that-SG.N	is	before	exit-INS		
сказать	что-нибудь	особенно	приятное. (RNC)				
say-INF.PFV	something	especially	pleasant-(LF)SG.N.ACC				

'Fat, as he was, taller than usual, broad, with enormous red hands, he could not enter the salon properly, nor could he properly leave it, which means he was unable to say something pleasant before leaving.'

(11) Зачастую она располагается на виду у
often 3.SG.F.NOM is.situated-REFL on view-LOC by

соседей или вдоль унылого забора,
neighbours-GEN or along sad-SG.M.GEN fence-GEN

который лучше делать выше **обычного**,
which-SG.M.ACC better do-INF.IPFV higher usual-GEN

чтобы не бегать на чужой участок
so.that NEG run-INF.IPFV on another's-ADJ.SG.M.ACC plot-ACC

за постоянно улетающими мячиками. (RNC)
behind constantly flying.away-PL.INS balls-DIM.INS

'It is often located within the neighbours' scope of vision or along a sad-looking fence, which you should better make higher than usual not to run to your neighbours' garden every now and then for the balls constantly flying away.'

(12) Высота этих растений достигает 2,7 м, то
height-NOM these-GEN plants-GEN reaches 2.7 m that

есть они почти в два раза выше своих
is they almost in two times-GEN higher one's-PL.GEN

стандартных собратьев. (RNC)
standard-(LF)PL.GEN brothers-GEN

'The height of these plants is 2.7m, which means they are almost twice as tall as their standard conspecifics.'

Another way to refer to the pivotal region in Russian (just as in English and numerous other languages) is to negate both extremes by employing the construction *ne nizkij, ne vysokij* 'neither high nor low/neither tall nor short'. See examples (13)-(15), cf. (7):

(13) Так себе человек: **не** **высокий,** **не**
so self-DAT man-NOM NEG high-(LF)SG.M.NOM NEG

низкий	из	небольших	середний. (RNC)	
low-(LF)SG.M.NOM	from	not.big-(LF)PL.GEN	medium-SG.M.NOM	

'He is a usual person – neither tall nor short … not a large type, medium.'

(14)

Вошел	человек	неопределенных	лет,		
entered-SG.M.PFV	man-NOM	indefinite-(LF)PL.GEN	years-GEN		
с	неопределенной	физиономией,	в	такой	
with	indefinite-(LF)SG.F.INS	physiognomy-INS	in	such-SG.F.LOC	
поре,	когда	трудно	бывает	угадать	
time-LOC	when	difficult-(SF)SG.N	be-PRS.IMPERS.ITER	guess-INF.PFV	
лета;	не	красив	и	не	дурен, **не**
years-ACC	NEG	beautiful-(SF)SG.M	and	NEG	plain-(SF)SG.M NEG
высок	**и**	**не**	**низок**	ростом,	не
high-(SF)SG.M	and	NEG	low-(SF)SG.M	stature-INS	NEG
блондин	и	не	брюнет. (RNC)		
blond-M.NOM	and	NEG	brunet-M.NOM		

'A person of uncertain age came in, with an uncertain physiognomy, in the life-phase when it is difficult to tell the age; neither handsome nor plain, neither tall nor short, neither blond nor dark-haired.'

(15)

Она	**не**	**высока**,	**но**	**не**	**низка**	ростом,
she	NEG	high-(SF)SG.F	but	NEG	low-(SF)SG.F	stature-INS
немного	пониже	меня. (RNC)				
a.little	lower	me-GEN				

'She is neither tall, nor short, a little shorter than me.'

In both English and Russian the expressions profiling the cognitive-zero area are not that frequently used, compared to the corresponding polar antonyms *tall* : *short*, *vysokij* : *nizkij*. This is consistent with the above observation, made with respect to type frequencies of dimensional adjectives, that people find aberrations more worthy of attention than the normal state-of-affairs. Therefore, deviations from the normal state of affairs more easily lend themselves to linguistic expressions than average values. However, the fact that the constructions exemplified by (1)-(15) exist is instructive, since it shows that it is sometimes necessary to explicitly mention a CRP, which is left implicit in the vast majority of contexts containing relative

adjectives. To put it in terms of Cognitive Grammar, the examples presented in this section put onstage what is normally left at the background, as an offstage point of reference.

5.2.4. Comparison classes

It is well-established that the average value as such does not belong to the meaning of adjectives. Such knowledge is rather part of the object schema of the head-noun. The role of the head-noun is then to set a comparison class (Bierwisch 1967, 1989; Broekhuis 1999; Cruse 1976; Katz 1972; Kennedy 1999a, 1999b; Kennedy & McNally 2005; Klein 1980; Lang 1989; Lyons 1969; Pocelujevskij 1974; Siegel 1980; Wolf 1985).

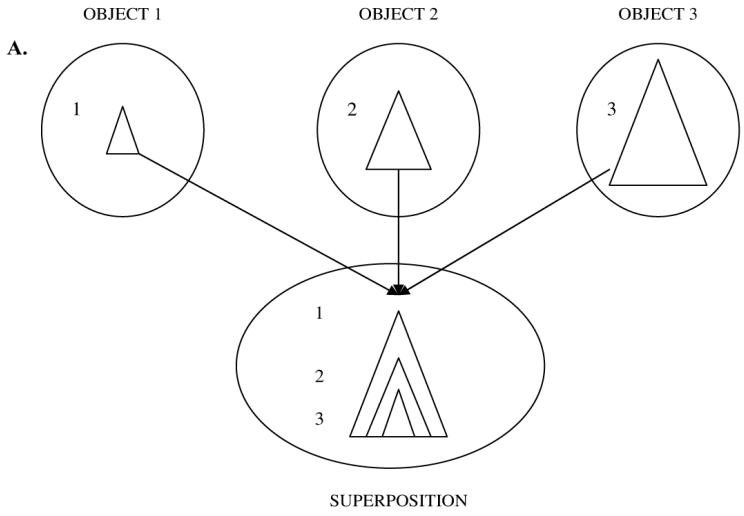
The term *comparison class* was introduced by Klein to refer to "a subset of the universe of discourse which is picked out relative to a context of use" (Klein 1980: 13). By this view, an utterance such as *Mike is tall* is interpreted as 'Mike is tall for C' or 'Mike is taller than the average of C', where C is a comparison class. The *norm* is then defined as "the average of C" (Bierwisch 1989: 80). Consider in this respect also the following well-known and much-quoted example from Lyons (1969):

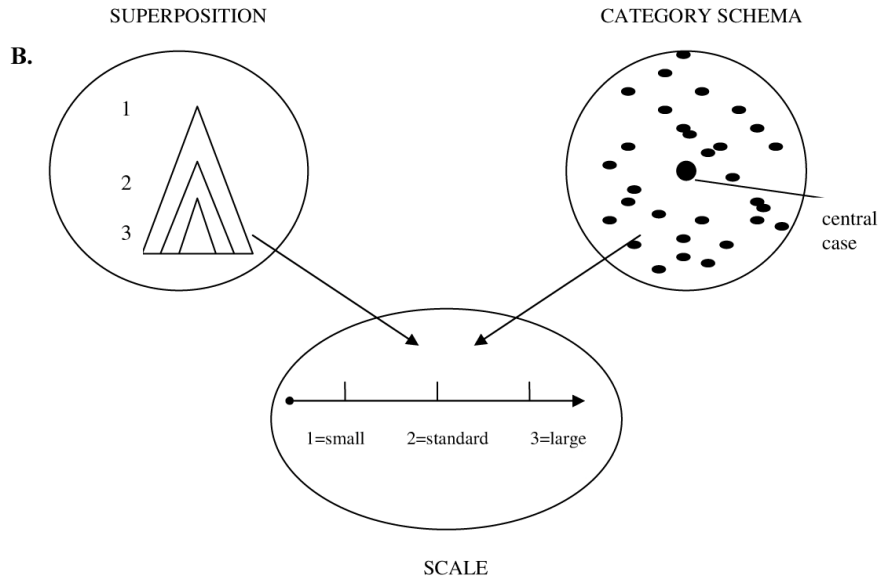
> The implicit 'size-norm' for elephants is not necessarily the same as the implicit 'size-norm' for animals taken as a whole class. The semantic analysis of *A small elephant is a large animal* should take something like the following form: 'An elephant which is small-rather-than large by comparison with the norm relevant for elephants is (nevertheless) large-rather-than-small by comparison with the norm relevant for animals' (Lyons 1969: 466).

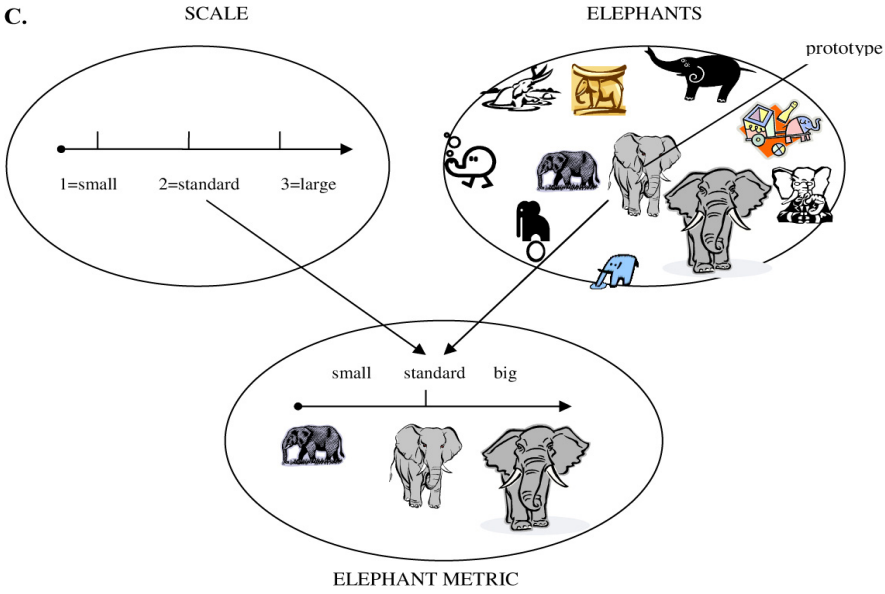
Fauconnier & Turner (2002: 362-3) give a detailed description of the process through which a cognitive zero is established and judgments about particular instantiations are made (see Figure 5.3). This process is presented as a sequence of blending operations involving a number of mental spaces. In the very first blending operation, it is argued, three objects of different sizes are brought together in a blend, where either one becomes part of the other (in the case of superposition) or the top of one towers over the tops of the others (in the case of placing them next to each other); see Figure 5.3a. The result of this initial blending operation subsequently becomes an input space in another conceptual integration network, where it is combined with the second input space comprising a category schema in the most general sense of the word. In the new blend we find a scale with the central case of the category in the STANDARD area, the smaller object in the realm of LITTLE, and the largest of the three objects in the BIG zone (Figure 5.3b). In the third

blending operation, this schematic scale is integrated with a specific category (e.g. elephants). In the resulting blend, there is a metric for elephants, with a prototypical elephant representing the standard size (Figure 5.3c). And, finally, to estimate the size of a particular elephant, we run the previous blend by integrating it with the instantiation at hand (e.g. an elephant named Jumbo). As a result, in the blend, Jumbo will be little, standard, or big; see Figure 5.3d.

In brief, the interpretation of dimensional adjectives is usually viewed as a complex procedure comprising the following steps: (1) the orientation of the scale relative to the content domain, i.e. establishing a dimension (e.g. HEIGHT, WEIGHT); (2) the identification of a comparison class; (3) the establishment of an implicit category-dependent reference point on the scale; and (4) the identification of the direction and degree of divergence from the reference point (Croft & Cruse 2004: 169; Goede 1989: 423; Siegel 1980: 128). These four steps are what Ruiz de Mendoza (2005) calls *parametrization*, i.e. fixation of values that are normally undefined to a certain extent. The question that arises with respect to this parametrization process is how people identify comparison classes and their average values on a particular dimension. Are there formal cues and regularities suggesting particular inferences with respect to comparison classes and their standards, or are these processes purely context-driven? I will turn to these questions in the next section.




B.
SUPERPOSITION
CATEGORY SCHEMA
1
2
3
central
case
1=small
2=standard
3=large
SCALE


C.
SCALE
ELEPHANTS
prototype
1=small
2=standard
3=large
small
standard
big
ELEPHANT METRIC

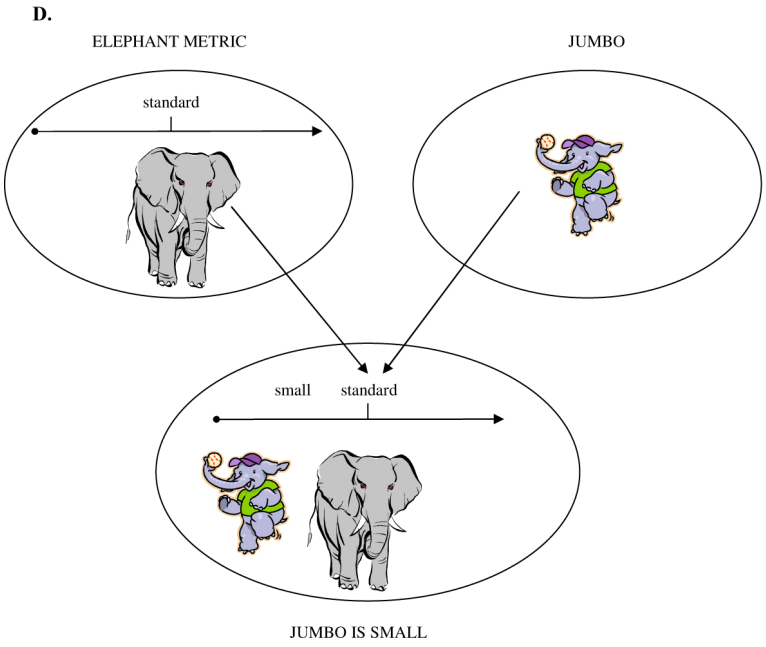


Figure 5.3. The elephant blend

5.3. Default and incidental cognitive zeros

5.3.1. Compositional accounts

There have been numerous attempts to formalise the process of identifying comparison classes and standard values (see, for example Bierwisch 1971; Chafe 1970; Katz 1972; Lyons 1969, 1977; Rips & Turnbull 1980; Vendler 1968). The basic claims can be summarised as follows. When an adjective is used attributively, its head-noun provides a comparison class. Attributive uses thus present little problem and lend themselves easily to analyses in terms of comparison classes. See, for example, (16) where the head-noun *elephant* is claimed to provide a comparison class for the interpretation of *big*.

(16) I saw a big elephant.

In the above example, so the argument goes, what I saw was an elephant, big vis-à-vis average elephants. When adjectives are used predicatively, the decision is not

that straightforward. Two possibilities are usually mentioned in the literature. If the subject is a definite term, then the subject itself provides a comparison class, as in (17):

(17) This elephant is big. = This elephant is a big elephant.

If the subject is an unmodified plural noun, it cannot name the comparison class (*Elephants are big* ≠ *Elephants are big elephants*). In this case, it is argued, the comparison class is the immediate superordinate of the subject:[5]

(18) Elephants are big. = Elephants are big animals.

Thus, to deny sentences like *Skyscrapers are low* and *Fleas are big*, "one cites, respectively examples of low buildings and big insects; one does not cite planets in the one case and horses in the other" (Katz 1972: 257).

5.3.2. Counterexamples: the role of context

The problem with the approach outlined above is that it does not take contextual information into consideration. As any compositional account, it largely rests on default principles. By default, a head-noun of an attributively used adjective lends itself to the role of the designator of a comparison class. But defaults, no matter how strong they are, can easily be overridden in actual language use, where comparison classes do not have to be expressed by head-nouns, nor are they necessarily identified with the immediate superordinate of the subject. Consider, for instance, the following example from Kennedy (2007: 11):

(19) Kyle's car is an **expensive BMW**, though it's not expensive for a BMW. In fact, it's the least expensive model they make.

The principle of compositionality would predict that the head-noun *BMW* provides a comparison class for interpreting the adjective *expensive*. However, this default is cancelled by the negation of the *for*-phrase in the subsequent clause. The comparison class here is provided by another nominal, namely the subject of the sentence. In this example, the reference class can be found within the boundaries of a single sentence. It is, however, often not the case. If a comparison class is not made ex-

[5] One should, however, bear in mind that the attribute/predicate distinction is only one of the dimensions along which the sentences in (16)-(18) differ. Another one is, for instance, information structure, which can also have implications for establishing a comparison class.

plicit in the immediate surroundings of the adjective, a much broader context is required to determine the cognitive zero relative to which the interpretation will proceed. Consider another example, this time from Hutchinson (1993: 112):

(20) These films were filled with gigantic ants, spiders, and even rabbits.

Taken out of context, we do not know what kind of films are mentioned in (20). If the word *film* evokes the idea of documentaries about the world of nature (e.g. films on the Discovery Channel), the interpreter is likely to use ants, spiders and rabbits as comparison classes, and an average-sized ant, spider and rabbit as a cognitive zero. Gigantic ants, spiders and rabbits are in this event much bigger than these species usually are, but not as big as people, let alone buildings. However, if we know that (20) is part of an article about science fiction movie thrillers that pictured ordinary animals turned into huge monsters as a result of nuclear testing, then we realise that the default comparison classes are not relevant here. The ants that overturned police cars in these movies were not gigantic qua ants, not even qua insects. In fact, it is quite difficult to identify a comparison class here. It could eventually be the size of the human beings themselves (see Chapter 8 for a discussion of such cases). Hutchinson (1993) presents a number of similar examples showing that not only for predicative uses are default comparison classes often irrelevant, the situation is not at all different for attributively used adjectives, as illustrated by (20). From this Hutchinson concludes that:

> How speakers of a language go about determining the reference class in real life, that is, how they go about determining actual truth, is not a matter that logicians would or should concern themselves with. <…> This is hardly controversial, and yet it seems that many logicians (and linguists too) have let themselves be dragged into truth determination with regard to relative adjectives. They have done so in those cases where they decide to encode in logical form what is in reality a contextually dependent reference class. <…> Equating the sentence with the context *ipso facto* renders the only noun in that sentence the topic of the discourse. In a discourse larger than a single simple sentence the adjective could well be construed as relative to some other reference class (Hutchinson 1993: 110-1).

Let us take another example illustrating the point Hutchinson makes in the above passage. On March 31, 2002, the *South Coast Today* published an article called *Going for the tall money*. The default principle of compositional interpretation would predict that the attributively used *tall* is interpreted relative to the norm for a comparison class established by the head-noun. Hence, the default interpretation runs as follows: tall money has the property TALLNESS in excess of the normal "money

height". The suggested default interpretation strikes by its inanity. For one, the referent (money) does not lend itself to characterisation in terms of the dimensional axes at all. It is obvious that the comparison class must be established otherwise. Not the head-noun, not even another noun in the immediate surroundings of the title specifies the reference class. Rather, we infer the comparison class from the whole article that expounds on several hypotheses explaining why taller people usually earn more money than their shorter conspecifics. In this case, the relation between the head-noun and the actual referent of *tall* is one of metonymy. The same applies to (21) and (22):

(21) Justin Zizes, the **Tall Club**'s membership director, says he's vigilant about **tall poseurs**. (*Slate*, December 1, 2006)

(22)

За	Ангарой,	вздымаясь		в	гору,
behind	Angara-INS	rise-ADPTCP.PRS		in	mountain-ACC
продолжался		**город**,		сначала	деревянный,
continued-SG.M.IPFV.REFL		town-NOM		first	wooden-SG.M.NOM
низкий,	закрытый		зеленью,		затем
low-(LF)SG.M.NOM	closed-SG.M.NOM		green-INS		then
переходящий	в	коробчатые		белые	
turning-SG.M.NOM	in	box.like-PL.ACC		white-(LF)PL.ACC	
многоэтажки,	нахальные		и	одновременно	
high.rises-ACC	impertinent-(LF)PL.ACC		and	simultaneously	
сиротски	печальные. (RNC)				
orphan.like-ADV	sad-(LF)PL.ACC				

'On the other bank of the Angara, stretching up into the mountain, there was another part of the city, first wooden and low, covered with green, then changing into box-like high-rises, incongruous and at the same time sad in their loneliness.'

(21) is a sentence from the article *The Height of Style* published by the *Slate*. According to the default principles, the head-nouns – *club* and *poseurs* – name comparison classes for the interpretation of *tall*. The AN-combination *tall club* could thus be interpreted as 'clubs that are taller than usual'. Such interpretation probably evokes club *buildings* as the referent of *tall*. However, if broader context is taken into account, we easily come to another interpretation – "tall clubs" are clubs for men

over 6-foot-2 and women "north of 5-foot-9" on stocking feet. The membership requirements in tall clubs are quite strict. Hence, Justin Zizes has to be vigilant about people who come on heels and platforms. These people are called *tall poseurs* in (21). Thus, tall poseurs are not poseurs of taller-than-average "poseur height". Nor are they short people pretending to be tall. "Tall poseurs" are tall people who are not tall enough to meet the requirements of the Tall Club.

In (22) the head-noun of *nizkij* 'low/short' is *gorod* 'city'. It is, however, clear that the comparison class for the interpretation of *nizkij* in (22) is not the class of cities as such. Rather, the reference class is constituted by the buildings in the city (and not by people, parks, roads, cars, etc.). This comparison class is not explicitly mentioned in the context. Rather, we arrive at it through a mental operation of identifying the relevant *active zone* (Langacker 1984, 1987, 1990) in the CITY domain. Although defaults are simply not applicable in this case, Russian speakers have no problem in understanding what is meant by (22), since in our everyday linguistic behaviour we are apparently much less dependent on default principles than suggested by the compositional accounts.[6]

5.3.3. Making comparison classes explicit

5.3.3.1. Errare humanum est. Although default average values certainly exist, mostly in artificially made linguistic discourse, in actual language use we successfully employ incidental cognitive zeros that we easily construct on-line, as discourse unfolds. Moreover, as "naïve" language users we seem to have no difficulty at all with interpreting various uses of, say *tall*, vis-à-vis different points of reference, often constructed just once, for local purposes of the discourse at hand. In Fauconnier's words, "a brick could theoretically occupy any position in a wall, but at any stage of the actual building process, there is only one place for it to go" (Fauconnier [1985] 1994: 2: footnote 4).

This does not, however, mean that misunderstandings never occur. Picking out the wrong comparison class is as normal as any other misinterpretation. Participants of the speech event constantly have to estimate the scope of the common ground (Clark 1996), and there is, of course, no guarantee that they always succeed in it. If people underestimate the common ground, they are likely to produce redundant expressions, whereas in the case of overestimation, they may fail to be explicit enough.

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[6] Bartsch (1986) suggests that adjectives as such do not express properties. Rather, properties are expressed by adjectives together with context-specific "thematic dimensions".

5.3.3.2. *For*-construction. One way to make sure your listener will use the same reference point as you do is to make the comparison class explicit by means of the *for*-construction (*dlja* 'for', or *po* 'upon' in Russian). (23)-(27) are examples:

(23) It was a surprise, too, to discover just how big he was. She was **tall for a woman**, but he topped her by several inches, forcing her to look up at him. (BNC)

(24) The other villagers, eyeing each other speculatively, saw that they were all too full of pasta for the adventure. Henrietta, **tall for her age** and spectacularly thin, stood by them in the bikini she had put on for the sunshine and the wand, hovering round the crowd, finally pointed at her. (BNC)

(25) I mean you're unusually **tall for a driver**, but most of them have to be fairly short. (BNC)

(26)

Известно	также,	что	генералы	Наполеона	в
known-(SF)SG.N	also	that	generals-NOM	Napoleon-GEN	in
большинстве	своем	были	высокими**,**	даже	
majority-LOC	one's-SG.N.LOC	were	high-(LF)PL.INS	even	
очень	**высокими** –	**по**	**тем**	**временам**. (RNC)	
very	high-(LF)PL.INS	upon	those-DAT	times-DAT	

'It is also known that Napoleon's generals were mostly tall, even very tall for the time.'

(27)

Машины	очень	**высокие**	**для**	**седанов**,	однако,	как
cars-NOM	very	high-(LF)PL.NOM	for	sedans-GEN	however	as
и	подобает	престижному		транспортному		
and	befits	prestigious-(LF)SG.N.DAT		transport-ADJ.SG.N.DAT		
средству,	высота	эта	использована			
means-SG.DAT	height-NOM	this-F.NOM	used-(SF)SG.F			
нерационально –	пол	салона	сильно			
irrationally	floor-NOM	salon-GEN	strongly			
приподнят. (RNC)						
raised-(SF)SG.M						

> 'The cars are very high for sedans, though, as it should be the case with a prestigious vehicle, the height is used inefficiently – the floor of the interior is raised too high.'

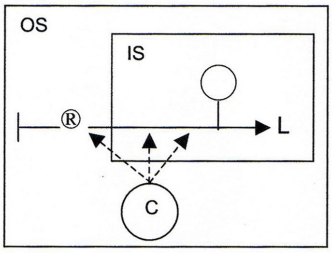
In (23)-(27) the comparison class is not an offstage reference point, rather it is put onstage and profiled (Langacker 1990: 318-9). According to the communicative grammar of English by Leech & Svartvik (1975: 103), by means of *for* you can specify the STANDARD by which the speaker is judging the use of a relative adjective. Since this standard is otherwise implied, one could suggest that there is basically no difference between (28) and (29) below. And such proposals, indeed, do exist (see, for instance, Lyons 1977, I: 274).

(28) Pete is tall.

(29) Pete is tall for a driver.

Counter to the view outlined above, I suggest that even if (28) and (29) are truth-functionally identical (i.e. used to describe the same objective situation), they are not equivalent; rather (28) and (29) are two different construals of, supposedly, the same extra-linguistic situation.

Pander Maat (2006) argues that the difference between sentences like (28) and (29) is the degree of subjectivity. More precisely, (28) is more subjective than (29), because in (29) the comparison class is already specified, whereas in (28) the addressee has to construct it on the basis of the contextual clues available. Thus, Pander Maat suggests that in (28) the conceptualiser is in the overall scope (see Figure 5.4), whereas in (29) she is beyond the scope of predication at all (see Figure 5.5).



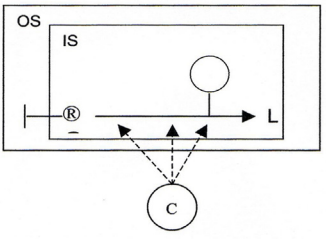


Figure 5.4. Pete is tall.

Figure 5.5. Pete is tall for a driver.

C = conceptualiser, OS = overall scope, IS = immediate scope, R = reference point, L = length. (Pander Maat 2006)

I agree with Pander Maat that expressions like (28) and (29) differ in the degree of subjectivity: (28) is more subjective, since it is up to the addressee to construct the comparison class. However, I do not agree that inclusion of the conceptualiser in the overall scope is the factor responsible for the greater subjectivity of (28). Moreover, I want to propose that the conceptualiser should be included in the overall scope of predication in both cases. My line of argument proceeds as follows. In Cognitive Grammar, a conceptualiser is taken to be a conjunction of the speech act participants and the ground (speech event and its setting). To quote Langacker:

> The cooperative nature of communicative activity nevertheless encourages a broader construal, where the speaker and addressee regard themselves as a collective SELF capable of arriving at a shared conceptualization as the semantic value of a linguistic expression. S can then be taken as indicating the speech act participants, and (by extension) the ground (Langacker 1985: 130).

The ground is beyond the scope of predication only in the case of non-deictic expressions, such as nouns taken in isolation and non-grounding verb forms:

> At the level of individual lexical items, a great many expressions are nondeictic. No intrinsic reference is made to the speech event or its participants by nouns like *pencil, mountain,* and *racoon*, for example, or by verbs like *stand, calculate*, and *hear*. Composite expressions are also nondeictic provided that the same is true of all their components; phrases like *broken pencil, tall mountain, standing,* and *calculate correctly* are thus nondeictic as well. However, most linguistically defined expressions that occur in natural language use are deictic in one way or another. A full nominal (i.e. noun phrase) invariably incorporates an **epistemic predication** (not always phonologically overt) that specifies the relationship of the designated entity to the ground in certain types of domains. Thus, while *pencil* and *broken pencil* are nondeictic, the nominal *this broken pencil* is deictic because *this* contributes predications of definiteness (identification to speaker and hearer) and proximity to the speaker. In similar fashion, *a tall mountain* makes reference to ground elements through the indefiniteness predicated by *a*. Finite verbs (hence finite clauses and sentences) contain epistemic predications that locate the designated process relative to the ground, typically with reference to the time of speaking. *Stand, standing*, and *be* are thus nondeictic when considered individually, but *is* and *is standing* are **epistemically grounded** (hence deictic). The composite structure of *calculated* is similarly rendered deictic by the past-tense predication (Langacker 1987: 126-7).

Langacker goes on to distinguish between two types of deictic expressions:

a) expressions that designate a ground element (*I, you*, *here/there*), where the ground is in the immediate scope of predication (e.g. *Pete is taller than* ***me***);

b) expressions that take a ground element as a point of reference, though this reference point is an offstage element (in the overall scope).

It is in the latter sense that both (28) and (29) are deictic. Firstly, they are rendered deictic by virtue of a grounding verb that situates the object of conceptualisation in time vis-à-vis the conceptualiser. The problem becomes even more apparent if we use a past tense form, since in this case the object and the subject of conceptualisation are not contemporaneous:

(30) Pete was tall for a driver.

Secondly, the subject PETE is also identified vis-à-vis the participants of the speech event: it is not *any* Pete; rather it is somebody they both know. Thus, the speaker and the hearer (the joint conceptualiser) are reference points for accessing the subject's identity. This point is especially conspicuous if we substitute the proper name (Pete) by a typically deictic expression *he*.

This brings us to the conclusion that the conceptualiser (taken as a combination of speech act participants and the ground) is part of the overall scope of predication in both (28) and (29), irrespective of the fact that in (29) the CRP is made explicit and in (28) it is not. If the inclusion in the scope of predication is not the decisive factor to account for the difference between (28) and (29), the question arises in which respects the two expressions *are* different. I suggest that we should seek the answer in the domain of *intersubjectivity* in the sense proposed by Verhagen (2005). On this view, language in its actual use involves the coordination of (at least) two cognitive systems. By producing a linguistic utterance "the first conceptualizer invites the second conceptualizer to jointly attend to an object of conceptualization in some specific way, and to update the common ground by doing so" (Verhagen 2005: 7). Thus, if we choose to make something explicit, we do so in order to give the addressee the clues necessary for processing the linguistic expression. If, on the contrary, we leave something implicit, then we either find it irrelevant or assume that the context has already provided enough clues for getting to the message. In this way, we achieve *relevance*, i.e. the optimal combination of processing effort and contextual effects (Sperber & Wilson 1986/1995).

What the representations in Figures 5.4 and 5.5 do not capture is the coordination between the participants of the speech event in the sense specified above. Verhagen (2005) proposed an alternative construal configuration comprising two levels: the object of conceptualisation (O) and the subject of conceptualisation (S), see Figure 5.6.

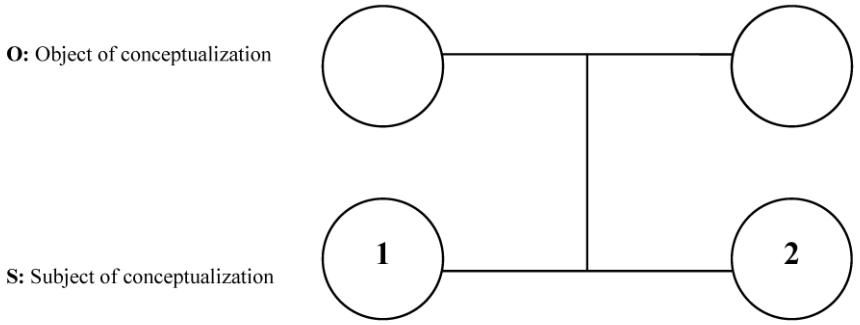


Figure 5.6. The construal configuration (Verhagen 2005)

Within this configuration, the meaning of linguistic expressions operates on both the O- and the S level, as well as on the vertical dimension connecting the O-level with the S-level. On the O-level, the difference between (28) and (29) is that the cognitive zero is in the immediate scope in (29), but not in (28). This difference is also captured in Pander Maat (2006), cf. Figures 5.4 and 5.5. On the S-level, (28) and (29) are different as to the amount of explicit coordination between the participants of the speech event. In (28) the speaker is either confident that the context has already provided enough clues for constructing the comparison class, or considers the construction of a comparison class irrelevant. In (29) the speaker explicitly informs the listener which CRP she should select for interpreting the utterance. Compare (31) and (32) in this respect:

(31) Our room Corporal was **a tall Italian** called Tambini who looked like an eagle with a head cold. (BNC)

(32) Savognia was exceptionally **tall for an Italian** and stood well above Ludovico. (BNC)

The element ITALIAN occupies two different levels in these two examples. In (31) it is part of the object of conceptualisation (O-level). In (32) it operates primarily on the vertical dimension connecting S and O; it is an element of intersubjective coordination enabling the addressee to coordinate cognitively with the speaker/writer in order to select the right base and to employ the relevant CRP. Observe also that in (31) the addressee is not obliged to use the average value for the class of Italians as a cognitive zero; she may also resort to another comparison class, namely men, or human beings in general (cf. example 19 above). In this sense, (31) is underspeci-

fied as to which cognitive zero has to be used, whereas (32) is quite telling in that respect. What is more, the identification of the comparison class by means of the *for*-construction in (32) seems to suggest that Savognia was not tall with respect to the class of male humans in general. This observation runs counter to the well-established view that *X is A* is semantically equivalent to *X is A for C*. The *for*-construction in (32) not only makes the comparison class explicit, but also signals the clash of two reference points. I will take this issue up in the next subsection.

5.3.3.3. *Relatively.* Other intersubjective operators providing cues for selecting the relevant CRP are *relatively* and *comparatively* (*comparably*), and their Russian counterparts *sravnitel'no* 'comparatively' and *otnositel'no* 'relatively'. See examples (33) and (34):[7]

(33) What are the salient physical characteristics shared by 20-stone Repton boxer Ray Tabi and Danny Thomas at 5 feet 8 inches, **relatively short** for a top football defender? (BNC)

(34)

Владимир	Константинович	постоял		на
Vladimir-NOM	Konstantinovich-NOM	stood.a.bit-SG.M.PFV		on
мосту,	поплутал	среди	крупноблочных	
bridge-LOC	wandered.a.bit-SG.M.PFV	among	large.block-ADJ.PL.GEN	
башен	и	выбрался	на	берег.
towers-GEN	and	got.out-SG.M.PFV.REFL	on	bank-ACC
Сравнительно	**низкий**,	сплошняком		
comparatively	low-(SF)SG.M.NOM	throughout		
заросший	курчавым	клевером,	он	
overgrown-SG.M.NOM	curly-(LF)SG.M.INS	clover-INS	3.SG.M.NOM	
мирно	спускался	к	воде. (RNC)	
peacefully	descended-SG.M.IPFV.REFL	towards	water-DAT	

'Vladimir Konstantinovich stood on the bridge for a while, roamed among the large-block towers and got out to the shore. Comparatively low, as it was, overgrown with curly clover, it was gently sloping to the water.'

[7] Lorenz (2002) notes that *relatively* is different from *comparatively* in that it can also be used as a down-toner rather than as an indicator of comparison. The down-toning function is especially prominent in combination with adjectives denoting negative evaluation (e.g. *relatively costly, relatively intolerant*). See also Tribushinina (2007).

Pocelujevskij (1977: 65) suggests that *sravnitel'no* 'comparatively' is used to manifest that two different CRPs are involved. Moreover, it usually signals the clash of two CRP types by suggesting that the adjective cannot be applied to the referent if it is interpreted vis-à-vis the default cognitive zero. So, the river bank in (34) is not low qua river banks in general, rather it is low with respect to some other contextually constructed CRP, for instance, relative to the height of the other bank (see also Petkova-Kaleva 2005: 6). In a similar vein, *relatively* in (33) informs the addressee that two different CRPs have to be employed for the processing of this linguistic expression. The referent in (33) is not short for a default comparison class (male humans); in these terms he is rather of average height. However, he is short for the locally relevant comparison class, namely football players in general, or defenders in particular. *Relatively* in (33) and *sravnitel'no* in (34) are operators facilitating cognitive coordination between the conceptualisers in the communicative event. They explicitly inform the addressee that two different mental spaces should be set up, each of them containing a different CRP type (default cognitive zero *vs.* contextual cognitive zero; default cognitive zero *vs.* incidental landmark, etc.). In other words, by using these operators the first conceptualiser invites the second conceptualiser to assume two different perspectives on the same object of conceptualisation. Consider a similar example in (35):

(35) We had driven through Boston with its stump, the **incongruously tall** church tower visible for miles, and then parked in a car park not far from the wall. (BNC)

The element *incongruously* in (35) has a function similar to that of *relatively* and *sravnitel'no* in the examples discussed above. *Incongruously* signals that the church does not have to be tall qua churches in general and suggests that the locally relevant comparison class should be constituted from other buildings within the current scope of vision. It calls forth two mental spaces: one with the default metric for churches, and one with the average height of the buildings in the current visual scene. This is a so-called *perceptual reading* of relative adjectives (to be discussed in Section 6.3.2.2).

Another intersubjective operator is *actually*, whose function is to invite the addressee to abandon the contextually construed scale in favour of the default one. Witness (36):

(36) He is tall for a driver, but he is actually short.

The two CRPs involved in the interpretation of *short* in (36) are the local CRP – drivers, and the default cognitive zero – male humans. The element *actually* gives the addressee a cue to assume-and-abandon the interpretation vis-à-vis the incidental CRP and take up the interpretation in terms of the default cognitive zero (for a more detailed analysis of *relatively* and *actually* see Tribushinina 2007).

Operators such as *relatively* are quite frequent in scientific discourse (Piqué et al. 1998), especially on the natural history of human beings. Since the height of people has been constantly changing and people are often biased to use themselves as a point of reference (see Chapter 8), elements such as *relatively* are essential to this type of discourse. By way of illustration, consider (37):

(37) У Человека умелого (Homo habilis) был
by man-GEN handy-SG.M.GEN Homo habilis was-M

высокий лоб, что позволяет предполагать
high-(LF)SG.M.NOM forehead-NOM that allow -3.SG assume-INF.IPFV

значительное развитие новых
considerable-SG.N.ACC development-ACC new-(LF)PL.GEN

областей лобной и височной долей
regions-GEN frontal-SG.F.GEN and temporal-SG.F.GEN lobes-GEN

коры, а также тех областей мозга –
cortex-GEN CONJ also those-GEN regions-GEN brain-GEN

речь о них пойдет позже, –
speech-NOM about them-LOC go-FUT.3.SG.PFV later

которые, вероятно, связаны со способностью
which-PL.NOM probably connected-(SF)PL with ability-INS

говорить. Столкнись мы с Человеком умелым,
speak-INF.IPFV collide-IMP.SG we with man-INS handy-SG.M.INS

одетым по последней моде, скажем
dressed-(LF)SG.M.INS on last-SG.F.DAT fashion-DAT say-FUT.1.PL.PFV

на бульваре большого современного
on boulevard-LOC big-(LF)SG.M.GEN modern-(LF)SG.M.GEN

города, мы, вероятно, лишь окинули бы
town-GEN we probably only cast-SBJV.PL.PFV PCL.COND

его	безразличным	взглядом,	и	то	только
him-ACC	indifferent-(LF)SG.M.INS	look-INS	and	that	only

из-за	его	**относительно**	**невысокого**
because.of	his	relatively	not.high-(LF)SG.M.GEN

роста. (www.shamballa.ru)
stature-GEN

'Homo habilis had a high forehead, which suggests a considerable development of the new regions of the frontal and temporal lobes of the cortex, as well as the regions of the brain – to be discussed later – which are probably related to the faculty of speech. If we met a Homo habilis, dressed in the latest fashion, say, on a boulevard of a large modern city, we would probably cast an indifferent look at him, and that only because of his relatively short stature.'

Two mental spaces are evoked by the segment *otnositel'no nevysokogo rosta* 'of relatively not.high stature'. One input space includes a contemporary metric for human beings; the other input space contains a metric for humans about 2 million years ago, with a prototypical Homo habilis in the cognitive-zero area. In the blend, the "handy man" is placed onto our contemporary metric, where he fails to reach the average. However, by virtue of *otnositel'no* 'relatively' we can still go back to the inputs, in the sense that we are perfectly aware of the discrepancy between the two metrics. Put another way, *otnositel'no* "tells" the addressee to employ two different metrics for processing *nevysokij* 'not.high' – one from the present space and one from the past. In the following passage from Vancata and Charvatova's book *Post-palaeolithic Homo Sapiens Evolution in Central Europe* (2001) the comparison classes are both in the past:

(38) We have analysed the bones lengths and various measurements of lower and upper limb long bones, enabling to perform a detailed analysis of the lower and upper limb long bones robusticity. The Early Bronze Age population from Bajc is similar to other Bronze Age groups with the exception that the tibia is significantly longer in the Bajc sample. One of the important questions is which changes, if any, in body build and proportions emerged after the Neolithic to Bronze Age transition. Early Bronze Age population males are **relatively tall** and robust, while the females are significantly smaller than the males but still are **relatively tall** and robust **in comparison to the females of the Linear Band Pottery Culture and Lengyel Culture**.

The two CRPs involved in (38) are constructed on two comparison classes (or, rather, two clusters of comparison classes) – humans from the Early Bronze Age and their conspecifics from the Linear Band Pottery Culture and the Lengyel Culture. Yet again, *relatively* functions chiefly on the S-level enabling the addresser to coordinate cognitively with the addressee. This operator gives the recipient a cue that the property can be predicated of the object only in comparison to another, incidental point of reference.

Like any other operator used to activate more than one mental space, *relatively* weakens the argumentative load of the utterance.[8] However, it is valuable as a means to invite the addressee to temporally assume more than one perspective on the object of conceptualisation. Let us take the following example from Gerasimov's (1992) article on the origin of Timur, the famous 14th-century conqueror of Western and Central Asia, also known as Tamerlane or Tamburlaine:

(39) Обнаруженный скелет принадлежит сильному
discovered-SG.M.NOM skeleton-NOM belongs strong-(LF)SG.M.DAT

человеку, **относительно высокого роста для**
man-DAT relatively high-(LF)SG.M.GEN height-GEN for

монгола (около 170 см).
Mongol-GEN near 170 cm

'The discovered skeleton belongs to a strong man, of a stature relatively tall for a Mongol (about 170 cm).'

It has been widely accepted among the historians that Timur was a man of Mongol descent. Contrary to this well-established opinion, Gerasimov claims that Timur had European ancestors. One of his arguments is that Timur's stature was too tall to admit the Mongolian origin. *Otnositel'no* 'relatively' is very important in this context, for it allows the reader to compare the two stances: for Mongolians Timur was too tall, whereas for Europeans he had a normal height. The clash of the two cognitive zeros is crucial here as an invitation to compare the two theories: one where Timur's height was normal (non-Mongolian origin) and one where he had an abnormal stature (Mongolian descent). The utterance in (39) would be argumentatively much stronger without 'relatively'. However, it is by virtue of this operator that Gerasimov questions the axiom and leaves space for discussion. He temporar-

[8] For instance, *It is not uninteresting* is weaker than *It is interesting*. However, only the former, but not the latter utterance is used to set up two mental spaces and invite the addressee to compare two different epistemic stances towards the proposition (Verhagen 2005, 2007).

ily assumes the opponent's opinion, and invites his opponents to do the same. This strategy may work especially well, if more evidence is provided in the rest of the article. And, indeed, Gerasimov's claim is further supported by the fact that Timur's skull structure is more typical of non-Asian eye-sockets, and by the test results demonstrating that Timur's beard was naturally red and not dyed.

In summary, the semantic analysis outlined in this section suggests that the interpretation of relative adjectives is largely non-compositional. Default principles of establishing comparison classes and identifying CRPs can be easily overridden by context. Not only predicative adjectives, but also adjectives used attributively may take a comparison class other than the one specified by the head-noun and/or subject of the sentence. Nor does the comparison class have to be the immediate superordinate of the subject. Since a wide range of choices is usually possible, the speaker may opt for making the comparison class explicit (e.g. by means of the *for*--construction) or suggest the involvement of more than one CRP type (e.g. through the use of *relatively*). I have proposed that these elements operate predominantly on the level of intersubjective coordination between the speech act participants.

5.4. Explanatory power of the cognitive zero

It is not without a reason that analyses of relative adjectives in terms of comparison classes and norms have been most influential for, at least, the last fifty years. In this section, I will summarise the advantages of using the cognitive zero as a CRP in the analysis of relative adjectives. Three aspects will be given primary attention: relativity, antonymy, and modification of relative adjectives by hedges and intensifiers.

5.4.1. Relativity

One of the most well-known properties of adjectives such as *tall* and *short* is their relative character, hence the term *relative adjective*. What is meant by relativity of adjectives can be illustrated by the following example from the BNC:

(40) As others in the class were quick to respond, the only way by which one knows that a country is unique is by comparing it with others. Just as one can know whether one is short or tall only by comparing oneself with others, so one can know whether one's own political system is "short" or "tall" only by putting it alongside other systems and noting the differences. (BNC)

Indeed, to call somebody or something either *short* or *tall* we often need to know what the average is for the comparison class in question. Furthermore, depending on the comparison class and its cognitive zero, the value denoted by *tall* will change. Consider, for instance, (41)-(44):

(41) All at once I could see Galway Bay. **Tall**, dim **mountains** on a curve of horizon, a winking lighthouse and the open sea. (BNC)

(42) Their houses, the **tall**, crumbling **tenements** with their cracked roof tiles and their creaking balconies huddle together round the church … (BNC)

(43) Even today Scots tend to be wary of clever **women**; but in those days, to be young, female, **tall**, beautiful, witty, talented and intelligent - and a Queen - was like writing one's own death sentence. (BNC)

(44) He wanted to lie down, in the sunshine, lost in this **tall**, scented **grass** and go to sleep. (BNC)

A tall mountain in (41) is probably thousands of meters tall. Tall tenements in (42) might be between 5 and 10 meters tall. A woman in (43) is no more than two meters tall. And the tallness of grass in (44) is likely to be measured in centimetres. Nonetheless, we seem to have no trouble with assigning these rather different values to the same adjective. In this sense, comparison classes and their average CRPs are indispensable for resolving the vagueness of *tall* and other relative adjectives. This, however, does not mean that comparison classes are always specified in the same sentence. Section 5.3 has shown that very often the whole discourse is necessary for establishing the relevant reference class.

5.4.2. Antonymy

5.4.2.1. Contrariety. Dimensional adjectives are opposites *par excellence* that fully satisfy Lyons' (1969, 1977) definition of antonyms. They are gradable adjectives denoting a degree of some property diverging from a reference point. True antonyms establish converse relations in comparative constructions allowing for inferences of the following kind: *Boris is taller than Mary* = *Mary is shorter than Boris*. The assertion of one term implies the negation of the other, as in (45). The negation of one term, however, does not entail the assertion of the other, see (46).

(45) It is tall => It is not short.

(46) It is not tall ≠>It is short.

This type of semantic relations is called *contrariety* (Croft & Cruse 2004: 169; Cruse 1986: 204; Dixon 1977: 31; Eisenberg 1994: 241; Lang 1989: 295; Lyons 1969: 464-5, 1977, I: 272; Murphy 2003: 189; Pocelujevskij 1974: 237). The existence of the cognitive-zero area is essential in the account of contrariety. The negation of one term does not lead to the assertion of the other, because there is also a cognitive-zero area in-between, where neither of the antonymous terms applies. Klein (1980) illustrates the point using the following example:

> Imagine that we are told to sort a group *X* of people into tall and not tall members, that is we have to apply **tall** to *X*. We start to work, and after a while we have divided *X* into three smaller groups: those who are definitely tall, according to our standards, those who are definitely not tall, and a third group of people that we can't decide about (Klein 1980: 16).

Klein (1980) calls this third part of the scale *extension gap*, and Lyons (1977) calls it *zone of indifference*. The zone of indifference is crucial to the account of antonymy. Compare Figures 5.7 and 5.8.

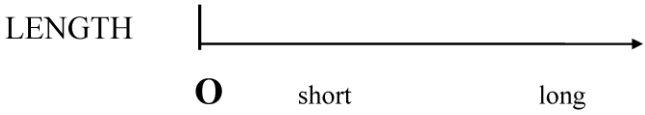


Figure 5.7. The scale of length (Croft & Cruse 2004: 170)

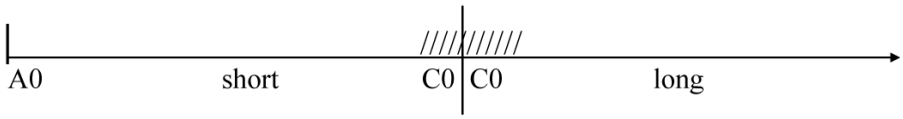


Figure 5.8. The scale of length: alternative configuration. A0 = absolute zero. C0 = cognitive zero

The configuration in Figure 5.7, proposed by Croft & Cruse (2004), does not capture the contrariety between *short* and *long*. Therefore, I would like to propose an alternative configuration (Figure 5.8), which highlights the critical role of the cogni-

tive zero for establishing antonymy between dimensional adjectives. Figure 5.8 suggests that if the reference value exceeds the contextually relevant average, a supra term may be used; and if the designated value falls below the cognitive zero, a sub term is chosen. It is in this sense that the cognitive zero is of paramount importance in the discussion of antonymy. To quote Bierwisch:

> *Die Zigarette ist lang* means that the cigarette is longer than the presupposed average, *Die Zigarette ist kurz* means it is shorter than the expected average. *lang* and *kurz* are connected with the same scale, the extension of which may be established by the modified noun, in our examples by the possible length of different cigarettes. Within that normalized scale there is a point indicating the expected average. Now (+Pol) and (-Pol) indicate that the modified objects are placed at the one or the other half (or end) of the scale relative to the average point. That means they are in a certain sense inverse relations with the average as one of its terms, the extension of the object in question as the other (Bierwisch 1967: 12).

In like manner, Givón suggests that polar antonyms share a basic quality, but are negatively related with respect to this quality (Givón 1970: 817-8, cf. Kennedy 1999b: Ch.3). Lyons goes even further and asserts that adjectives like *big* and *small* are merely lexical devices for grading a single property as "more than" or "less than" with respect to a certain norm (Lyons 1969: 465-6).

5.4.2.2. Equidistance. There are, however, more aspects of antonymy that can only be elucidated in terms of cognitive zeros. For instance, it has often been pointed out in the literature that perfect antonyms must be equidistant from the reference point in the middle of the scale (Croft & Cruse 2004: 166; Cruse 1976: 282; De Schutter 1976: 24; Koval'nickaja et al. 1979: 35; Lehrer & Lehrer 1982: 487; Murphy 2003: 186; Murphy & Andrew 1993: 302; Paradis et al. 2007; Sapir 1944: 133). The adjectives *large* and *small* are better opposites than, for instance, *large* and *tiny*. The reason is that *large* and *tiny* are not symmetrically disposed about the reference point. *Large* is in the LARGE zone (which is disposed symmetrically with the SMALL zone), while *tiny* is in the VERY SMALL zone (which is disposed symmetrically with the VERY LARGE zone on the gradual scale).

5.4.2.3. Some problems. The view that symmetric location with respect to the cognitive zero is essential for true antonyms, however, seems to run aground when it comes to Russian dimensional adjectives, many of which form triplets such as *bol'šoj-nebol'šoj-malen'kij* 'big-not.big-small'*, vysokij-nevysokij-nizkij* 'high-not.high-low'. Both *nevysokij* 'not.high' and *nizkij* 'low/short' are good opposites of *vysokij*

'high/tall' (see Chapter 8). However, the fact that the morphological negation *nevysokij* 'not.high' is not blocked suggests that the two sub terms are not absolute synonyms. They display differences in terms of meaning and distribution. For instance, only *nevysokij* 'not.high', but not *nizkij* 'low' can be used with reference to medium height (Sharoff 2002; Švedova 1970: 212). On the other hand, only *nizkij* 'low/short' can describe objects whose top is close to the ground (Rakhilina 2000). I will postpone the discussion of this problem till Chapters 7 and 8, where I will suggest that this asymmetry can be explained if we recognise the relative primacy of other CRP types (such as EGO and absolute zero) over the cognitive zero. For now, it is interesting to notice that *vysokij* 'high/tall' and its antonyms are not symmetrically disposed on the gradual scale of height.

Similarly, a cognitive zero cannot explain the fact that polar antonyms do not have an equal status. It is well-established that a supra term is always more general than its sub partner. In other words, supras are more often used in the unmarked sense, when they do not mean that the dimensions of the described object surpass a certain medium: they merely establish the relevant gradual scale, as in *six feet tall* (Bierwisch 1967: 8-9; Blutner 1989: 434; Broekhuis 1999: 28-9; H. Clark 1973: 38; Croft & Cruse 2004: 173-5; Cruse 1976, 1986; De Schutter 1976: 25; Dixon 1977: 33; Eisenberg 1994: 241; Klein 1980: 29; Lyons 1969: 466-7, 1977, II: 305ff.; Nikolaeva 1983: 236-7; Rusiecki 1985: 13-5; Vendler 1968: 96; Wierzbicka 1996: 54). This issue will be taken up in Chapter 7, where I will suggest that this asymmetry can be accounted for in terms of another relevant CRP type, namely the absolute zero. This, again, brings us to one of the major claims of this thesis: there is enough evidence against the treatment of adjectival meanings in terms of one CRP type only. Contrary to the long-standing practice of studying dimensional adjectives solely in terms of average values, I want to propose an account that deals with numerous CRP types. It does not imply that all CRPs have an equal status in the same context. Rather, I would like to suggest that in actual language use, one of the CRPs receives major prominence, whereas the others recede into the background.

5.4.2.4. More advantages. There is, however, another aspect to antonymy that can and should be dealt with in terms of cognitive zeros. It has to do with the fact that even an adjective denoting another dimensional axis can function as the opposite of the term in question, if it labels a property located on the other part of the scale relative to the cognitive zero. For instance, the antonym of *tall* is *short*. Indeed, the two adjectives are often used as opposites of each other in the BNC. See, for instance, (47)-(50):

(47) Seems so funny having a **tall** dog after having **short** dogs. (BNC)

(48) Mendel crossed **tall** peas with **short** peas and found that the first generation were always tall. (BNC)

(49) The stranger was neither **short** nor **tall**, and very thin, with a figure of the Twenties, slightly spidery, ineluctably elegant. (BNC)

(50) Yeah whether he were dark hair or light hair or **tall** or **short**. (BNC)

Through co-occurrence the two adjectives have a strongly entrenched antonymic relation, which is easily elicited in various association tasks (Justeson & Katz 1991; Paradis et al. 2007). This, however, does not preclude the use of *low* or *small* as the opposites of *tall*. Witness (51)-(54):

(51) Each line had its speciality; it might comprise **exceptionally small** girls, or **very tall** ones, or talented acrobats, but whatever the speciality, all could sing and dance. (BNC)

(52) There are disadvantages to being too tall, as Martin Bayfield is also finding out. **Tall** men cannot drive as easily as **smaller** men. (BNC)

(53) **Lower** stances, for instance, are more stable than **taller** ones, and, being solid and powerful, are naturally resistant to sudden attacks. (BNC)

(54) Can you swap that one, the flowers are going a bit. Oh yes. I'm just looking at, erm this one it looks so pretty, no not that. That one? Yeah that's what do you think of that one. Yeah that's very nice, yes I like that. Unusual. That's a nice one. Yes that is a nice one. You see all the buds coming out. Oh yes, yes mm, mm alright? I'm wondering now, looking at it, if that erm is a bit tall for the rest of them. Yes. Do you know what I mean? It does look **a bit tall**, you're quite right, erm that one's **quite a low one**, what about that one? Yes. (BNC)

The same holds for Russian, where *vysokij* 'high/tall' is an antonym of *nizkij* 'low/short', though it can also be opposed to *malen'kij* 'small' and *korotkij* 'short' in actual language use. See (55)-(57):

(55)

Высокие	женщины	грубоваты	и	больно		
high-(LF)PL.NOM	women-NOM	rude.a.bit-(SF)PL	and	painfully		
бьют,	**маленькие**	же	в	большинстве	случаев	
beat-PRS.3.PL	small-(LF)PL.NOM	PCL	in	majority-LOC	cases-GEN	

бывают егозы и любят визжать,
be-PRS.3.PL.ITER fidgets-NOM and love-PRS.3.PL scream-INF.IMPF

царапаться и подпускать шпильки. (RNC)
scratch-INF.IPFV and let.under-INF.IPFV hair.clips-ACC

'Tall women are somewhat rude and can painfully hit you, whereas small ones are mostly fidgets and like screaming, scratching and having a dig at you.'

(56) Пикулев – **маленького** роста, Жарков –
Pikulev-NOM small-(LF)SG.M.GEN stature-GEN Zharkov-NOM

высокий. (RNC)
high-(LF)SG.NOM

'Pikulev is of small stature, and Zharkov is tall.'

(57) Тогда в море встают в шахматном
then in sea-LOC rise-PRS.3.PL in chess-ADJ.SG.LOC

порядке **короткие** и **высокие** волны, и
order-LOC short-(LF)PL.NOM and high-(LF)PL.NOM waves-NOM and

увернуться от них невозможно. (RNC)
skip-INF.PFV from 3.PL.GEN impossible-(SF)N.SG

'Then short and tall waves rise in staggered rows in the sea, and it is impossible to avoid them.'

What examples (51) through (57) have in common is that a supra term is contrasted with a sub term regardless of the different dimensional properties associated with them.[9] This observation is consistent with the results of the study reported in Bartlett (1975). In a series of experiments, Bartlett found that polarity of spatial adjectives is more prominent than dimensionality. She argues that children first learn the dimensional hyperonyms *big* : *little*. Other dimensional adjectives are acquired as

[9] Similar results were reported in Kennedy (1999a) with respect to "cross-polar anomaly". This phenomenon involves the finding that comparatives constructed out of a positive and a negative adjective are anomalous. Thus, *The ficus turned out to be shorter than the doorway was low* is acceptable, whereas #*The ficus turned out to be shorter than the doorway was high* is not. For our present purposes it is especially interesting that cross-polar anomaly does not require that the two adjectives constitute a default antonymous pair, rather what matters is that they are on different sides of the scale vis-à-vis the cognitive zero (Kennedy 1999a: 201).

more elaborate (in the spatial sense) hyponyms of *big* and *little*. In other words, *short* is acquired as a hyponym of *small*, rather than antonym of *tall* or *long* (see also Brewer & Stone 1975; Carey 1978; E. Clark 1972, 1973; Daems 1977; Ehri 1976; Eilers et al. 1974; Lavrentjeva 2006; Tanz 1977). These relations between sub and supra terms seem to persist in the language of adults as well.

In a similar vein, an experimental study reported in Drummond et al. (1981) has shown that aphasic subjects often provide incorrect antonyms to a given adjective. More importantly, approximately 68% of the incorrect responses in the experiment shared polarity with the target adjective. For example, the subjects could say that *tall* is the opposite of *low*. Notice that erroneous responses are in this case located on the same side of the scale as the target adjectives.

Critically, the fact that the position vis-à-vis the cognitive zero dominates over objective spatial properties in the construals of spatial relations strongly suggests the importance of this CRP type in the treatment of dimensional adjectives. The basis of antonymy in (51)-(54) and (55)-(57) is the fact that the terms *small, low, malen'kij* 'small' and *korotkij* 'short' are all different from *tall* and *vysokij* 'high', respectively, in one crucial aspect, namely the profiling of the negative region on the gradual scale and placement of the trajector in the area below the cognitive zero.

To summarise, in this section I have shown that the cognitive zero plays a crucial role in establishing antonymous relations between dimensional adjectives. Firstly, antonyms share a reference point, which explains the observation that a dimensional adjective often evokes its antonym(s) (H. Clark 1971, 1973; Clark et al. 1973; Croft & Cruse 2004; Cruse 1976, 1986; Holyoak 1978; Nikolaeva 1983; Pocelujevskij 1974; Ruzin 1994).[10] Secondly, the position of antonyms vis-à-vis the cognitive zero provides a good explanation for an intuition that *huge* is a better antonym of *tiny* than, for instance, *large*. And, thirdly, the cognitive zero divides the scale into a sub and supra region, which sanctions the use of different sub terms as antonyms of a particular supra adjective. Nonetheless, this section has also shown that the cognitive zero, though crucial and explanatory in the study of oppositeness, cannot account for *all* aspects of antonymy. For one, we cannot explain the well-known asymmetry between sub and supra adjectives in terms of the medium alone. Rather, we need to study other CRP types, which are no less important than the cognitive zero. But before exploring other CRPs, I will first discuss another point where the cognitive zero scores high on relevance, namely degree modification.

[10] This phenomenon is generally externalised in slips-of-the-tongue.

5.4.3. Degree modifiers

The cognitive zero is an important CRP anchoring reference values denoted by adjectival phrases with degree modifiers. I support the view that hedges (attenuators) and intensifiers (reinforcers) are frequently (though not always, see Section 7.2) used to specify the distance from the cognitive zero (Bierwisch 1967: 7; Eisenberg 1994: 241; Klein 1980: 25; Klein 1997: 5; Lehrer & Lehrer 1982: 489-90; Paradis 1997, 2000a, 2001; Paradis & Willners 2006).

Paradis (1997) is a detailed study of effects of degree modifiers on three groups of adjectives: scalar adjectives (e.g. *fast, good, interesting, tall*), extreme adjectives (e.g. *brilliant, excellent, huge, minute*), and limit adjectives (e.g. *dead, identical, possible, true*). The three groups are different as to the degree of gradability: scalar adjectives are prototypically gradable, extreme adjectives display restricted gradability, and limit adjectives are, by default, non-gradable, though they may become gradable through contextual modulation.

Here I will confine the discussion to what Paradis calls *scalar* adjectives. Paradis suggests that scalars, such as *tall* or *nice*, collocate with scalar degree modifiers, i.e. the modifiers that map onto a 'more-or-less', rather than 'either-or' mode of construal. Scalar modifiers include boosters (e.g. *very, terribly, jolly*), moderators (e.g. *rather, fairly, pretty*) and diminishers (e.g. *a little, a bit, slightly*). These adjectives do not take totality modifiers (maximizers and approximators), it is argued, since they operate on unbounded scales and are incompatible with the totality (i.e. 'either-or') construal, the issue I will return to in Chapter 7.[11]

The effect of boosters consists in moving the value away from the mid-zone. Here are some examples from the corpora:

(58) The widespread practice, therefore, of delaying investigations in those children with **very short** stature for six or 12 months in order to estimate velocity is of no value. (BNC)

(59) Mayne was another **immensely tall** man endowed with tremendous physical strength. (BNC)

(60)

В	нашем	лесу	очень	много	муравьиных
in	our-SG.M.LOC	wood-LOC	very	many	ant-ADJ.PL.GEN

куч,	но	один	муравейник	**особенно**
hills-GEN	but	one-M.SG.NOM	ant.hill-NOM	especially

[11] Paradis borrowed the terms 'maximizer', 'booster', 'approximator' and 'diminisher' from Quirk et al. (1985), the term 'moderator' comes from Allerton (1987).

высок, больше моего шестилетнего
high-(SF)SG.M bigger my-SG.M.GEN six.year.old-ADJ.SG.M.GEN

внучонка Саши. (RNC)
grandson-DIM.GEN Sasha-GEN

'There are a lot of ant hills in our forest, but one ant hill is particularly high, higher than my six-year-old grandson Sasha.'

(61) Ранние алтарные преграды были **очень**
early-PL.NOM altar-ADJ.PL.NOM bars-NOM were very

низкими, так что на них можно было
low-(LF)PL.INS so that on them-LOC may-IMPERS was-IMPERS

облокачиваться. (RNC)
lean-INF.IPFV.REFL

'Early altar bars were very low, so that you could lean your elbows on them.'

The intensifiers in (58)-(61) increase the distance between the instantiation of the property and the cognitive zero in the sense that *very tall* is farther from the medium than *tall* is. The value of *tall* can thus be called a *secondary reference point* for making further refinements evoked by degree modifiers (Pander Maat 2006).[12]

Lakoff (1973) discusses the relation between *tall* and *very tall* in terms of fuzzy logic (Zadeh 1965) and suggests that for any absolute value of height, the value of VERY TALL (and, hence, the probability to be called *very tall*) will be less than or equal to the value of TALL, see Figure 5.9.

[12] In a somewhat similar manner, Kennedy (1999a, 1999b) suggests that intensifiers boost the relative standard, i.e. they move it further along the scale. Hence, by this view, not the position of the reference value vis-à-vis the standard value is changed, but the location of the relative standard as such. Thus, very tall people are taller than average tall people (cf. Bierwisch 1989; Klein 1980).

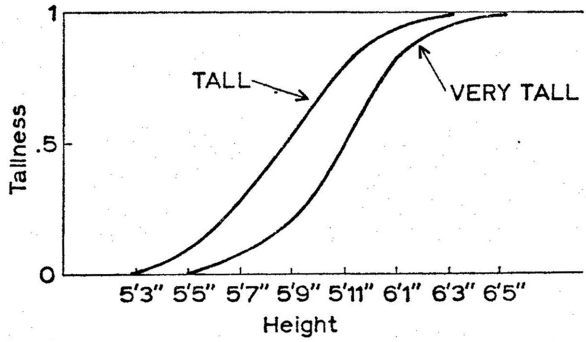


Figure 5.9. Fuzzy logic of VERY TALL relative to the population of contemporary American males (Lakoff 1973: 464)

I will not go into the details of the fuzzy logic approach. Whatever its shortcomings, for our present purposes it is more relevant to observe that Lakoff's proposal fits nicely into what I have been saying about the role of the cognitive zero in degree modification. More precisely, Figure 5.9 illustrates that VERY TALL is more distant from the cognitive zero (5'3" in Lakoff's example) than TALL.

In case the focal stress is on the adjective, the antonym of *very tall* is *very short*, the two expressions being symmetrically disposed about the cognitive-zero area (Cruse 1986: 204). However, nucleus placement on the degree modifier does not trigger the scale of HEIGHT. Rather, an expression like *VERY tall* evokes the sub-scale of TALLNESS only (Paradis 1997: 116ff.). This explains why (62) is perfectly acceptable and (63) is not:

(62) I did not say he was very TALL, on the contrary, he is very short.

(63) # I did not say he was VERY tall, on the contrary, he is very short.

When moderators are applied, for example, to *tall*, as in (64)-(67), the referent is conceptualised as being taller than average to some minimally significant degree. I will treat this issue in greater detail in Chapter 7.

(64) The angle at which the knife entered seems to indicate that the killer is **fairly tall**. (BNC)

(65) The Lebanese being **quite short** and Waite being **quite tall**, I guess they thought that this would show if Islamic Jihad was treating him right. (BNC)

(66) Terrano II – **довольно** **высокая** машина, и это
Terrano II rather high-(LF)SG.F.NOM car-NOM and this-N

имеет свои преимущества: просторный
has one's-PL.NOM advantages-ACC spacious-(LF)SG.M.NOM

салон с высоким потолком и большой
salon-NOM with high-(LF)SG.M.INS ceiling-INS and big-(LF)SG.F.INS

площадью остекления. (RNC)
area-INS glazing-GEN

'Terrano II is a rather high car, which has its advantages: a spacious interior with a high ceiling and a large glass cover area.'

(67) Виноград рассажен был на большом
vine-NOM planted-(SF)SG.M was-M on large-(LF)SG.N.LOC

пространстве и **довольно** низок ростом. (RNC)
space-LOC and rather low-(SF)SG.M stature-GEN

'The vines covered a large area and were rather low in height.'

Diminishers, such as *slightly, a little,* and *a bit*, are used to show that the degree to which the property stands out from the average is very small. The use of these degree modifiers with dimensional adjectives is very restricted and will be dealt with in Section 7.2.

It is also interesting to observe the different effects of degree modifiers on dimensional adjectives and colour terms. Compare (68) and (69):

(68) Tom Fish was a **very tall** man with big hands and a cruel sense of humour. (BNC)

(69) She must have done, she had been born in it. It was **very red** blood. (BNC)

Very tall describes the direction going away from the reference point, i.e. from the cognitive zero (cf. Clausner & Croft 1999: 18). *Very red*, on the contrary, means that the property of the referent approaches the reference point, i.e. the focal red colour (Broekhuis 1999: 34-5). This difference is very instructive, for it reveals the implications of primary CRPs for degree modification and demonstrates that not all gradable concepts involve the same scale structure (cf. Kennedy 2007; Kennedy & McNally 2005; Paradis 1997; Rotstein & Winter 2004; Syrett et al. 2005). Dimen-

sional scales are, by default, medium-oriented, whereas scales triggered by colour adjectives take the maximum value as their point of reference.

In the space of this thesis I can treat degree modifiers only in passing. The purpose of this discussion of hedges and intensifiers was to show that the cognitive zero is a powerful analytic tool in the study of these phenomena, as well as in the study of oppositeness (Section 5.4.2) and relativity (Section 5.4.1). Some further observations on compatibility of relative adjectives with degree modifiers will be offered in Chapter 7.

5.5. Summary

In this chapter, I have discussed a reference-point phenomenon widely known as the *norm*, although I chose another term − *cognitive zero* − to label this concept. A cognitive zero is an average value identified for a particular comparison class, to which the referent belongs. I have argued that although default interpretations *do* exist, in actual language use defaults often get overridden by context. Therefore, neither comparison classes, nor their average values are completely dependent on the head-nouns of attributive adjectives or the subjects of predicatively used adjectives. The analysis of authentic examples has demonstrated that both comparison classes and cognitive zeros are largely context-dependent.

This chapter has also illustrated the importance of the cognitive zero as an analytic tool in the study of relativity, oppositeness and degree modification. At the same time, the analysis reported above provided evidence that the cognitive zero alone cannot account for *all* relevant properties of relative adjectives. I will build on this finding in the next chapter, where I will provide an overview of the pitfalls of the standard-value approach. The problems of the analysis solely in terms of cognitive zeros will then be solved by introducing more CRP types in Chapters 7-9.

Chapter 6. Inadequacies of the standard-value approach

The reserve of modern assertions is sometimes pushed to extremes, in which the fear of being contradicted leads the writer to strip himself of almost all sense and meaning.

Sir Winston Churchill

6.1. Introduction

In Chapter 5, I have been discussing the advantages of using the cognitive zero as an analytic tool in the study of relative adjectives, in general, and dimensional adjectives, in particular. It is remarkable that the vast majority of linguists working on relative terms never call the primacy and the omnipotence of the cognitive zero into question. A huge bulk of research on relative adjectives is fully dependent on the notion of comparison classes and average values. There are, however, a few proposals that question the almightiness and the overall applicability of both comparison classes and norms (H. Clark 1971, 1973; Clark et al. 1973; Graff 2000, 2002; Kennedy 2007; Pander Maat: 2003, 2006; Tribushinina 2006a, 2006b). For instance, the theory of spatial adjectives developed in H. Clark (1971, 1973) and Clark et al. (1973) treats a cognitive zero as a secondary reference point and gives primacy to another CRP type, namely an absolute zero. In cognitive psychology, a similar approach is taken by Holyoak (1978), whose experiments on judgments of symbolic magnitude provided compelling evidence in favour of the primacy of polar anchors (minimum and maximum), that were shown to be more important reference-point phenomena than the medium point. Inspired by these studies, this chapter sets out to explore the inconsistencies and pitfalls of the analysis based *entirely* on average values.

6.2. Problem of identification

6.2.1. Ants, spiders, and rabbits revisited

The first problem of the approach outlined in Chapter 5 is that it is often quite difficult, if not impossible, to identify the comparison class involved, let alone the average value associated with it (cf. Suzuki 1970). In Chapter 5, we have already encountered this problem in the analysis of example (20), borrowed from Hutchinson (1993) and repeated here as (1):

(1) These films were filled with gigantic ants, spiders, and even rabbits.

The ants, spiders and rabbits in this example are not gigantic qua ants, spiders and rabbits, respectively. Another point of reference is probably involved. But which one?[1] Even analytically it is quite difficult to identify the standard of comparison relevant in (1), to say nothing of the natural communication process, where the addressee will not bother to spend hours speculating on the comparison classes and averages needed for the interpretation of (1). The fact that it is difficult to identify a comparison class does not, however, render (1) unintelligible. On the contrary, the sentence is perfectly understandable. The conclusion suggesting itself is that the cognitive zero is not primary, if at all relevant, in sentences like (1). And this example is by no means exceptional. Consider, for instance, (2) and (3):

(2) The complete context picture depicted a young man standing in the street serenading his girlfriend who is looking out of the window at the top of a **tall block of flats**. (BNC)

(3) The central part of the cathedral stands, like the Ascension Church at Kolomenskoe, on a high platform and has a **tall** octagonal **tower**. (BNC)

Who can say for sure whether the cognitive zero used for processing (2) is an average-sized block of flats in general, or an average value for an apartment block in the area, city or city part, where the described events take place? The context says nothing about that. No particular comparison class is imposed by (3) either: it could be towers in general, church towers, church towers in Russia, or church towers in the outskirts of Moscow. Nonetheless, both (2) and (3) are perfectly intelligible.

In a similar vein, Pander Maat (2003: 6) argues that the comparison class approach "runs into problems when the class of comparison is not immediately obvious". In a more recent article, Pander Maat (2006) emphasizes that the problem is two-fold. To begin with, it is often difficult to identify a comparison class (e.g. for a very normal sentence such as *The universe is large*). But even when the comparison class is identified, it is even more difficult to define its average value. For instance, in the case of gradable adjectives denoting non-measurable properties (e.g. *cruel, good*) it is almost impossible to find an average.[2]

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[1] In Chapter 5, I suggested that EGO is a good candidate for the reference-point role here. I will elaborate this issue in Chapter 8.

[2] This is one of the reasons Bierwisch (1989) divides gradable adjectives into dimensional (e.g. *new, short, young*) and evaluative (e.g. *lazy, pretty, ugly*) terms. The former are claimed to be norm-oriented, whereas the latter are not contingent on the average value. By this view, *Hans is tall*

Graff (2002) comments that comparison classes as such are too broad to provide a standard of comparison. They only provide a domain in which the standard value should be sought. Leisi (1975: 102ff.) makes a similar point using the following example from German:

(4) Sie ist gross.

Leisi comments that in the very same objective situation, we may interpret (4) vis-à-vis a norm for females, girls, 12-year-old girls, 12-year-old English girls, etc. (cf. Ludlow 1989: 530). Moreover, different addressees may employ different average values (*species norm* in Leisi's terminology). But the situation becomes even more complicated if we add the particle *aber*, and pronounce the sentence with the corresponding intonation. See (5):

(5) Sie ist aber gross!

In (5) the species norm is not relevant at all. *Aber* gives a clue that another CRP type should be involved, namely, what Leisi calls an *expectation norm*. (5) means that the referent turned out to be bigger than the speaker had expected. This expected value is an incidental reference point, which renders the cognitive zero (being a standard value for a comparison class) irrelevant. I will return to examples such as (5) in the following section.

Further evidence comes from language acquisition. In a series of experiments, Smith et al. (1986) studied the interpretation of the adjectives *high* and *low* (in the positional sense) by children. The results of their study have shown that children younger than five are not yet able to judge about the high *vs.* low position of an object vis-à-vis its comparison class. 3-year-olds used proximity to the top/bottom as a reference point for interpreting these adjectives, and 4-year-olds used their knowledge of the prototypical positions of objects. Thus, if bunnies are usually low, their position was judged low in the experiment, whereas the position of birds, i.e. prototypically high objects, was judged high, irrespective of whether the birds were higher or lower than their normal position (i.e. cognitive zero). Only 5-year-old subjects took the comparison class information into account: they judged bunnies, that were located higher than normal (for bunnies), to be high, and birds located lower than usual as low. What this study shows is that the cognitive zero is not *the*

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means both 'Hans is tall for C' and 'Hans is taller than the average of C', where C is a comparison class. In contrast, *Hans is lazy* means only 'Hans is lazy for C', but not 'Hans is lazier than the average of C' (Bierwisch 1989: 89).

reference point facilitating the acquisition of these adjectives by children.[3] Rather, the endpoints of the scale (min/max) and the prototypes associated with them proved to play a much more crucial role in this process (see further Chapter 9). Knowledge of comparison classes and ability to operate with medium values comes only at a later stage in the child's cognitive development. In Wierzbicka's words, "the idea that *large* (or *big*) means 'larger than of average size' seems completely incompatible with the frequent and competent use of the words *big* and *little* by infants in the second year of life" (Wierzbicka 1996: 55, cf. Ehri 1976; Jaščenko 2006; Sera & Smith 1987; Tribushinina 2008a).

6.2.2. Cross-categorical judgments

Another problem is that dimensional characteristics are often assigned not within a comparison class, but *across* classes. By way of illustration, consider the following passage from Butler Greenfield's book *A Perfect Red*:

(6) For Fernández de Oviedo, as for many Spanish naturalists, direct observation was more relevant than the most cherished classical texts. Yet describing the New World was no easy task. American flora and fauna seemed to defy categorization, and Spaniards fumbled for words as they struggled to make sense of the land before them. They were limited, too, by technology of the time and by the rigors of colonial life. For most part, Spanish naturalists could document only what they saw with the naked eye; primitive magnifying glasses existed in Europe, but they were expensive and fragile, and rarely if ever used by sixteenth-century Spaniards in the New World. **Nor did Spanish naturalists make much use of rulers and scales. Instead they fell back on rough comparisons: animals were said to be "something larger than a rabbit" or "the size of a housecat"**. (Butler Greenfield 2005: 129)

What is being described in the above passage is by no means something typical only of the 16th-century Spanish naturalists discovering America. It is a very general cognitive strategy of using well-known objects as standards of comparison and means of describing a new situation.

This phenomenon was clearly demonstrated by the study reported in Rips & Turnbull (1980), which showed that people tend to use not only the immediate superordinate as a comparison class, but also all sorts of objects dealt with in our daily life. The interaction of the two reference points produces inconsistent sentences such as (7):

[3] For similar results obtained with respect to other spatial adjectives, see Keil & Carroll (1980).

(7) A poinsettia is tall.

The inconsistency effect of sentences like (7) is due to the conflict between the immediate superordinate and the object reference point: poinsettias are tall for flowers, but short for most objects we daily interact with. Rips & Turnbull present experimental evidence that processing inconsistent items takes more time than processing consistent items, since respondents have to choose on which of the two reference points to base their judgments. The study also suggests that people are more likely to interpret attributive adjectives against the background of the immediate superordinate (cognitive zero), whereas the interpretation of predicative adjectives is largely dominated by a cross-categorical reference point. The latter CRP type is not a norm, at least not in the traditionally acknowledged sense. It is a sort of cross-over between different comparison classes and average values.

In the same vein, Paivio (1975) suggests that comparison with objects daily dealt with is crucial to assigning dimensional characteristics. To do so, one does not necessarily have to experience objects such as kitchen utensils and farm animals in perceptual contiguity. Rather, it is enough to experience different objects in the contexts of common objects that are relatively constant in size (doors, windows, people), "or simply the perceiver's own body images" (Paivio 1975: 646). The use of the latter CRP type (which I call EGO) can be illustrated by the following examples from the BNC:

(8) Endill was still recovering from his journey in the basket lift and he followed behind the Headmaster without a word. They walked towards the **tall iron gates** of the school. Endill noticed there was no wall on either side of them and they stood alone in the middle of the grass. (BNC)

(9) Meg Shepherd, Hal Shepherd's daughter, was standing in the **tall grass** of the Domain, watching her brother. (BNC)

Although average values may be relevant in these cases, they do not seem to be essential in assigning dimensional properties to the gates in (8) and grass in (9). In other words, even if the gates and the grass are called *tall* by virtue of exceeding the average height for school gates and grass, respectively, what is felt to be more important here is the conceptualiser's own height. Note that in both (8) and (9) the third person's vantage point is taken, i.e. we perceive the situation with the eyes of the children, Endill in (8) and Meg in (9). Observe that in (9) a similar effect is achieved by using the preposition *in*, and not *on*: the child is surrounded by the grass, she is submerged in it. In sum, it seems very difficult to make up comparison

classes for these cases. Critically, the use of *tall* in (8) and (9) is sanctioned by a mixture of the cognitive zero, EGO, and, perhaps, other CRP types; it is by no means confined to a mere evaluation in terms of comparison classes and average values (cf. Bartsch 1986: 299-300).

6.2.3. Precisifications[4]

Since comparison classes and average values can be difficult to define, the vagueness of relative adjectives is often hard to resolve. In such cases, relative construals are sometimes combined with absolute construals within one sentence. See examples (10)-(14) in this respect:

(10) D. Anemone x hybrida "Honorine Jobert" Good form of Japanese anemone, a **tall (3 ft-plus)** but self-supporting perennial with white, yellow-centred flowers for several months in late summer and autumn. (BNC)

(11) Now came five **tall three storey** houses belonging to St. Martin's Church and, although making a terrace, each was slightly different to its neighbour. (BNC)

(12) **Высокие** здания **в 16 и более**
high-(LF)PL.NOM buildings-NOM in 16 and more

этажей обогатят силуэт сделают
storeys-GEN enrich-FUT.3.PL.PFV silhouette-ACC make-FUT.3.PL.PFV

кварталы более выразительными. (RNC)
blocks-ACC more expressive-PL.INS

'Tall buildings (16 storeys and taller) will enrich the silhouette and make the neighbourhood look more expressive.'

(13) А на переднем плане – две-три
CONJ on front-SG.M.LOC plane-LOC two three

высокие, **в полметра**, а то и выше,
high-(LF)PL.NOM in half.meter-GEN CONJ PCL and higher

грядки. (RNC)
vegetable.beds-NOM

[4] This term was introduced by Pinkal (1995) and is also used by Kennedy (2007).

'And in the foreground there are two or three high (half a meter or more) beds.'

(14) Стыл высокий, в три сантиметра,
cooled-SG.M.IPVF high-(LF)SG.M.NOM in three centimetre-GEN

омлет. (RNC)
omelette-NOM

'A three centimetre high omelette was getting cold.'

Notice that the cognitive zero, though relevant, is not the only reference point involved in sentences (10)-(14). Another CRP relevant in these cases in the absolute zero, from which measurement is taken. I will study this issue in greater detail in Chapter 7. For our present purposes, it will suffice to observe that the cognitive zero is *but one* CRP type involved in the interpretation of relative adjectives. In some contexts, the cognitive zero receives a primary focus (see Sections 5.4 and 6.4). But in a myriad of other cases, the cognitive zero has only limited relevance, or is not relevant at all. I will develop this idea in the following section.

6.3. Irrelevance of the cognitive zero

6.3.1. Norm-free constructions

It has been suggested on numerous occasions that orientation of relative adjectives to the cognitive zero is structurally determined (Bierwisch & Lang 1989; Cruse 1976, 1986; Lehrer 1985; Lyons 1969, 1977; Nikolaeva 1983; Rusiecki 1985, *inter alia*). This means that in a number of constructions, these adjectives have norm-free interpretations. In this section, I will give a brief overview of these constructions.

6.3.1.1. Constructions with measure phrases. English are interpreted irrespective of the norm in constructions with measure phrases as in (15) and (16).

(15) These supporting stems are about **12 inches tall**. (BNC)

(16) He was **six feet tall** and 185 pounds and had muscles the way a fish has scales. (BNC)

Unlike supras, English sub terms used in the same construction are marked, i.e. they are interpreted with respect to two reference points – a cognitive zero and an

absolute zero. By way of illustration, consider (17). The subject – Grady – is claimed to have the vertical extent of five feet (measured from the absolute zero) and to be shorter than an average jockey. It should also be noted that such uses are rare (no occurrences in the BNC) and somewhat odd.

(17) The name is Grady, **five feet short** in stockings and boots, a slightly distorted offshoot of a good breed of humans who race horses. (http://en.wikipedia.org/wiki/The_Last_Night_of_a_Jockey)

Russian relative adjectives are not combined with measure phrases in the same way as in English. A noun denoting the relevant dimension tends to be employed instead. Witness (18):

(18)

Каждая	из	статуй	будет	**2 метра**	**в**
every-SG.F.NOM	from	statues-GEN	be-FUT.3.SG	2 metre-GEN	in

высоту,	отлить	их	планируется	из
height-ACC	cast-INF.PFV	3.PL.ACC	plan-PRS.IMPERS.REFL	from

бронзы. (RNC)
bronze-GEN

'Every statue will be 2 meters tall. They are going to be made of bronze.'

6.3.1.2. Questions with *how*. These, again, are very normal in English and quite uncommon (though not impossible) in Russian. In this case, Russian again tends to employ the nominal construction.[5] Compare (19) and (20).

(19) The steely-grey eyes ran over Paula again. **How tall** are you? Five nine and a half. (BNC)

(20)

Какова	**высота**	священной	горы
what-(SF)SG.F.NOM	height-NOM	holy-SG.F.GEN	mountain-GEN

Кайлас? (RNC)
Kailas-NOM

[5] In Russian it is possible to ask an impartial yes-no question with a supra term. For instance, a question such as *Vysokij paren'?* 'Is the lad tall?' can be used to ask whether the boy is tall or short, whereas the question with the sub term *Nizen'kij paren'?* 'Is the lad short?' only asks whether the subject is indeed short. In this sense, Russian is similar to languages like Greek and Turkish (see Croft & Cruse 2004: 176-81).

'How high is the holy Kailas mountain?'

English allows two readings of the supra term in this construction. If the stress is on *how*, the expression is committed, i.e. the referent is claimed to be tall. If *tall* bears the focal stress, the expression is impartial, i.e. it says nothing about the tallness/shortness of the entity with respect to the cognitive zero (Cruse 1986: 209; Lehrer 1985: 401; Paradis 1997: Ch.3).[6] It is only in impartial construals that the cognitive zero is irrelevant. In the case of committed construals, it is critical that the instantiation exceeds the medium.

Sub terms are not common and always committed in this construction, which means that the cognitive zero is relevant to their interpretation; see (21):

(21) Jackie is short. He's so short you can see his feet on his driver's license. **How short** is he? That boy is short as hell. (http://www.darkhorizons.com/news10)

The *how*-question with *short* in (21) is interpreted vis-à-vis two reference points – the absolute zero (starting point for measurement) and the cognitive zero (average height of the comparison class).

6.3.1.3. *Too*- and *enough*-constructions. Constructions with *too* and *enough* construe a situation in terms of a consequence associated with a particular degree of the property. Hence, following Pander Maat (2006), I will refer to them as *consequential grading constructions*.

Dimensional adjectives modified by 'too' evoke an incidental maximum value as their CRP. For example, if a dress is *too short* for a business lunch, its length exceeds some maximum shortness acceptable at lunch meetings. A consequence attached to the degree of the property is often made explicit by means of the *for*-constructions and/or infinitival complements, but it does not always have to be the case.

Relative supras modified by 'too' are uncommitted both in English and Russian; witness (22)-(24). Observe that Russian has two synonymous adverbs corresponding to the English *too* − *sliškom* (example 23) and *čerescur* (example 24). The former is neutral, and the latter is more informal.

(22) The grandfather's clock was **too tall** for the shelf. So it stayed 70 years on the floor. (BNC)

[6] Committed uses are also called *contrastive*, and impartial uses are sometimes labelled *nominative* (e.g. Clark 1970b; Bierwisch 1989; Ryalls 2000; Sera & Smith 1987).

(23) Яблони были **слишком** **высоки** для меня,
apple.trees-NOM were too high-(SF)PL for me-GEN

и я, кажется, не ела яблок. (RNC)
and I seems-IMPERS.REFL NEG ate-SG.F.IPFV apples-GEN

'The apple trees were too high for me, and I don't think I ate the apples.'

(24) Он был высок ростом – немного **чересчур**
he was-M high-(SF)SG.M stature-GEN a.little too

высок даже для сцены. (RNC)
high-(SF)SG.M even for stage-GEN

'He was tall – even a bit too tall for the stage.'

Notice that the Russian adjectives in (23) and (24) have short forms. A major difference between long and short forms of Russian dimensional adjectives is that the former tend to characterise an entity as a representative of a comparison class, whereas the latter usually denote an undesirable excess of the property in particular circumstances. For further discussion, I refer the reader to Section 6.4.7.

Sub terms used in this construction are impartial in English (example 25), but committed in Russian (example 26). Thus, in the latter case, not only an incidental maximum, but also a cognitive zero is relevant. Put another way, the subject in (26) is not only short for particular purposes; he is also short with respect to some expected average.

(25) She scanned the barn, but was **too short** to see much**,** especially in the uncertain light. (BNC)

(26) Ира перевела взгляд на зятя,
Ira-NOM tansfered-SG.F.PFV look-ACC on son.in.law-ACC

сгорбившегося над журнальным столиком,
stooping-SG.M.ACC above journal-ADJ.SG.M.INS table-DIM.INS

чересчур **низким** даже для человека,
too low-(LF)SG.M.ACC even for man-GEN

сидящего на диване, особенно такого
sitting-SG.M.GEN on sofa-LOC especially such-SG.M.ACC

крупного. (RNC)
big-SG.M.ACC

'Ira shifted her gaze to her son-in-law stooping over a coffee table. He was too short even for a man sitting on a sofa, especially for such a big man.'

Bierwisch (1989) suggests that a sub term modified by 'enough' is always norm-related. Thus, *He is tall enough* only means that one's height is sufficient for particular purposes, whereas *He is short enough* means that the subject's height sufficiently diverges from the standard value in the direction of the minor pole. This generalisation works for languages such as English, German, and Dutch (compare examples 27 and 28), but not for Russian, where both subs and supras are committed in combination with *dostatočno* 'enough', as in (29) and (30).

(27) She was not quite **tall enough** to reach things around the kitchen, but she kept a small box in the outhouse which she brought in and stood on in order to get whatever she wanted. (BNC)

(28) I thought with this hat this dress was **short enough**. (BNC)

(29) Чтобы птицы гнездились на вашем
so.that birds-NOM nest-SBJV.PL.IPFV on your-SG.M.LOC

участке и летом "отрабатывали" вашу
plot-LOC and summer-INS work.off-SBJV.PL.IPFV your-SG.F.ACC

зимнюю заботу о них, надо
winter-ADJ.SG.F.ACC care-ACC about them-LOC need-IMPES

строить и развешивать на деревьях
build-INF.IPFV and hang.around-INF.IPFV on trees-LOC

домики: скворечники на высоте 5-6 м,
houses-DIM.ACC startling.houses-ACC on height-LOC 5-6 m

а синичники – в 2-3 м от земли. Если
CONJ titmouse.houses-ACC in 2-3 m from ground-GEN if

в саду пока нет **достаточно высоких**
in garden-LOC yet NEG sufficiently high-(LF)PL.GEN

деревьев, то домики устанавливают на шестах. (RNC)
trees-GEN then houses-DIM.ACC mount-PRS.INDF on poles-LOC

'If you want birds to nest in your garden and "work off" for the care you took of them in the winter, you should make birdhouses and fix them in the trees: starling houses as high as 5 or 6 meters, and titmouse-boxes as high as 2 or 3 meters from the ground. If you do not have trees tall enough in your garden yet, you can fix the houses on poles.'

(30)

Roomba	не	имеет	большой	высоты.	Он
Roomba	NEG	has	big-SG.F.INS	height-INS	3.SG.M

достаточно	**низкий**,	чтобы	пройти	под
sufficiently	low-(LF)SG.M.NOM	so.that	pass-INF.PFV	under

кроватью	или	другой	мебелью. (http://ru.wikipedia.org)
bed-INS	or	other-SG.F.INS	furniture-INS

'The Roomba is not high. It is low enough to fit under your bed or other furniture.'

The English constructions *so…that*, *such … that*, and their Russian counterparts *takoj … čto* 'so …that', *stol' … čto* 'so much … that' also belong to consequential grading constructions. In this case, however, even supras are interpreted vis-à-vis both an incidental maximum and a cognitive zero. Witness (31) and (32):

(31) All she could see of him from this angle was that he was a very large man, broad as well as tall --; **so tall that** he had to bend his head over his task. (BNC)

(32)

Ежевичная	изгородь	была	**такая**	
blackberry-ADJ.SG.F.NOM	hedge-NOM	was-F	so-SG.F.NOM	

густая	и	**высокая**,	**что**	даже	забор
dense-(LF)SG.F.NOM	and	high-(LF)SG.F.NOM	that	even	fence-NOM

не	был	нужен. (RNC)
NEG	was-M	needed-(SF)SG.M

'The blackberry hedge was so thick and high that even a fence was not needed.'

Degree adverbs participating in the consequential grading constructions (*too, enough, sliškom, čeresčur, dostatočno*) are different from the degree modifiers discussed in Section 5.4.3 in that they construe degree in terms of totality, rather than scalarity. The focus is on consequences of reaching the minimum (*enough, dostatočno*) or succeeding the maximum (*too, sliškom, čeresčur*). I will return to these issues in Section 6.3.2.4,

where I will suggest that this meaning is associated not only with the correlating degree constructions discussed here, but can also be assigned to bare adjectives.

To summarise, English relative adjectives are norm-free in combinations with *too*. In addition, English supras are interpreted irrespective of the cognitive zero when modified by *enough*. Russian supra terms are norm-free in combination with *sliškom* 'too' and *čeresčur* 'too'.

6.3.1.4. Comparatives. Petkova-Kaleva (2005: 4) argues that comparatives may shift the property towards the cognitive-zero area or across the cognitive-zero region, i.e. to the opposite side of the scale. Although it is certainly true that comparatives are not confined to the absolute construal and can operate over the whole scale (at least, in monoscalar systems, see Bierwisch 1989, Croft & Cruse 2004; Cruse 1976, 1986), I do not agree with Petkova-Kaleva on a very basic point, namely that the cognitive zero is involved in making *all* comparative judgements. I would rather suggest that in most comparative constructions, the cognitive zero is not relevant at all (cf. Bierwisch 1989; Lyons 1977, I: 274ff.; Pocelujevskij 1977). By way of illustration, consider the following example:

(33) Some of the palm trees look taller than the elm trees in our wood. (BNC)

The comparative *taller* in (33) does not say anything about the actual height of the trees. The only fact that matters here is that the height of the palm trees exceeds the height of the elms. Sentence (33) can therefore apply to one of the situations depicted in Figure 6.1. One possibility is that the elms are in the sub zone and the palms are in the supra zone, see (a). They can both be on the same side of the cognitive zero (b and c). One of them can be in the cognitive-zero area (d and f). Even both the elms and the palms can be in the cognitive-zero region (g). However, the sentence itself says nothing about the position of the trees involved on the scale of height, chiefly due to the fact that it is irrelevant information. Comparatives are used to set the ordering relationship between two (or more) profiled entities – a trajector (palm-trees in our example) and a landmark (elms). Their position on the scale of height for trees vis-à-vis the cognitive zero is simply not relevant here.[7]

[7] Basically, the same holds for superlative constructions. I will discuss the issue in the next chapter.

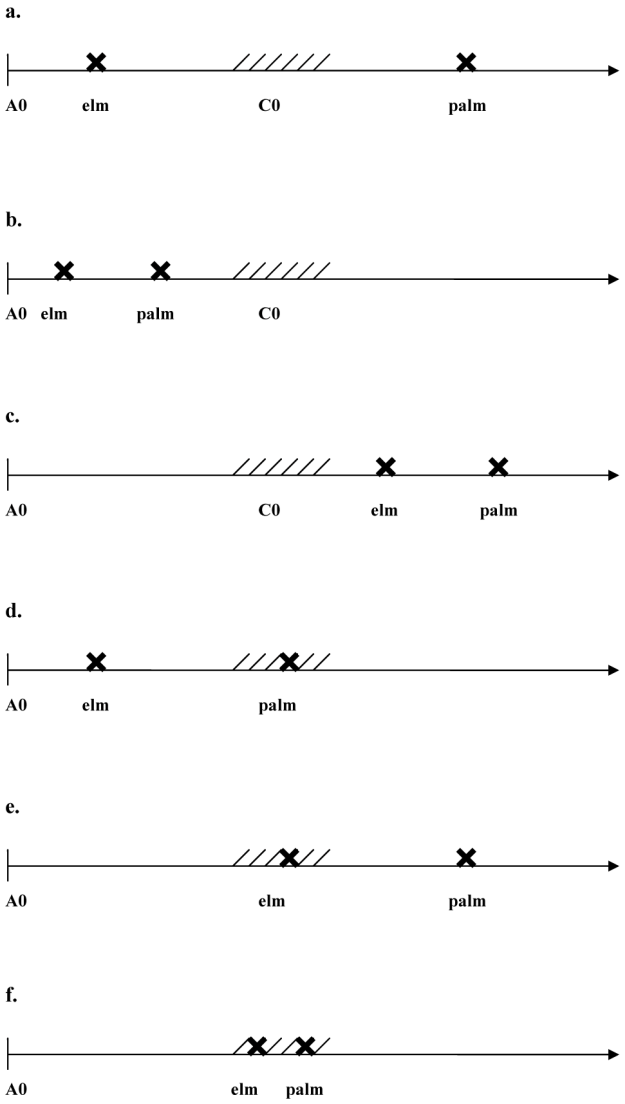

Figure 6.1. The palms are taller than the elms

This does not, however, mean that a committed construal of comparatives is impossible. Contextual information and/or the use of specific constructions can impose the cognitive zero on the analysis of comparatives. I will discuss such cases in

Section 6.4.6. For now, let us continue the overview of pitfalls of the approach, based *entirely* on comparison classes and standard values.

6.3.2. Bare adjectives

6.3.2.1. Introduction. In this section, I will present counterarguments to a well-established view that "the positive of dimensional adjectives without a complement is *always* norm-related" (Bierwisch 1989: 95, my italics). Let us start with a few examples from Taylor (1992), who suggests that the interpretation of the bare relative adjective *old* does not always evoke a norm. Whether the adjective is interpreted with reference to a norm or irrespective of it, is determined by context and by the semantic properties of the modified noun. The following passage deserves to be cited in full:

> For example, the interpretation "N of long standing" requires that the designated entity be construed with respect to its participation in a relation which endures for a period of time in excess of some norm. The interpretation is only available in those cases where it is possible to assign a value to the norm. This is likely to be especially problematic if a relation is defined over the lifetimes of the participating individuals. Consider, for example, consanguineous kinship relations. These relations simply persist, they may not be voluntarily initiated or terminated, and there is consequently little basis for establishing a durational norm. (What would be the norm for the relation of the brother-sister relation?) Even when a norm can be established, it may make little sense to say that the norm has been exceeded. This would be the case with relations which are of short, or predetermined duration. Consider the teacher-pupil relation. The duration of the relation is contingent on the pupil's attendance at an educational institution, and while the duration of the pupil's attendance may vary, it does so only within a fairly narrow range. So while it might be possible to establish a durational norm, it is unlikely that in any particular case the norm could be exceeded by a significant amount. Hence *my old mathematics teacher* is not likely to be interpreted as the "mathematics teacher I have had for a period of time in excess of the norm" (Taylor 1992: 21-2).

The examples provided by Taylor in the passage quoted above are very instructive, since they show that it is only in some cases that the cognitive zero is relevant to the interpretation of relative adjectives in the positive form. It would therefore be strange to apply this CRP in every type of context and in every type of construction where a positive adjective is used. I admit that there *are* contexts, where the cognitive zero is crucial to the interpretation of scalars. But there are more than enough situations, where these adjectives are interpreted vis-à-vis some other type of refer-

ence-point, such an incidental landmark, EGO or an endpoint of the gradual scale (min/max). This issue is rarely raised in semantics, where the vast majority of studies of spatial adjectives (and relative adjectives, in general), take the overall applicability of the standard-value analysis as a given, well-established and self-explanatory phenomenon.

In the previous section, I have shown that there are several constructions in both English and Russian that strongly suggest a norm-free interpretation. The fact that, for example, comparatives and consequential grading constructions are normally interpreted irrespective of the cognitive zero is not new. For instance, Lyons (1977, I: 274ff.), among others, distinguishes between the use of relative adjectives in comparatives and *too*-constructions from the attributive and predicative uses of bare relative adjectives. He suggests that the former are more exceptional uses, in the sense that the standard of comparison has to be established from the context or otherwise. The latter, norm-related uses, on the contrary, are supposed to be more common. So, the argument goes, *Our house is big* is generally interpreted as 'our house is bigger than a normal house', or 'our house is big for a house'. However, what Lyons' analysis does not capture is the fact that not only *too*-constructions and comparatives, but also bare uses of relative adjectives can be interpreted without reference to an average value of a comparison class, as suggested by Taylor's examples quoted above. In other words, what Lyons postulated for comparative and consequential grading constructions, may as well hold for all types of constructions in which relative adjectives occur. For instance, *Our house is big* can also mean that the house is too big to clean it ourselves, or that it is bigger than our friends' house, or that it is big enough to hold a party in it, etc. In all these uses, neither the comparison class nor the cognitive zero are needed for the processing of *big* (cf. Graff 2000). However, in the relevant context, language users are not likely to have any trouble with interpreting the utterance along these lines.

In a similar fashion, Ebeling & Gelman (1994) suggest that a sentence like *The hat is big* may have, at least, three different interpretations: a *normative* one (bigger than an average hat), a *perceptual* one (e.g. bigger than the hat next to it), and a *functional* one (e.g. too big for a tiny doll). Importantly, only one of these three readings (the normative one) has to do with the cognitive zero; the other two are not contingent on the average value. Yet neither the perceptual, nor the functional readings are odd. On the contrary, they are quite normal and frequent. Ebeling & Gelman (1994) have shown that even 2-year-old children are sensitive to the difference between the three readings. They, however, switch more easily from a normative context to a perceptual/functional one than the other way around, probably due to abstractness of the former and visual salience of the latter. This suggests that per-

ceptual and functional readings are not only usual, they even tend to be more cognitively salient than the interpretation vis-à-vis the cognitive zero.

In the same vein, Sera et al. (1988: 1495) found that 2-year-olds "may accurately represent the size when size is critical to the use of the object", to its "intended purpose as opposed to knowledge of an object's 'average' size". The experimental results obtained by Sera and colleagues demonstrate that only by the age of 4 or 5 children acquire a sufficient amount of knowledge about normal sizes of things, whereas already at 2 years of age toddlers are perfectly able to accurately choose shoe sizes *for different people* (but see Gelman & Ebeling 1989).

In the following subsections, I will first consider the perceptual and functional readings of dimensional adjectives in the positive form. After that, I will discuss some other frequent uses of bare dimensional adjectives that are not related to the cognitive zero. The main purpose of this section is to show that positive adjectives do not have to be *always* related to the cognitive zero. Rather, they are often interpreted vis-à-vis other CRP types.

6.3.2.2. Perceptual reading. Results similar to those reported in Ebeling & Gelman (1994) were also provided by Syrett et al. (2005). In a series of experiments they noticed that children as young as three were able to operate on a perceptually defined standard of comparison (see also Syrett 2007, Experiment 1). For instance, when asked to give *the long one*, the children understood that the longer of the two objects was meant, no matter if the entities were long or short vis-à-vis the average of a comparison class. In a similar vein, Braine (1976) reports that his son Jonathan, in his second year of life, often contrasted adjectives *big* and *little* in consecutive sentences to compare the size of two objects. He could, for instance, say *Big stick, little stick* meaning that one stick was bigger than the other. Similarly, Goodglass et al. (1972) report that an aphasic subject in a longitudinal study expressed comparative relations by juxtaposing positive forms of adjectives (e.g. *Boy little, girl big*). Interestingly enough, some languages with agglutinative or fusional morphology have only this way of expressing comparison (Cuzzolin & Lehmann 2004; Longacre 1985). Critically, such uses of the positive form are not oriented to the cognitive zero.

Another good example of a perceptual (norm-free) reading of scalars is the use of dimensional adjectives in the nominating function (Pocelujevskij 1977: 62). For instance, in Russia it is very common to refer to two namesake friends (or colleagues) using the adjectives *bol'šoj* 'big/large'/*malen'kij* 'little/small'. Thus, if you have two friends named *Tolik*, you are very likely to call them *Tolik bol'šoj* 'Tolik big' and *Tolik malen'kij* 'Tolik small' to make sure the addressee picks out the right one.

Crucially, Tolik 1 does not have to be large vis-à-vis the average height of (male) humans, nor is Tolik 2 necessarily undersized. In this use, the cognitive zero is not relevant; what matters is the incidental CRP – the relative height of the other namesake. Consider also the following examples from the corpora:

(34) He was tall. That was the first thing Ruth noticed about him. Head and shoulders above everyone else in the Guadalquivir suite of the Seville hotel where Iberia International Airlines were holding a promotional cocktail party. (BNC)

(35) For example, a person witnesses the following events in a swimming pool: A tall adolescent boy walks purposefully up behind a small coloured child and pushes him strongly into the pool. (BNC)

(36) Может быть, за это, а еще за
may-IMPERS be-INF for this-N.ACC CONJ still for

длинные желтые волосы, высокий
long-(LF)PL.ACC yellow-PL.ACC hair-PL.ACC high-(LF)SG.M.ACC

рост и тонкую талию и
stature-ACC and thin-(LF)SG.F.ACC waist-ACC and

полюбил меня на всю свою
fell.in.love-SG.M.PFV.TR me-ACC on all-SG.F.ACC one's-SG.F.ACC

жизнь прекрасный тайский юноша,
life-ACC beautiful-(LF)SG.M.NOM Thai-ADJ.SG.M.NOM youth-NOM

который едва доходил мне до
which-SG.M.NOM barely reached-SG.M.IPFV me-DAT up.to

плеча. (RNC)
shoulder-GEN

'Maybe due to this, as well as due to my long yellow hair, high stature and thin waist, I became for the beautiful Thai youth, who barely reached my shoulder, the love of his life.'

(37) Главный критерий при выборе цвета для
main-SG.M.NOM criterion-NOM at choice-LOC colour-GEN for

высокого здания, стоящего в шеренге
high-(LF)SG.M.GEN building-GEN standing-SG.N.GEN in rank-LOC

других	домов, –	ориентация	на	цвет
other-PL.GEN	houses-GEN	orientation-NOM	on	colour-ACC

соседских	строений. (RNC)
neighbouring-ADJ.PL.GEN	constructions-GEN

'The main criterion for choosing the colour of a tall building standing in the row of other houses is the orientation to the colour of the surrounding buildings.'

What all these examples have in common is that the cognitive zero recedes into the background in favour of the perceptually salient incidental benchmark. For instance, the use of *tall* in (34) is sanctioned by the fact that the referent was "head and shoulders above everyone else" in the objective perceptual scene. Similarly, (35) does not imply that the adolescent was tall for his age and the child was small vis-à-vis the average size of children of his age. What probably matters here is that the adolescent is tall with respect to the child, who, in his turn, is small as compared to the adolescent. In (36) we receive no information about the woman's height relative to the average height of her own nation; in those terms she might as well be of medium height. The only assertion made by the communicator is that, *compared to the Thai youth*, she was tall. His height therefore serves as an incidental landmark for making judgments about the woman's height. Quite in a similar way, the building in (37) does not have to be intrinsically tall. Rather, (37) is an instruction concerning the choice of a colour for a house *taller than the neighbouring buildings*.

The fact that sentences such as (34)-(37) are by no means unusual strongly suggests that the well-established analysis of relative adjectives along the lines formalised in (38) cannot be applied throughout.

(38) **X is *A* = X is *A*-er than n**, where X is a subject,
A is a adjective, and n is a norm.

This is not to say though that judgments like (38) are never applicable. In Chapter 5, I have shown that they *are*. More examples of this will be given in Section 6.4. However, it is crucial not to overestimate the applicability of (38), since very often the average value (cognitive zero) is substituted by another CRP type, one of them being an incidental landmark of the kind illustrated in this section.

6.3.2.3. Functional value. Another type of a norm-free reading is the meaning typically associated with the consequential grading constructions discussed in 6.3.1.3. In the introduction to the present section, I have already made an observa-

tion that an expression such as *Our house is big* does not necessarily mean that the house has the property SIZE in excess of some norm. It may as well be used to mean that the house is big enough for a wedding party, even if it is the smallest house in the neighbourhood. It could also mean that the house is too big for a particular purpose, for instance, to clean it on your own. All these interpretations are very normal, though none of them is associated with the cognitive zero. Consider also the following example from Pander Maat (2006):

(39) Wow, this mountain is high!

One of the possible interpretations of (39) is norm-related, i.e. a mountain could be dubbed *high* by virtue of exceeding the average height of mountains. Another possible reading is a perceptual one, in the sense outlined in Section 6.3.2.1: the mountain may stand out from the rest of the mountain range; this interpretation has nothing to do with the cognitive zero. Yet another possibility is that (39) is uttered by a person climbing the mountain. In this case, (39) could mean something like 'this mountain is difficult to climb'. The property can thus be associated with the consequence attached to it.

Functional readings are very frequent and present a serious alternative to the norm-oriented interpretation. This claim was supported by native-speaker intuitions of my Russian informants. I asked several people to describe objects in terms of tallness in natural settings (e.g. in the garden). After that, I asked them to explain why they chose a particular expression. An interesting thing about their answers is that they often gave functional responses along the lines discussed here. For instance, they would call a fence *nevysokij* 'not.high' and then explain their choice by saying that they could see the neighbours behind the fence. Thus, the fence was called 'not.high' because it was not high *enough* to bring the neighbours out of sight. Or, in a similar vein, they would call the heels *vysokie* 'high' and motivate their choice by the fact that it was hard to walk on them. The wall that was dubbed *nizkaja* 'low' was said to be easy to climb over.

It is interesting to observe that the books meant to teach dimensional adjectives to children sometimes include tasks that should be fulfilled in functional terms. For instance, in Diane Nieker's (2007) book *Tall and Short*, the meaning of *tall* is explained on the basis of the following example (accompanied by the corresponding illustrations): "Some of the animals are tall. The giraffe is the tallest animal in the world. Giraffes eat leaves. The giraffe is so tall that it can reach leaves high up in the tree". The meaning of *short* is also explained in terms of a consequence:

"Very young children are short. This boy is too short to reach the toy up on the table. His mother will need to get the toy for him".

The analysis of 15 longitudinal transcripts from the CHILDES database undertaken as part of a case study reported in Chapter 9 strongly suggests that in child-directed speech adjectives such as *tall* are predominantly used to provide a recommendation to do or not to do something, rather than by way of comparing the reference value to some average standard. For instance, a toy train can be dubbed *tall* if it cannot go under a bridge. Or a doll can be called *tall* if it does not fit in the train. Similarly, a Lego tower is often dubbed *tall* as a warning that it is getting too tall and can therefore collapse. The adverbs *too* and *enough* are abundant in the adult input and appear in combination with dimensional adjectives early in development. Very often, however, the correlative degree meaning is expressed by the adjective alone, thus without modification by *too*, *enough,* or other consequential degree markers. In the same vein, Ehri (1976) observed that children between 4 and 8 years of age link the semantics of relative adjectives with basic action schemes. For instance, *heavy objects* are hard to lift, not easy to carry or pick up.

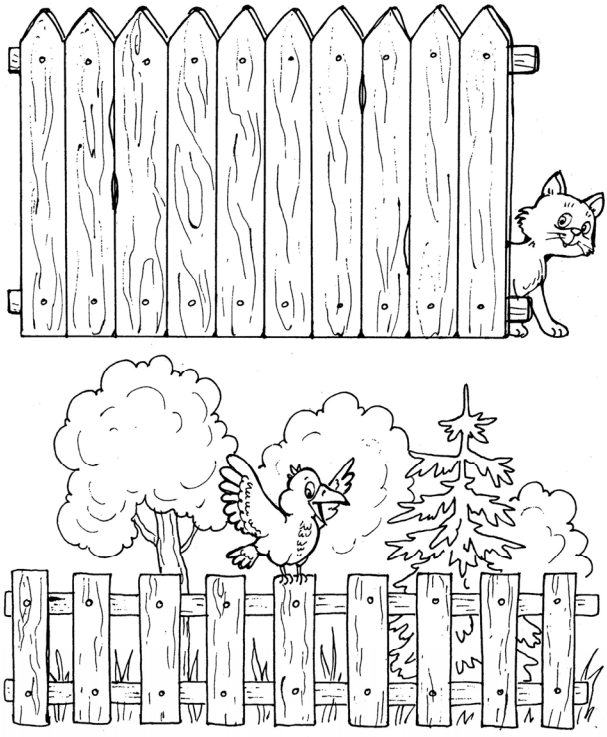

Figure 6.2. The high fence and the low fence (Gavrina et al. 2005)

In this connection, consider also Figure 6.2. It is a picture from Gavrina et al.'s (2005) book *Bol'šoj-malen'kij, vysokij-nizkij* 'Big-little, high-low'. In the task accompanying this illustration, children are asked to colour the high fence yellow and the low fence brown. As illustrated by Figure 6.2, the difference between the two fences is that the low fence allows you to see the trees behind it, whereas you can see nothing behind the high fence.[8]

Compare in this respect the following examples from the RNC:

(40)

Почти	что	во	всем		поселке		**заборы**
almost	that	in	whole-SG.M.LOC		settlement-LOC		fences-ACC
высокие			понастроили,	что	за	ними –	
high-(LF)PL.ACC			built-INDF.PVF	what	behind	them-INS	
не	видать,	а	на	этой	даче,	хоть	
NEG	see-INF.IPFV	CONJ	on	this-F.LOC	dacha-LOC	though	
жил	здесь	знаменитый			человек,	все	
lived-SG.M.IPFV	here	famous-(LF)SG.M.NOM			man-NOM	all	
тот	же	штакетничек	подгниловатый. (RNC)				
that-M.NOM	PCL	fence-DIM.NOM	a.bit.rotten-NOM				

'High fences have been built almost all over the village; nobody can see what is hidden behind them. But this dacha, although it belonged to a famous person, is surrounded by a shabby fence.'

(41)

Невысокие	(до	80 см)	**заборчики**		
not.high-(LF)PL.NOM	up.to	80 cm	fences-DIM.NOM		
призваны	не	ограждать,	но	лишь	окаймлять
called-(SF)PL	NEG	enclose-INF.IPFV	but	only	edge-INF.IPFV
участок,	а	посему	могут	быть	использованы
lot-ACC	CONJ	therefore	may-3.PL	be-INF	used-(SF)PL
лишь	в	тех	загородных		жилых
only	in	those-LOC	out.of.town-ADJ.PL.LOC		dwelling-ADJ.PL.LOC

[8] The dimensions of the animals (first of all, the cat) could also be relevant in this case. Their height might be said to be an incidental reference point for making spatial judgments about the fence.

комплексах, где налажена централизованная
complexes-LOC where settled-(SF)SG.F centralised-(LF)SG.F.NOM

охрана всей территории. (RNC)
guarding-NOM whole-SG.F.GEN territory-GEN

'Low (up to 80cm) fences are supposed not to enclose, but only to curb the garden, and can therefore be used only in those out-of-city residential areas where the centralised security system is well-organised.'

(42) И ещё оставался **низкий** **забор**, через
and still remained-SG.M.IPVF low-(LF)SG.M.NOM fence-NOM through

который можно перемахнуть при случае,
which-SG.M.ACC may-IMPERS swing.over-INF.PFV at occasion-LOC

обхитрить погоню, забежать с другой
deceive-INF.PFV pursuit-ACC run.behind-INF.PFV from other-SG.F.GEN

стороны. (RNC)
side-GEN

'There was also a low fence left, over which you could swing, if you needed to deceive the pursuers, and hide behind it.'

The contexts of (40)-(42) give enough cues about what counts as a high or low fence: a high fence is the one that hides something from vision, and a low fence is easy to climb over, since it only curbs the lot without completely concealing it. In these cases the cognitive zero is far less relevant than the function of the fence and/or the consequence attached to its height (cf. Rakhilina 1990). Consider also the following example from English:

(43) Players from around the world, both famous professionals like Omar Sharif and amateurs like[9] compete for major cash prizes around scattered tables. Each player is separated from his or her partner by a **tall screen** placed diagonally across the table to restrict their communication. The social side of bridge may be what attracts to the game but here he can neither talk to nor see. He bids with specially marked chips and passes his cards through a slot at the bottom of the screen. (BNC)

Even if the recipient has never seen screens used in bridge and thus knows nothing about their standard dimensions, it does not make (43) unintelligible for one simple

[9] Note that one or more words are probably missing in this segment of the BNC.

reason – the average is not relevant here. It is only important that the screen is tall enough to restrict communication between partners playing bridge.

To an approach claiming for the overall relevance of the norm, the functional reading is even more of a challenge than the perceptual reading discussed in the previous subsection. For the perceptual reading, it could be suggested that the comparison class is reduced to one or two members only. For instance, you may pronounce (44) after having not seen your little niece for six months, meaning that she is bigger than the last time you saw her.

(44) You are so big!

In this case, it could be argued that the comparison class is reduced to one person, the subject six months ago (see also Graff 2000). In the case of functional readings, this approach would run into even greater troubles. Consider (45):

(45) You are big, this dress will not fit you.

One could utter (45) referring to the same niece, who is trying to put on the dress she used to wear six moths ago. So she is already too big for the dress. In this case, the proponent of the norm-only approach will have to admit that the reference value is interpreted vis-à-vis a comparison class which *does not even include* the referent, which would be, at least, a very dubious move.

6.3.2.4. Argumentative zero. As illustrated by the examples in Section 6.3.2.3, dimensional adjectives are often used not to establish a relation of the entity to the norm, but to suggest a particular conclusion. In (43), for instance, a tall screen is a screen that precludes partners at bridge from communicating with each other. In (45), *big* is not meant to say something about the girl's position on the growth curve; rather, it prompts a conclusion of the following kind: do not try to put on the clothes of six months ago, they won't fit. To quote Verhagen (2005):

> Saying that someone is tall, in this view, does not primarily provide information about that person's length, but counts as a recommendation of some kind (depending on the topos being activated), for example, to select him for the basketball team, or not to select him as a jockey. Notice that a person being called 'tall' in the jockey-selection situation may be shorter than a person rejected for the basketball team because he is 'short'. <…> In this case, knowing what the relevant topos is (e.g. the taller someone is, the better the chance that he will make a good basketball player), and knowing something about the average length of persons in general and basketball players in particular, we can make certain guesses about the range of possible actual sizes for the

> person involved. But this is not *primary* in the conventional knowledge activated by the word *tall*. Activation of a scale of length that allows inferences about a person's actual height is dependent on knowledge of the relevant argumentative scale, not the other way around (Verhagen 2005: 13).

On this view, the cognitive zero, though not completely irrelevant, plays only a secondary role in actual language use. It is only in a fairly restricted number of situated activities that the average value receives overall primacy (e.g. in making statistical reports on the development curves of babies or making technical classifications of plants, see Section 6.3.2.5). In many cases, the argumentative value attached to the degree of the property would be more important than the cognitive zero. By way of illustration, consider the following example:

(46) Wapnick is tall and long-limbed, and he uses his reach to cut the ball off early in flight and to dig it out of the corners. (BNC)

Although Wapnick's relative height vis-à-vis the average height of baseball players could be relevant here, it is probably less important than the fact that he is tall enough "to cut the ball off early in flight". Doing well in the game is the consequence attached to the degree of the property within the relevant topos. This consequence is introduced by *and*. The fact that being tall suggests positive conclusions in the context of baseball precludes the use of *but*; witness (47):

(47) #Wapnick is tall and long-limbed, **but** he uses his reach to cut the ball off early in flight and to dig it out of the corners.

But is infelicitous in this context, because its function is to cancel the inference suggested by *tall*. Since on the topos at hand, being tall suggests performing better, the positive inference cannot be introduced by an adversative conjunction. Consider another example, this time from the Russian corpus:

(48) Но, конечно, Карадаг – гора
but certainly Karadağ-NOM mountain-NOM

невысокая и обжитая. (RNC)
not.high-(LF)SG.F.NOM and inhabited-(LF)SG.F.NOM

'But Karadağ is certainly a mountain that is low and inhabited.'

The fact that the mountain is 'not.high' is one of the factors that renders it habitable. The medium height of mountains (cognitive zero) is less relevant than the

consequence attached to being 'not.high' enough to live on. It is noteworthy that the conjunction *i* 'and' in (48) cannot be substituted by *no* 'but', unless we substitute the adjective as well ('The mountain is high, but inhabited').

Much in the same line, Pander Maat (2006) suggests that the analysis of relative adjectives along the lines formalised in (38) should be substituted by the analysis in (49):

(49) **X is *A* = X is so *A* that C**, where X is a subject, A is an adjective, and C is a consequence attached to a degree of the property

(49) is consistent with the analysis presented above, in the sense that Wapnick in (46) is dubbed *tall*, because he is tall enough to perform well in baseball, and Karadağ in (48) is 'not.high' enough to be habitable. Pander Maat calls this CRP type *argumentative zero*, see Figure 6.3.

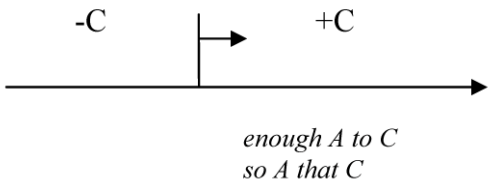

Figure 6.3. Argumentative zero (Pander Maat 2006)

The argumentative zero is the area to the left comprising the values that are not strong enough to support the conclusion (-C). The realm of the argumentative zero stops at the point, where the value of the property (e.g. TALLNESS) is sufficient to support a particular conclusion (+C). Pander Maat claims that this CRP type is primary not only in consequential grading constructions, but also for bare uses of relative adjectives, where the consequence associated with the degree has to be constructed by the conceptualiser from the contextual clues available. On this view, grading is analysed in terms of argumentative strength. Degree modifiers are therefore considered as means to strengthen or attenuate the conclusion motivated by the bare adjective.

Normally, the addressee is perfectly able to infer the consequence attached to the property due to the fact that these conclusions are facilitated by general cultural models mapping norms on to a scale (Johnson 1987: 122). For instance, knowledge of contemporary standards of beauty prompts a very common inference TALL =>

ATTRACTIVE. Note the use of the coordinating conjunctions confirming this inference in (50)-(54):

(50) He was tall **and** strong and beautiful but he could never think like a man or a king. (BNC)

(51) The girls were tall **and** slim, and quite strikingly beautiful. (BNC)

(52) She is tall **and** fair and fair-skinned, a nice green dress, good-looking I should say, although it was artificial light and I should think she looks very different in the day time… yes, I should think very different. (BNC)

(53) Но ведь я еду с ним, – и она показала
but PCL I go-1.SG with him-INS and she showed-SG.F.PVF

на высокого **и** красивого, который
on high-(LF)SG.M.ACC and beautiful-(LF)SG.M.ACC which-SG.M.NOM

не смотрел на нас. (RNC)
NEG looked-SG.IPVF on us-ACC

'But I am going with him, – and she pointed to a tall and handsome man who was not looking at us.'

(54) Был он высок, элегантен **и** горд. (RNC)
was-M he high-(SF)SG.M elegant-(SF)SG.M and proud-(SF)SG.M

'He was tall, elegant, and proud.'

If the positive inference suggested by 'tall' has to be cancelled, an adversative conjunction must be chosen. Compare (55) with (56) and (57):

(55) My father is tall and slim, though slightly stooped. (BNC)

(56) #My father is tall and slim, and slightly stooped.

(57) #My father is tall and slim, though perfectly straight.

The use of *and* suggests that the positive inference prompted by *tall* will be built upon, which makes (56) incongruous. The use of *though* suggests that the positive effect of *tall* (and *slim*) is going to be cancelled, which renders (57) infelicitous.

On this topos, the use of *short* and *nevysokij* 'not.high' suggests a negative conclusion about the subject's appearance. If this negative inference is supported by

the following context, a coordinating conjunction is used; see (58)-(60). If the negative conclusion is cancelled, an adversative connector should be employed, as in (61)-(63).

(58) She was short **and** square, with a small head poked forward, long swinging arms and a bent-kneed running walk. (BNC)

(59) Apart from that she was unremarkable, short **and** stocky, solid-breasted, round-shouldered, with sturdy hips and ankles, not yet fat but genetically programmed for early obesity. (BNC)

(60)

Начальницу	Свету –	ленивую,	с	расшлепанным		
chief-F.ACC	Sveta-ACC	lazy-(LF)SG.F.ACC	with	smacked-SG.M.INS		
носом,	невысокую	**и**	неопределенного			
nose-INS	not.high-(LF)SG.F.ACC	and	indefinite-(LF)SG.M.GEN			
цвета –	встречал	начальник	Борис			
colour-GEN	met-SG.M.IPFV	chief-M.NOM	Boris-NOM			
Иванович	Котляров,	старая	красная			
Ivanovich-NOM	Kotlyarov-NOM	old-(LF)SG.F.NOM	red-(LF)SG.F.NOM			
морда	торчала	из	аккуратного			
muzzle-NOM	protruded-SG.F.IPFV	from	neat-(LF)SG.M.GEN			
костюма	с	галстуком. (RNC)				
suit-GEN	with	tie-INS				

'Our female boss Sveta, a lazy woman with a broad nose, somewhat short in stature and of uncertain colour, used to be picked up by our male boss Boris Ivanovich Kotlyarov, whose old red mug stuck out from his neat suit with a tie.'

(61) Sanchez-Vicario also, of course is equally tough and she attacks every ball so well. She has very strong legs. She can stay on court for 6 or 7 hours. She was built strong. She is a little short **but** she has these other advantages. Her strength is so important to her game. All Players must have this strength if they are to succeed at the top level. (BNC)

(62)

Брат	был	ладен	фигурою,	невысок**,**		
brother-NOM	was-M	fine-(SF)SG.M	stature-INS	not.high-(SF)SG.M		
но	красив;	был	он	к	тому	же, в
but	beautiful-(SF)SG.M	was-M	he	to	that-DAT	PCL in

отличие	от	меня,	чистюлей. (RNC)
difference-ACC	from	me-GEN	trig.lad-INS

'My brother had a nice stature, somewhat short, but handsome. In addition, unlike me, he was a trig lad.'

(63)

Он	был	человек	невысокий**,**	**но**
he	was-M	man-NOM	not.high-(LF)SG.M.NOM	but

ладный,	с	умным	и
fine-(LF)SG.M.NOM	with	clever-(LF)SG.N.INS	and

красивым	лицом. (RNC)
beautiful-(LF)SG.N.INS	face-INS

'He was somewhat short, but good-looking, with a clever and beautiful face.'

Sometimes the argumentative grading is already established by the noun. The function of a relative adjective is then to strengthen the conclusion suggested by the modified noun (Pander Maat 2006). Consider (64):

(64)

У	нее	горело	лицо	и	стучало
by	her-GEN	burnt-SG.N.IPFV	face-NOM	and	beat-PST.SG.N.IPFV

сердце,	а	я	спала	в	соседней
heart-NOM	CONJ	I	slept-SG.F.IPFV	in	neighbouring-SG.F.LOC

комнате, и	над	моей	детской	кроваткой
room-LOC and	above	my-SG.F.INS	child's-ADJ.SG.F.INS	bed-DIM.INS

висел	тканый	коврик,	на
hang-SG.M.IPFV	woven-SG.M.NOM	carpet-DIM.NOM	on

котором	огненно-рыжая	лиса	волочила
which-SG.M.LOC	fire.red-(LF)SG.F.NOM	fox-NOM	dragged-SG.F.IPFV

в	зубах	растрепанного	белого
in	teeth-LOC	tattered-(LF)SG.M.ACC	white-SG.M.ACC

петуха,	уносила	его	куда-то
rooster-ACC	brought. away-SG.F.IPFV	3.SG.M.ACC	where.PCL

за	**синие**	леса,	за	**высокие**
behind	dark.blue-(LF)PL.ACC	forests-ACC	behind	high-(LF)PL.ACC

горы,	в	**глубокие**	**норы**. (RNC)
mountains-ACC	in	deep-(LF)PL.ACC	holes-ACC

'Her face was burning and her heart was beating, and I was sleeping in the room next to hers, and above my cot there was a woven rug depicting a fire-red fox dragging a tattered white rooster, taking him away, somewhere across the blue forests, across the high mountains, into the deep holes.'

The adjectives *vysokij* 'high/tall' and *glubokij* 'deep' in (64) have a reinforcing function, i.e. "they are specifiers of degree at the same time as they convey an evaluation of the reliability of the proposition" (Paradis 2000b: 233). In other words, the scale of inaccessibility triggered by the nouns *gory* 'mountains' and *nory* 'holes' is only emphasised by the adjectives *vysokie* 'high' and *glubokie* 'deep'. If it is difficult to surmount the mountains and the holes, it should be even more difficult to surmount high mountains and deep holes (cf. Bolinger 1972: 283; Klein 1997: 10; Morzycki 2006). Such uses are anchored by prototypes[10] rather than cognitive zeros and are therefore problematic for the norm-based approach.

I would not go as far as to assert that *all* uses of relative adjectives are consequence-related. For instance, in perceptual interpretations discussed in Section 6.3.2.2 the adjectives are processed relative to a perceptually salient incidental standard of comparison, rather than in terms of a function or consequence. None the less, it is clear that the argumentative zero is undoubtedly a crucial (though not the only) CRP type that is of paramount importance to the interpretation of relative adjectives in general, and dimensional adjectives in particular. Critically, the relevance of the argumentative zero demonstrated in this section supports Pander Maat's hypothesis of non-primacy of the standard value. The results of the present study should not, however, be interpreted as evidence of total irrelevance of the cognitive zero. I argue that the cognitive zero *is* relevant, but not always, and not on its own. Other CRP types, such as a perceptual landmark and an argumentative zero, are often more relevant to the linguistic behaviour of dimensional adjectives than comparison classes and average values.

6.3.2.5. Classifying uses. The relevant literature abounds with examples of the gradable construal of complementary adjectives (e.g. Croft & Cruse 2004: 168;

[10] Notice that mountains are often mentioned as best exemplars of the property HIGH (Dirven & Taylor 1988; Vogel 2004). Similarly, holes may be said to be best exemplars of DEEP (e.g. Vogel 2004). I will elaborate this issue in Chapter 9.

Cruse 1986: 202-4; Kennedy 2007; Kennedy &McNally 2005; Lehrer & Lehrer 1982: 486; Lyons 1969: 462, 1977, I: 278-9; Paradis 1997: 59-61, 2001: 57-61; Rotstein & Winter 2004). For instance, in particular circumstances one can be said to be "more or less married". The opposite situation (non-gradable uses of gradable adjectives) has enjoyed less attention (Lyons 1977, I: 278; Pander Maat 2006; Sharoff 2002). However, the corpus study undertaken in this investigation has yielded numerous non-gradable uses, where dimensional adjectives serve to categorise the nominal referent, rather than to qualify it. An example of the qualifying use of the adjective *red* is the AN-combination *red shirt*. The object category is referred to by means of the noun *shirt*; the adjective is used to describe a member of this category in terms of colour. In this case, one could say that *One shirt is redder than the other* meaning that the colour of the first shirt is closer to the prototypical red colour than the colour of the second shirt.[11] In contrast, the comparative expression *My wine is redder than yours* is infelicitous, since the whole AN-combination, and not only the head-noun is used to refer to the category RED WINE. Both attributive and predicative adjectives can be used as qualifiers, whereas categorising uses are, by default, reserved for predicative adjectives (*My shirt is red.* vs. *#My wine is red*). So far, I have only considered the qualifying uses of dimensional adjectives. The classifying (categorising) uses are exemplified by sentences (65) and (66):

(65) Кремовая рубашка с короткими рукавами
cream-ADJ.SG.F.NOM shirt-NOM with short-(LF)PL.INS sleeves-INS

из того неровного хлопка, который
from that-M.GEN uneven-SG.M.GEN cotton-GEN which-SG.M.NOM

никогда не знает утюга, застиранные джинсы с
never NEG knows iron-GEN washed.off-PL.NOM jeans-NOM with

побелевшими швами на широком
turn.white-PTCP.PST.ACT.PL.INS seams-INS on wide-(LF)SG.M.LOC

поясе и **низкие** **сапожки** из
belt-LOC and low-(LF)PL.NOM boots-DIM.NOM from

неокрашенной кожи. (RNC)
undyed-SG.F.GEN leather-GEN

[11] Besides that, it could occasionally mean 'of a darker shade of red'. I thank Wim Honselaar for this observation.

'A cream-coloured shirt with short sleeves made of the crumpled sort of cotton that has never known an iron, washed-off jeans with bleached seams on a wide belt, and low boots of undyed leather.'

(66) Лечебные свойства **можжевельника**
medicinal-PL.NOM properties-NOM juniper-GEN

высокого (Juniperus excelsa) были известны еще
high-(LF)SG.M.GEN Juniperus excelsa were known-(SF)PL still

древним грекам и римлянам. (RNC)
ancient-PL.DAT Greeks-DAT and Romans-DAT

'The healing capacities of the Juniperus excelsa were already known to ancient Greeks and Romans.'

The AN-combination *nizkie sapožki* 'low boots' in (65) is not interpreted vis-à-vis the average height of boots. Rather, it is a classifying use, which serves to distinguish low boots from other types of boots. Note that in this context the adjective *nizkij* 'low/short' can only be used attributively, since predicative uses are preserved for qualifying construals (Bolinger 1967b; Paradis 2001: 51, 2005; Taylor 1992: 29-30). The interpretation of the AN-combination *možževel'nik vysokij* 'juniper high' in (66) is also norm-free. It is a technical term, a compound nominal labelling a natural kind. The construal along these norm-independent lines is emphasised by the post-position of the adjective, which is quite uncommon in Russian.[12]

6.3.2.6. Conclusion. What most accounts of relative adjectives overlook is that not only in particular constructions are relative adjectives semantically independent of comparison classes and average values. This holds for a myriad of bare uses of the positive form as well.

Norm-free perceptual, functional or/and consequential interpretations are very common and frequent in actual language use. People routinely use scalars without the slightest intention to situate an entity vis-à-vis an average. After all, average values are often too difficult to define. Rather, we regularly use these adjectives to suggest a certain conclusion, or to support a conclusion prompted by context.

[12] Adamson (2000) argues that classifying uses of adjectives can be seen as cases of objectification in the sense of Langacker (1985, 1987, 1990). Classifying uses are more objective in the sense that it is no longer up to the speaker to determine whether the entity is, say, tall or short, with respect to some reference point; the referent is conceptualised as simply belonging to a particular class. This process is accompanied by a rightward movement of the adjective within the noun phrase and by the loss of some categorical properties (e.g. the ability to be used predicatively and in non-positive constructions and the ability to take degree modifiers).

Therefore, it is by no means surprising that the argumentative zero is often more relevant than comparison classes and their average values.[13]

6.4. Nothing is black and white: cognitive zero revisited

6.4.1. Introduction

I would like to start this section with an anecdote. Once during a break, Lena, a Russian student of mine, told her group-mates a joke that goes as follows. Two former schoolmates, Sasha and Misha, meet after a long time. Misha complains about the difficult job he has, and Sasha seems to find his job not particularly demanding. Sasha, who turns out to be an engineer, asks Misha what for difficult job he has. To this Misha replies: 'My job takes a lot of time and effort, and requires supreme performance. I sort out oranges in the supermarket: the big ones go into one basket and the small ones into the other'.

Lena's fellow students laughed, which probably indicates that they appreciated the humour. There was only one girl, Nastya, who reacted to the joke quite seriously saying: 'Of course, it was difficult, because he had no standard of comparison'.

There are two points I would like to make with respect to this innocent occasion. On the one hand, the fact that Nastya started thinking in terms of medium values prevented her from appreciating the joke. This means that in the situation described above, interpretation only vis-à-vis a comparison class is no more than a hindrance to the achievement of the speaker's communicative goals. To understand a joke, you simply do not have to go that far. On the other hand, the fact that Nastya estimated the object of conceptualisation in terms of the cognitive zero, suggests that we cannot do away with this construct either. After all, all jokes operate on double meaning, and therefore anecdotes involving relative adjectives always need both readings – a norm-based and norm-free one.

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[13] There is also evidence from cognitive psychology that a medium value, though useful in some cognitive activities, is not applied throughout. For instance, Paritosh (2004) reports an experimental study, in which subjects were asked to give labels LARGE, SMALL, and MEDIUM to African countries on the map. The general cognitive strategy was to label the endpoints – minimum and maximum – SMALL and LARGE, respectively, and then consider the cases in between. Similarly, a study reported in Holyoak (1977) has shown that people readily use the cognitive zero for making judgments about size, *only if explicitly instructed to do so*. Instead, they tend to make use of other techniques (e.g. analogue reasoning). Furthermore, not using visual imagery (hence, not comparing the exemplar to the cognitive zero) was shown to have no impact on the subjects' performance. See also Holyoak (1978), Holyoak (1983), Woocher et al. (1978), and Holyoak & Mah (1982) for similar results with respect to other cognitive tasks.

Having argued that the cognitive zero cannot be applied throughout, in this section I will present some arguments for preserving the cognitive zero in the CRP inventory. I will show that some constructions with relative adjectives and some contexts of their use cannot be processed without appealing to the medium. I will conclude this section by suggesting that the cognitive zero has all the rights to be one of the CRP types; but as any theoretical construct and analytic tool, it should not be applied indiscriminately.

6.4.2. Thematic constraints

Sometimes the topic under discussion itself requires the use of the cognitive zero in the interpretation of relative adjectives. A very good example of this is the discussion of human height. Since our own height and the height of our conspecifics are highly relevant to us, the discussion of human height in terms of location vis-à-vis the cognitive zero is a very normal and frequent phenomenon. By way of illustration, consider (67)-(72):

(67) **Чуть** **выше** **среднего** **женского** **роста**,
a.bit higher average-SG.M.GEN female-SG.M.GEN stature-GEN

она казалась **высокой**, статная,
she seemed-SG.F.IPFV.REFL high-(LF)SG.F.INS stately-(LF)SG.F.NOM

с красивыми ногами, добрым, мягким
with beautiful-(LF)PL.INS legs-INS kind-(LF)SG.N.INS soft-(LF)SG.N.INS

лицом, носом уточкой, кареглазая, с пухлым
face-INS nose-INS duck-INS brown.eyed-SG.F.NOM with plump-SG.M.INS

ртом, она воплощала в себе ту
mouth-INS she embodied-SG.F.IPFV in self-LOC that-F.ACC

скромную, уютную русскую милоту,
modest-(LF)SG.F.ACC cosy-(LF)SG.F.ACC Russian-SG.F.ACC prettiness-ACC

лучше которой нет ничего на свете. (RNC)
better which-SG.F.GEN no nothing on light-LOC

'A bit taller than average women, she seemed tall; she was stately, with beautiful legs, a kind gently face, turned-up nose and brown eyes, she embodied the simple cosy Russian prettiness, which is better than anything in the world.'

(68) Вошли двое **высокого** роста, один – **чуть**
entered-PL.PFV two high-(LF)SG.M.GEN stature-GEN one a.bit

ниже **среднего**. (RNC)
lower average-GEN

'Two tall people came in, one a bit shorter than average.'

(69) Instinctively, she shot out a hand to retrieve them, but he was **tall**, and he was standing, and, while she was **an inch or two above average height** herself, she was sitting. (BNC)

(70) Noticing that his younger brother himself was shivering, Dong, who was **taller than the average Annamese**, inched his **long**, thin body closer to him and put his arm around his shoulders. (BNC)

(71) The symptoms of Klinefelters may include a typical body appearance, being **tall** (**taller than average** compared to other family members) and usually underweight. (www.keepkidshealthy.com)

(72) He was lying on the davenport completely naked except for a pair of shorts he was wearing, his thick, close-cropped hair uncombed and wisps of it standing out in all directions. He drank in the sight of her as she stood with her arms folded and he wondered why he had ever married her. It was her build, he decided. She was **tall, taller than average**, and everything about her was big, but she was put together in excellent proportion and was well rounded so that she possessed a strong physical attraction. (J. Heller, *Catch as Catch Can*)

In (67)-(72), the position of the reference value on the scale of height vis-à-vis the cognitive zero is crucial. Since our cognition is very anthropocentric, we are much more aware of the medium values of human height than, for instance, the average height of elm-trees. It is therefore quite normal that the cognitive zero is primarily relevant in anthropocentric contexts exemplified by (67)-(72). Notice, however, that bare relative adjectives and the Aer-than-average construction are not semantically equivalent; rather they differ in terms of construal (see Section 7.2).

In Section 5.3.2, I have already mentioned the article *Going for the tall money* (*South Coast Today,* 31.03.2002), which discusses the reasons why taller people earn more money at the rate of at least $1,500 an inch. In the context of that article, the distinction SHORT-AVERAGE-TALL is of paramount importance; moreover, every centimetre counts (literally and figuratively). Witness a few example sentences from the article:

(73) Like women and visible minorities, short people, on average, find themselves lower on the income ladder.

(74) "Obviously, the tall people earning more income are sufficiently greater in number to cancel out all the Napoleons of the world, but that doesn't mean they don't exist," he said.

(75) Their statistics pointed away from the usual explanation - that employers discriminate against short people.

(76) Persico and Postlewaite came up with an ingenious answer: It's not how tall you are, it's how tall you were. Looking at tens of thousands of people in the United States and England, they found that people who were shorter than average during early adolescence earned less money in adulthood - a stronger correlation than with adult height.

(77) "In fact," they said, "of the total effect that might be ascribed to adult height discrimination, nearly all can be attributed to the fact that adults who are relatively tall at age 33 tended to be relatively tall at age 16."

In all these sentences, the knowledge of average values of human height is critical. (77) is especially instructive in this respect, since in order to understand the essence of the hypothesis explicated by the author one must be able to set up two mental spaces – one with the person's height at the age of 33, and one with his height on a metric for 16-year-olds. The hypothesis then posits that it is much more important that a person had a taller-than-average height in his/her youth, than as an adult, since most social contacts and skills are acquired when young.

Consider also the Russian riddle in (78):

(78)

Кто	становится	выше,	когда	садится?
who	becomes	higher	when	sits-REFL

'Who becomes taller when seated?'

The effects of this riddle were studied by Musijčuk (2003) who noticed that people often have trouble with answering the question in (78). Even if people give a correct answer, it usually takes them quite a lot of thinking time. The reason for this, according to Musijčuk, is that, by default, we are inclined to use the comparison class of people for interpreting (78). A shift to the class of mammals, such as dogs

or cats, immediately provides a good answer.[14] The fact that many people find the question in (78) difficult to answer, suggests that default comparison classes *do* play a role in the interpretation of scalars. However, if more contextual clues are provided (as it is normally the case in the communication process), the defaults are easily overridden (cf. Cruse 1986: 206).

Although the topic of human height often suggests an interpretation in terms of the cognitive zero, it does not mean that other topics cannot be discussed in these terms. Consider, for instance, the following abstract from an article on habitat preferences of monkeys:

(79) Habitat structure can be important in determining habitat preference of animals because it is often closely linked to factors that affect survival and reproduction, such as food availability and predation risk. Here we examine the ways in which microhabitat structure and predation risk affect the habitat preference of wild patas monkeys (Erythrocebus patas). Patas monkeys in Kenya are typically restricted to Acacia drepanolobium habitat, but within our study group's home range, there are two distinct microhabitats, one with taller trees ('tall microhabitat') and one with apparently perennially shorter trees ('short microhabitat'). Examination of ranging behavior indicates that the patas monkeys preferred the tall microhabitat. In the tall microhabitat, focal animals climbed into trees that were significantly taller than average, indicating that they preferred tall trees. Female patas monkeys spent more time scanning from tall trees than from short trees and detected predators only from taller than average trees, based on alarm call data. Their use of tall trees may have decreased their predation risk by increasing their ability to detect predators. We found no evidence of increased food availability or reduced predator presence in the tall microhabitat that could contribute to the monkeys' preference for the tall microhabitat. (Enstam & Isbell 2004: 70)

The height of trees in (79) is discussed in terms of divergences from the average values. The trees labelled *tall* are divided into those whose height is "significantly taller than average" and those whose height displays smaller deviations from the cognitive zero; the former group being preferred by monkeys. In the above passage, Enstam & Isbell seem to use the terms *tall* and *taller than average* interchangeably (the differences between the two constructions will be discussed in Chapter 7).

In sum, on the discourse level, there may be thematic constraints that require the use of the cognitive zero as a primary CRP for the processing of relative adjectives. However, there are also more specific semantic and grammatical factors mo-

[14] In Russian, both humans and animals are referred to by means of the interrogative pronoun *kto* 'who'.

tivating the interpretation vis-à-vis an average value. I will discuss them in the rest of this chapter.

6.4.3. Contrariety

In Section 5.4.2, I have demonstrated an important role of the cognitive zero in the account of antonymy. Several crucial aspects of oppositeness between relative adjectives were given an explanation along the lines of the standard-value approach. The cognitive zero as a theoretical construct is, first of all, indispensable in the analysis of contrariety and polarity of relative adjectives. Consider again Pander Maat's representation of the gradual scale, repeated here for convenience:

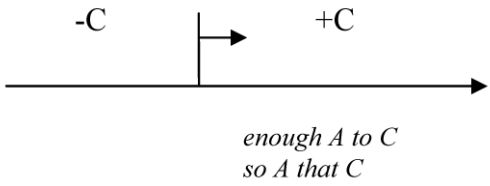

Figure 6.3. Argumentative zero (Pander Maat 2006)

What this representation does not capture is the relation of contrariety between the antonymous terms. Figure 6.3 seems to suggest a complementary construal, i.e. everything behind the +C zone is the realm of the opposite term. This representation cannot account for the neither-nor construal characteristic of relative adjectives. Therefore, I want to propose that the two approaches – the cognitive-zero approach and the argumentative-zero approach – be combined in the way illustrated by Figure 6.4:

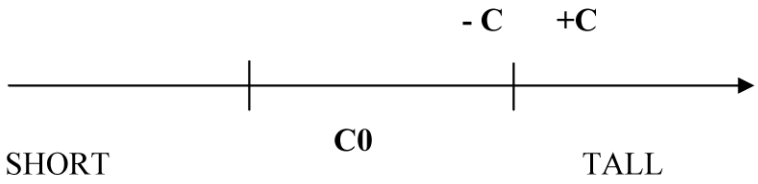

Figure 6.4. The argumentative zero combined with the cognitive zero

It should be mentioned that this is a configuration triggered by *tall*, not by *short*, since positive consequences are associated with TALL in this figure. Observe also that in Figure 6.4, not everything that does not lead to the expected consequences is immediately SHORT, for there is a cognitive-zero area in-between. The cognitive zero here is, however, not necessarily an average value. Rather, it is an area of uncertainty between the minimum degree of the property qualifying for +C and the realm of the opposite term. In this way, the combination of the two types of reference points easily facilitates contrariety and other aspects of antonymy discussed in Section 5.4.2 (see H. Clark 1973: 36 for a similar proposal).[15]

6.4.4. Neutralising constructions

Related to contrariety is the issue of neutralising constructions illustrated by (80)-(86):

(80) Спасибо конечно за комплимент, но я **не**
thanks certainly for compliment-ACC but I NEG

невысокий. 178 см, разве я низкий?
not.high-(LF)SG.M.NOM 178 cm PCL I low-(LF)SG.M.NOM
(www.buryatia.org)

'Thank you for the compliment, of course. But I am not particularly short. 178 cm. You don't find it short, do you?'

(81) Well no, **not particularly tall** but certainly growing and it's probably been … It's probably just er related to that. (BNC)

(82) Well I'm **not very tall** and my legs aren't very long and I could get my first leg over but it was getting that other one over with the hurdle, without leaving your boots behind, that was, that was hard. (BNC)

---

[15] There are also psychological insights emphasizing the role of the cognitive zero for establishing oppositeness. For instance, Banks & Root (1979) studied comparative judgments of loudness. Their main finding was a semantic congruity effect, which predicts that subjects can pick the louder of the two loud sounds faster than the softer, and the softer of the two soft sounds faster than the louder. The explanation proposed by Banks & Root is that the scale of loudness is divided into two zones: LOUD (L) and SOFT (S) separated by the *criterion* (i.e. cognitive zero in my terminology). If both sounds to be compared are loud, they both fall above the criterion. In this case, it is argued, they will initially be coded L+/L+ and eventually as L+/L. A match to the instruction *Which is louder of the two sounds* already has the L+ code. The transformation L+ => L takes less time than S+ => L, which predicts the semantic congruity effect.

(83) Женщины, и так **не особо высокого** роста,
women-NOM and so NEG especially high-(LF)SG.M.GEN stature-GEN

казались теперь гораздо ниже. (RNC)
seemed-PL.IPFV.REFL now much lower

'The women, who were anyway not particularly tall, now seemed even shorter.'

(84) "Ma'am. Ya need help?", a man said, watching Dante's mother. The man was **sort of tall**. He was a bit over-weight and had a long beard. (www.serebiiforums.com/archive/index.php/t-104310.html)

(85) Time to ponder, then: 'Medium height, perhaps **on the tall side** for a woman.' (BNC)

(86) I suppose I was a bit **on the short side** early on in secondary school. (BNC)

I call the constructions in bold *neutralising*, because they shift the reference value from the positive/negative area towards the neutral zone of the scale. In (80), the mild positive effect is created by virtue of the interaction between a contradiction triggered by the sentential negation *ne* 'not' and a contrariety brought forward by the morphological negation ***ne****vysokij* '**not**.high' (cf. Verhagen 2005: 33). In (81)-(83), the degree modifiers *particularly, very*, and *osobo* 'especially' in combination with the partial negation function more like approximatives than like intensifiers. Put another way, the degree modifiers in (81)-(83) suggest that the referent belongs to the category TALL/VYSOKIJ only to a certain, fairly slight degree. A similar effect is achieved by *sort of tall* in (84). Following Lakoff (1973: 471), I suggest that (84) is more likely to refer to the cognitive-zero region (medium height) than to the positive subscale. The constructions *on the tall/short side* in (85) and (86) suggest that the reference value is on the borderline between the SUPRA/SUB values and the cognitive-zero area. Though the reference value is literally on a particular side of the scale vis-à-vis the reference point, it does not stand out from the cognitive zero considerably enough to be dubbed with the sub or supra term, respectively (see also Section 7.2).

The experiments reported in Paradis & Willners (2006) suggest that the negation of antonymous adjectives also has an attenuating effect, similar to the one we observed for the neutralising constructions. The speakers of Swedish judged expressions of the type *not Y* as very close in meaning to *fairly X*, where X and Y are antonymous adjectives (e.g. 'not tall' ≈ 'fairly short', and vice versa). It should also

be noted that *fairly X* was shown to have the value 'between X and Y', i.e. the cognitive-zero region, in my terminology.

None of the neutralising constructions discussed here explicitly mentions a medium value. However, in these cases the construction itself motivates the construal in terms of neutral, or rather *neutralised*, values whose degree of divergence from the cognitive zero is not sufficient to be called *tall* or *short*. Yet again, the cognitive zero proved relevant to the meaning of dimensional adjectives in actual use.

6.4.5. Multiple cognitive zeros

The cognitive zero is also highly relevant in the interpretation of sentences where more than one average value is called upon. For example, without reference to comparison classes and their medium values we would not be able to explain why sentences like (87) are not interpreted indexically (Kennedy 1999a, 2007; Klein 1980; Ludlow 1989).

(87) That elephant is large and that flea too.

In (87), we do not compare the flea directly to the elephant. Rather, the adjective *large* is assigned two different values with respect to two different cognitive zeros – one for elephants, and one for fleas. Thus, the elephant is large for elephants, and the flea is large with respect to fleas. Consider also the following example from the RNC:

(88)

Ну	в	кого	она	вытянулась	как			
PCL	in	who-ACC	she	stretched-SG.F.PFV	like			
коломенская				верста,	в	кого?!		В
Kolomenskoe-ADJ.POSS.SG.F.NOM				verst-NOM	in	who-ACC		in
отца, –		говаривала	мать. –	**У**	**него**		**все**	
father-ACC		said-SG.F.ITER	mother-NOM	by	him-GEN		all-PL	
родственники		**высокие**. (RNC)						
relatives-NOM		high-(LF)PL.NOM						

'After whom has she grown up as tall as a beanpole, after whom? She takes after her father in height – her mother used to say – all his relatives are tall.'

Note that the quantificational subject *vse* 'all' in (88) requires the interpretation of the relative adjective *vysokie* 'tall' with respect to multiple cognitive zeros. One cannot assign dimensional characteristics to men, women, and children vis-à-vis the same reference point, for in this case they would not all count as tall. I would like to suggest that the interpretation of (88) proceeds in different mental spaces, containing different metrics structured around different cognitive zeros.

6.4.6. Committed comparatives

In Section 6.3.1.4, I have considered comparatives as a typical norm-free construction, which renders the cognitive zero totally irrelevant, and focuses on another, incidental standard of comparison. That was, however, only part of the story, though the part that is well-known and commonly accepted in theories of relative adjectives. Note, for instance, one of the axioms from Bierwisch (1989: 95): "Comparative, superlative and 'too' constructions are *never* [my italics] norm-related". It should be observed, however, that there are comparative constructions in both English and Russian that impose the cognitive zero on the interpretation of relative adjectives. Following Croft & Cruse (2004), I call them *committed comparatives* (cf. *impartial comparatives* are norm-free). Committed comparatives trigger two CRPs – an incidental landmark (e.g. *Mike is taller than* ***Jack***) and the cognitive zero (e.g. above average height).

To begin with, in both English and Russian comparatives of inferiority are always committed (Bierwisch 1989; Croft & Cruse 2004: 176-9). Witness (89) and (90):

(89) The idea was to get away from the 'man in a suit' which had become a cliche of space fiction and alien fantasies. In fact, the point of having him played by a 6-foot 10 inch (2.1-m) Nigerian student, Bolaji Badejo, plus a rather **less tall** stuntman, was largely lost. (BNC)

(90)

Когда	мы	ступили	на	Анзерский	
when	we	stepped-PL.PFV	on	Anzersky-ADJ.POSS.SG.M.ACC	
берег –	общий	силуэт	Голгофы		
shore-ACC	general-SG.M.NOM	silhouette-NOM	Golgotha-GEN		
заслонился		другими,	**менее**	**высокими**	
overshadowed-SG.M.PFV.REFL		other-PL.INS	less	high-(LF)PL.INS	

горами. (RNC)
mountains-INS

'When we set foot on Anzersky Island, our general impression of Calvary was overshadowed by other, less high mountains.'

The committedness of comparatives of inferiority consists in the fact that a less tall stuntman in (89) is, in fact, tall, though not as tall as Bolaji Badejo. Similarly, the mountains in (90) are high, but less high as compared to Calvary.

Another type of committed comparatives is an equative construction. In English, equatives of sub terms are committed, whereas equatives of supra terms are impartial. Compare (91) and (92) in this respect. In Russian, both sub and supra terms are used in committed equatives; witness (93) and (94):

(91) The shelves near the ground were usually well kept, but higher up they became more disorganised and larger in size, almost **as tall as the pupils themselves**. (BNC)

(92) Stuart's parents are human, but the whole family loves him, and they make sure nobody discriminates against him because of his size and appearance. The bit where the rest of the family goes out and the cat is after Stuart bores Babur: he thinks it is probably directed at the younger reader. But then Stuart meets a little girl who is fully human but every bit **as short as Stuart**, and his heart is lost to her. (BNC)

(93)

Он,	вспоминает	мама,	был	**такой**	**же**
he	recollects	mum-NOM	was-M	such-SG.M.NOM	PCL

высокий,	**как**	**я,**	сероглазый	и	всегда
high-(LF)SG.M.NOM	as	I	grey.eyed-SG.M.NOM	and	always

носил	в	кармане	для	детей	конфеты.
carried-SG.M.IPFV	in	pocket-LOC	for	children-GEN	candies-ACC

(RNC)

'My mum remembers that he was tall, as tall as me, and always had candies for children in his pocket.'

(94)

Только	вдали,	на	западе,	туманились	еще
only	far	on	west-LOC	befogged-PL.IPFV.REFL	still

какие- то	горные	вершины,	такие
some.PCL-PL.NOM	mountain-ADJ.PL.NOM	tops-NOM	such-PL.NOM

же	невысокие			бесцветные		и	
PCL	not.high-(LF)PL.NOM			colourless-(LF)PL.NOM		and	
одинокие,	**как**	**и**	**те,**	**с**	**которых**	**я**	
lonely-(LF)PL.NOM	as	and	those-NOM	from	which-PL.GEN	I	

смотрел. (RNC)
looked-SG.M.IPFV

'Only far in the west, some mountain peaks were enveloped in a fog. They were as low, colourless and lonely as those mountains from which I was watching them.'

Neither the shelves nor the pupils in (91) are claimed to be tall. It is only stated that they are the same size. At the same time, in (92) both the girl and Stuart are claimed to be short. Similarly, in (93) and (94) the compared objects are claimed to be tall and low, respectively.

Comparatives of superiority are usually considered to be prototypically impartial. However, there are several conditions that can render these comparatives committed. Firstly, comparatives of superiority are committed when combined with the positive form of the same adjective. Witness (95) and (96):

(95) He, too, was **tall**, **taller** than my husband, which put him over six feet. (BNC)

(96)

Старуха		Дарья,		**высокая**		и	поджарая,		
old.woman-NOM		Darya-NOM		high-(LF)SG.F.NOM		and	lean-SG.F.NOM		
на	голову	**выше**	сидящей		рядом	Симы,			
on	head-ACC	higher	sitting-SG.F.GEN		near	Sima-GEN			
чему-то		согласно	кивала,		уставив				
what.PCL-SG.DAT		approvingly	nodded-SG.F.IPFV		set-ADPTCP.PST				
в	стол	строгое		бескровное			лицо		
in	table-ACC	strict-(LF)SG.N.ACC		bloodless-(LF)SG.N.ACC			face-ACC		
с	провалившимися			щеками. (RNC)					
with	fall.through-PTCP.PST.ACT.PL.INS			cheeks-INS					

'Old woman Darya, tall and lean, a head taller than Sima sitting next to her, was approvingly nodding to something, her pale austere hollow-cheeked face staring at the table.'

Secondly, committed comparatives of superiority may be preceded by another dimensional adjective of the same polarity, as in (97)-(99):

(97) Brought on to lowland pastures in kinder climates, it gains considerably in size though in its own environment it is almost the **smallest** breed in Britain: only the Shetland and the Dexter of Ireland are **shorter**. (BNC)

(98) The great architectural exclamation mark of the **endless** tower - good 100 metres **taller** than the Eiffel Tower. (BNC)

(99) Я **мал** ростом, но учитель, к
I small-(SF)SG.M stature-GEN but teacher-NOM towards

которому меня прикрепили, был на голову
which-SG.M.DAT me-ACC attached-INDF.PFV was-M on head-ACC

ниже меня. (RNC)
lower me-GEN

'I am small in stature, but the teacher who was to supervise me was a head shorter than me.'

Thirdly, if a comparative of superiority is preceded or followed by *even, still* or *yet*[16] in English and *eščе* 'still' in Russian, the comparative is committed (cf. Bierwisch 1989: 228-9). By way of illustration, see (100) and (101):

(100) Alokut, the younger of the two, was **even taller** than his brother, as graceful and supple as a cougar. (BNC)

(101) Плавал в начале века такой
swam-SG.M.IPFV in beginning-LOC century-GEN such-SG.M.NOM

пароход "Тургенев". Был он коротенький,
steamer-NOM Turgenev-NOM was-M 3.SG.NOM shorty-(LF)SG.M.NOM

толстенький; две трубы, поставленные
thickish-(LF)SG.M.NOM two tube-GEN set-PTCP.PST.PASS.PL.NOM

поперек, делали его еще короче, как костюм
crosswise did-PL.IPFV 3.SG.M.ACC still shorter as costume-NOM

[16] *Yet* and *still* are more formal than *even*. *Even* and *still* can also be used in the sentence-final position, e.g. *The journey home was more boring* ***still*** (Carter & McCarthy 2006: 764).

с	поперечными	полосами	делает	человека
with	transverse-PL.INS	stripes-INS	does	man-ACC
невысокого		роста	**еще**	**ниже**. (RNC)
not.high-(LF)SG.M.GEN		stature-GEN	still	lower

'Early this century there was a steamer called *Turgenev*. It was shorty, plumpy; two funnels set crosswise made it look even shorter, just like a suit with transverse stripes makes a small person look even shorter'.

So far the constructions existing in both English and Russian. There are, however, some language-specific constructions imposing a committed construal on the comparative. One of these is the English *comparison-of-deviation* construction studied by Kennedy (1999a, 1999b). Consider the following example attested in the BNC:

(102) They stood together and posed for the pass, Alleyne relaxed and smiling, a tall, angular man who carried himself with natural elegance. Christina noticed his unusual dark-green eyes and smooth café au lait skin. His wife Susan was **as short as he was tall**, and looked uncomfortable in an emerald-green satin dress held on both shoulders by huge satin bows which flapped like startled birds in the breeze. (BNC)

(102) is interpreted as follows: "Susan is shorter than an average woman to the same degree as Alleyne is taller than an average man" (cf. Bierwisch 1989: 105).

Observe that the comparative of equality *as short as* in (102) is committed, which renders (103) contradictory:

(103) #Susan is as short as Alleyne is tall, but she is not short.

Note, however, that the adjective *short*, like other sub terms, is a marked term which is not likely to be used in impartial equatives anyway. Witness (104), cf. example (92):

(104) #Susan is as short as Alleyne, but she is not short.

This, however, does not render Kennedy's analysis of the comparison-of-deviation construction incorrect. Even supra terms which usually form impartial comparatives are committed in this construction. Consider the following examples from Kennedy (1999b: 33):

(105) Robert is as tall as William is short.

(106) Mona is more happy than Jude is sad.

In (105) and (106), the property referred to by means of the comparative adjective *does*, in fact, hold in "absolute" terms as well. Hence, Robert in (105) is tall and Mona in (106) is happy. Compare in this respect the comparison-of-deviation constructions in (105) and (106) with the standard comparatives in (105a) and (106a):

(105a) Robert is as tall as William.

(106a) Mona is happier than Jude.

In (105a) we find a comparative of equation and in (106a) a comparative of majority (superiority). Neither of these sentences implies that the property can be predicated of the entity (process) in absolute terms. Thus, (105a) does not imply that Robert is tall, nor does (106a) entail that Mona is happy. The committed construal of these comparatives is only possible within the comparison-of-deviation constructions, illustrated by (105) and (106). Notice another remarkable difference between (106) and (106a), namely the use of the syntactic (analytical) *vs.* morphological (synthetic) comparative. The committed comparative in the comparison-of-deviation construction has to be analytic, even if the adjective normally takes a synthetic comparative. Interestingly enough, that is exactly the difference between morphological and syntactic comparatives in Russian. Unlike in English, where the choice of the comparative form (*-er* or *more*) normally depends on the structural properties of the adjective, most adjectives in Russian may be used in both synthetic and analytic comparative constructions. The difference between the two is that morphological comparatives are impartial, and syntactic comparatives are usually committed (Pocelujevskij 1977; Petkova-Kaleva 2005; Tribushinina, forthcoming). Witness (107) and (108):

(107) Басков **выше** Пугачевой на целую
Baskov-NOM higher Pugacheva-GEN on whole-(LF)SG.F.ACC

голову. (RNC)
head-ACC

'Baskov is well a head taller than Pugacheva.'

(108) Вдали чуть темнели силуэты Европы –
far slightly darkened-PL.IPFV silhouettes-NOM Europe-GEN

двухэтажные	домики,	игла	ратуши
two.storey-ADJ.PL.NOM	houses-DIM.NOM	spire-NOM	townhall-GEN

и	**более**	**высокая** –	собора. (RNC)
and	more	high-(LF)SG.F.NOM	cathedral-GEN

'Silhouettes of Europe were looming in the distance – two-storey houses, the spire of the town hall, and an even higher spire of the cathedral.'

The Russian pop-stars Baskov and Pugacheva mentioned in (107) are both of short stature. Applying the adjective *vyše* to Baskov is sanctioned by the impartiality of the Russian synthetic comparative. In contrast, using the analytic comparative *bolee vysokaja* 'more high' in (108), the addresser emphasizes that both spires are, in fact, high vis-à-vis some cognitive-zero value.[17]

Gvozdev (1961) observes that not all Russian adjectives can take a synthetic (hence, impartial) comparative. For instance, denominal (e.g. *družeskij* 'friendly', *peredovoj* 'progressive') and deverbal (e.g. *lomkij* 'breakable', *derzkij* 'impertinent' – from *derzit'* 'be impertinent') adjectives can only be used in analytic comparative constructions. This is not surprising, given the inherent property of synthetic forms to denote impartial comparisons. These adjectives are minimum-oriented (Kennedy 2007; Kennedy & McNally 2005; Rotstein & Winter 2004), which means that even the minimal degree of impertinence is enough to be labelled *impertinent*. Thus, comparatives and superlatives of these adjectives are doomed to be committed. If the comparative form of these adjectives is used with reference to some entity, the positive form can be applied as well. Thus, (109) is incongruous:

(109) #Steven is more impertinent than Bill, though neither of them is impertinent.

It is this property of minimum-oriented adjectives that cancels their use in synthetic comparatives, which are, by default, impartial in Russian.[18]

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[17] Some English adjectives can also have both an inflectional and a periphrastic comparative. In this case, the former is impartial and the latter is committed. It is for this reason that the sentence *Process X is fast, but it's nonetheless slower than process Y* is felicitous, whereas its counterpart *Process X is fast. But it's nonetheless more slow than process Y* is ungrammatical (Croft & Cruse 2004: 178, cf. Klein 1997: 41).

[18] There are also some other differences between synthetic and analytic comparatives in Russian. For instance, analytic constructions are more formal, whereas synthetic comparatives are neutral (Vinogradov 1947: 247). Only synthetic forms can take the attenuating prefix *po-*. A standard of comparison can be expressed by case marking (genitive) only after synthetic forms. In analytic comparatives the standard has to be expressed by a complement of *čem* 'than' (Gvozdev 1961:

One way to account for the differences between periphrastic and inflectional comparatives is to postulate that they suggest two different readings. This is, in fact, what Bierwisch (1989) does when he claims that the interpretation of sentences like (102) involves the process of giving a dimensional adjective, what he calls, an *evaluative* reading. The difference between dimensional and evaluative adjectives, by this view, is that the former trigger one scale, whereas the latter involve a biscalar system (cf. Croft & Cruse 2004). Thus, on the dimensional reading, there is only one scale of HEIGHT, which means that even a short person has some degree of tallness. In contrast, an evaluative reading presupposes two scales, which renders shortness and tallness independent properties, each operating on its own scale. Reinterpreting *tall* and *short* as evaluative adjectives involves the process of *scale adjustment*, i.e. splitting of the two terms into separate scales and then concatenating the two separate scales again in order to compare the differential intervals on each of them. In this case, what used to be a norm in the monoscalar system unifying *tall* and *short* becomes the absolute zero value, and the two zero values (that of shortness and that of tallness) do not coincide.

It is interesting to observe that Bierwisch's approach, its pitfalls notwithstanding, can explain why the equative form in the comparison-of-deviation construction and the periphrastic comparative in Russian are committed. If we assume, following Bierwisch (1989), that in these constructions, dimensional adjectives are processed vis-à-vis two scales, rather than in relation to a single scale, then the comparison can only be committed, just as it is the case in all biscalar systems (cf. # *It is hotter than yesterday, but it is not hot*). Put another way, if SHORTNESS becomes a separate independent subscale rather than a part on the scale of HEIGHT, then comparatives can only operate on the scale of SHORTNESS and not along the whole dimension.

6.4.7. Long and short adjectives

Another aspect of the adjectival semantics that requires an account in terms of the cognitive zero is the distinction between long and short adjectives in Russian.

Until the XIII century, long and short forms were means of expressing the definiteness of the noun phrase (Borkovskij & Kuznecov 1965: 239-48; Vlasova 2003). Short forms – morphologically simple (nominal) adjectives – showed that the modified noun was indefinite. Conversely, pronominal adjectives that gave rise

235). Analytic forms can be used both predicatively and attributively, and synthetic forms are largely restricted to predicative uses (Ward 1965: 189).

to long forms in Modern Russian were composed of simple adjectives and the definite pronoun *и (jь)*; these adjectives were used to identify and individualize the referent of the head-noun. Originally, nominal adjectives could be used both predicatively and attributively. However, since the meaning of 'indefiniteness' expressed by them was largely associated with the predicate, these adjectives eventually came to be used only as predicatives. Predicatively used nominal adjectives lost all oblique case forms, since they exhibited agreement with the subject, which is always nominative. Nominal adjectives thus developed into contemporary short adjectives that lack the category of case and are only marked for number and gender. These adjectives are still used predominantly in the predicative position, with the exception of a few obsolete idiomatic expressions where they are used attributively. Long adjectives, in their turn, lost their pronominal make-up through phonological reduction and were reinterpreted as morphologically simple units, which was the end of the adjectival category of definiteness.[19] These adjectives can be used both attributively and predicatively and therefore retained the category of declension.

Besides a number of syntactic, morphological and stylistic differences between long and short forms in contemporary Russian (for a comprehensive overview see Groen 1998 and Aesaert & Hautekiet 2006), there are also interesting semantic differences relevant to the present discussion. The short form tends to denote temporary states or processes, holding only in a particular situation, whereas the long form usually denotes intrinsic properties that characterise an object as a representative of a particular comparison class (Aesaert & Hautekiet 2006; Apresjan 2005: 4; Gvozdev 1961: 229ff., 1965; Groen 1998: 152ff.; Švedova 1980: 557; Timberlake 1993: 862-4; Vinogradov 1947: 262-5; Wade 1992: 164ff.; Ward 1965: 192ff.).[20] Perhaps the most famous example from the relevant literature is the adjective *bol'noj* 'sick, ailing', whose long form means something like 'unhealthy, invalid', and the short form *bolen* describes a temporary state of being ill. In addition, short forms of *dimensional* adjectives denote an excess of the property, given the requirements imposed by a particular situation. Compare (112) with (113) and (114) in this respect:

(112)	Правда,	эксперты	из	Министерства	образования,
	true	experts-NOM	from	Ministry-GEN	education-GEN

[19] In contrast, in Baltic languages, where the phonological reduction was less drastic than in Russian, pronominal adjectives are still used to express the definiteness of the head-noun (Vlasova 2003).

[20] When used in sentence-initial position or modified by intensifiers such as *očen'* 'very', short forms have the same reading as their long counterparts (Apresjan 2005: 4).

которым	букварь	поручили	проверить,	
which-PL.DAT	primer-ACC	charged-INDF.PFV	check-INF.PFV	
ничего	особенно	антисоветского	в	нем
nothing-ACC	especially	anti.Soviet-SG.N.ACC	in	3.SG.M.LOC
не	обнаружили.	Указали	только	на	отдельные
NEG	discovered-PL.PFV	pointed-PL.PFV	only	on	separate-PL.ACC
политические	просчеты.	Скажем,	велели	
political-PL.ACC	errors-ACC	say	ordered-PL.PFV	
переодеть	учительницу	с	54-й	страницы.
change.clothes-INF.PFV	teacher-F.ACC	from	54-SG.F.GEN	page-GEN
Юбка,	сказали,	у	нее	**коротковата**,	а
skirt-NOM	said-PL.PFV	at	her-GEN	a.bit.short-(SF)SG.F	CONJ
каблук,	напротив,	**высок**.	Нехорошо.	Не	может
heel-NOM	conversely	high-(SF)SG.M	not.good	NEG	may-PRS.3.SG
советская	учительница	так	вызывающе	одеваться. (RNC)
Soviet-SG.F.NOM	teacher-F.NOM	so	provokingly	dress-INF.IPFV.REFL

'It should, however, be said that the experts from the Ministry of Education that were asked to check the ABC-book did not find anything particularly anti-Soviet in it. They only pointed to some political improprieties. For instance, they ordered to give the teacher on page 54 different clothes. According to them, her skirt was somewhat too short and the heels were, on the contrary, too high. It is not good. A Soviet teacher cannot wear such provoking clothes.'

(113)

Юбка	на	ней	была	**короткая**,	ноги	были
skirt-NOM	on	her-LOC	was-F	short-(LF)SG.F.NOM	legs-NOM	were
длинные,	и	волосы	чуть	не	до	разреза
long-(LF)PL.NOM	and	hair-PL.NOM	a.bit	NEG	till	slit-GEN
юбки,	и	где-то	она	загорала		недавно,
skirt-GEN	and	somewhere.PCL	she	sunbathed-SG.F.IPFV		lately
и,	может	быть,	топлес	загорала. (RNC)		
and	may	be	topless	sunbathed-SG.F.IPFV		

'She had a short skirt and long legs. And her hair almost reached the slit of her skirt. She must have sunbathed not that long ago and may be even topless.'

(114) Я не могу быстро бегать, – шипела
I NEG may-PRS.1.SG fast run-INF.IPFV hissed-SG.F.IPFV

Оксания, – у меня **каблуки** **высокие**!
Oksania-NOM at me-GEN heels-NOM high-(LF)PL.NOM
(A. Švedov, *Žit' i umeret' v Ėnsibe*)

'I can't run fast – Oksania was hissing – I am wearing high heels.'

The short forms *korotkovata* 'a.bit.short-SF' and *vysok* 'high-SF' in (112) do not mean that the skirt was shorter than an average skirt and that the heels were higher than normal heels; they may even have been long and high, respectively; see (115) and (116). Rather, the short forms denote an undesirable excess of the property, i.e. the skirt was somewhat too short and the heels a bit too high for a picture of a teacher in an ABC-book.[21] In contrast, the long forms in (113) and (114) mean that the skirt was shorter than normal (example 113) and the heels were high with respect to the cognitive zero for heels (example 114).

(115) Юбка у нее, хоть, в общем-то, и
skirt-NOM at her-GEN though in general.PCL and

длинная, все равно коротковата для букваря.
long-(LF)SG.F.NOM all equally short-(SF)SG.F for primer-GEN

'Although her skirt is long, it's still too short to be depicted in an ABC-book.'

(116) Каблуки у нее, хоть в общем-то и
heels-NOM at her-GEN though in general.PCL and

невысокие, все равно высоки для букваря.
not.high-(LF)PL.NOM all equally high-(SF)PL for primer-GEN

'Although her heels are fairly low, they are still too high to be depicted in an ABC-book.'

[21] Short forms are often used in combination with adverbs of degree, such as *sliškom* 'too', *čeresčur* 'too', *nastol'ko* 'so much', *dovol'no* 'rather', and *nemnogo* 'slightly', since all these degree modifiers prompt a consequential interpretation (Groen 1998: 158). See Section 6.3.1.3.

Compare also examples (117) and (118):

(117) Он сел, и настроение человека все
he sat-SG.PFV and mood-NOM man-GEN all

улучшалось. И **низок** ему стал
improved-SG.N.IPFV.REFL and low-(SF)SG.M him-DAT became-SG.M.PFV

стул! Мало ему стало стула! Он
chair-NOM little him-DAT became-IMPERS.PFV chair-GEN he

поставил на стул табуреточку и, взгромоздившись,
put-SG.M.PFV on chair-ACC stool-DIM.SG.F.ACC and perch-ADPTCP.PST

продолжил питье из бутылки и стакана.
continued-SG.M.PFV drinking-ACC from bottle-GEN and glass-GEN
(RNC)

'The man sat down and his spirits were getting higher and higher. And his chair became too low for him. And the chair was no longer enough for him. He put a little stool on the chair, perched on it and went on drinking from the bottle and from a glass.'

(118) Слава богу, у меня **стул** **низкий**
glory god at me-GEN chair-NOM low-(LF)SG.M.NOM

был... Падать хоть не больно было
was-M fall-INF.IPFV though NEG painful-(SF)SG.N was-N
(http://void.neverclans.ru:8080/forum).

'Thank God, my chair was low. At least, it did not hurt when I fell.'

The chair in (117) does not have to be lower than an average chair; in those terms it may even be high. The short form *nizok* 'low-SF' triggers an interpretation vis-à-vis an incidental maximum. For that person in that particular situation the chair had become *too* low. Conversely, in (118) the height of the chair is estimated in relation to the norm for the class of chairs. The chair dubbed *nizkij* 'low-LF' is claimed to be lower than a normal chair.

Adjectives that cannot display the same semantic difference, do not have short forms (e.g. *derevjannyj* 'wooden', *promyšlennyj* 'industrial', *buduščij* 'future', *russkij* 'Russian'). For a detailed overview of the adjectival types lacking short forms see Barentsen (1978: 6ff.).

For the purposes of the present discussion, it is noteworthy that the notion of the cognitive zero is very relevant to the account of the distinction between the two forms of Russian adjectives. Whereas an incidental maximum is primarily applicable to short adjectives that tend to construe the situation in terms of consequences (e.g. too high for something), the cognitive zero is primary to the interpretation of long forms. This is one more reason not to deny the relevance of the cognitive zero, and to choose an inclusive, rather than exclusive approach.

6.4.8. Bounded adjectives

The last issue I would like to raise in favour of the cognitive zero concerns relative construal of adjectives that are, by default, associated with a definite (often quite objective) limit (e.g. *empty, full, right, clean, dead*). These adjectives are gradable complementaries (Cruse 1980), felicitous with maximizers, such as *completely*, and approximators, such as *almost* (cf. *#almost short; #completely tall*) (Amaral 2006; Kennedy & McNally 2005; Paradis 1997, 2000a, 2001; Paradis & Willners 2006; Rotstein & Winter 2004; Winter 2006). They are often called *absolute adjectives*, because their interpretation does not depend on a relative standard; rather, they evoke the endpoints (min/max) of the scale (Kennedy 2007; Kennedy & McNally 2005; Rotstein & Winter 2004; Syrret et al. 2005). However, the fact that these words are, by default, interpreted irrespective of the cognitive zero does not mean that the scalar construal of these adjectives is inconceivable. Kennedy & McNally (2005: 371), among others, suggest that, when modified by *very*, absolute adjectives have to be interpreted vis-à-vis a relative standard. Consider (119) and (120):

(119) The restaurant is very full tonight.

(120) The restaurant is very empty tonight.

(119) does not depict a situation where all the tables are occupied, in this case the unmodified *full* or the adjectival phrase *absolutely full* would be used. Nor does (120) construe a situation with no visitors at all. Rather, what is meant in (119) is that the usual number of guests is considerably surpassed. Likewise, (120) suggests that there are much fewer visitors today than normally. Thus, given that the restaurant can host twenty-five visitors and that, on average, about ten people daily visit it, (119) could be used to describe a situation with twenty guests, and (120) could apply to a scene containing four visitors.

In like manner, Paradis & Willners (2006) have presented experimental evidence that adjectives meaning 'empty' and 'full' in Swedish are maximum-oriented

terms that, none the less, require a scale structure connecting the two extremes, with the pivotal point (cognitive zero) halfway between the endpoints.

I would like to propose that gradable complementaries, such as *full* and *empty*, differ from antonyms, such as *tall* and *short*, in the relative primacy of one CRP type over another. Relative adjectives are, by default, unbounded and primarily oriented to the cognitive zero, whereas gradable complementaries have the endpoints of the scale (min/max) as their primary CRPs. This does not mean, however, that relative adjectives are never associated with the maximum or minimum values, or that gradable complementaries cannot be interpreted vis-à-vis the cognitive zero. What happens in contexts like (119) and (120) is that the endpoints of the scale recede into the background in favour of the cognitive zero which, in its turn, receives major prominence. I will return to this issue in Section 10.2.5.

6.4.9. Conclusion

One of the dangers for every theory is the possibility of going into extremes. In Sections 6.2 and 6.3, I have demonstrated that the cognitive zero is often difficult to define and that it is frequently irrelevant to the actual use of relative adjectives. Such conclusions could suggest that the cognitive zero as an analytic tool should be dispensed with and substituted by another CRP type, for instance, an argumentative zero (as in Pander Maat 2006). However, as I have shown in this section, the irrelevance of the cognitive zero should not be exaggerated, for there *are* certain aspects in which this CRP is essential to the analysis of relative adjectives and thus there are reasons to keep it in the CRP inventory. Certain contexts (in purely thematic terms) place focus on the cognitive zero and motivate the interpretation based on comparison classes and their average values. Moreover, without appealing to the cognitive zero it would be difficult to account for committed construals of Russian analytic comparatives and of the English comparison-of-deviation construction. The cognitive zero is also indispensable in the interpretation of Russian long adjectives, and in the account of antonymy. This section has also shown that the standard value is imposed on the interpretation of gradable complementaries, when the properties denoted by them are construed in scalar terms.

6.5. Summary and discussion

The major point I have made in this chapter is that semantic analyses in terms of comparison classes and norms are not flexible enough to account for *all* uses of relative adjectives in real-life situations. Only part of the actual uses can be ex-

plained exclusively in terms of average values. I want to propose that there is more than one CRP type relevant to relative adjectives (cognitive zero, minimum, maximum, absolute zero, EGO, prototypes). Each of these CRPs can receive relative salience and become primary in real-life communication. For example, there are situations where the cognitive zero is primary (see Sections 5.4 and 6.4). But there are plenty of contexts where the minimum and the maximum values are crucial, whereas the cognitive zero, though not totally irrelevant (we can still think of some average and a comparison class), is retracted to the background.

My proposal is therefore to abandon rigidity and start thinking of more types of reference points. Language users are flexible enough to entertain more than one CRP at a time. For instance, we simultaneously entertain two cognitive zeros when operators such as *relatively* are used. Remember also a very common phenomenon, when parents speculate upon the remarks about the size of their child by "playing" with various CRPs and different inferences yielded by them. For instance, the parents may (quite consciously) conclude that Uncle Tom who called their daughter Amy *big*, used an incidental CRP (his expectation of that child, or the child's size half a year ago), rather than a cognitive zero. This would provide something like the following interpretation: Amy is bigger than Uncle Tom had expected, though she is below the average for her age. We are often aware of different CRPs that we have at our disposal for processing linguistic expressions.[22] Furthermore, we are perfectly able to switch very quickly from one CRP type to another. Consider (121) in this respect:

(121) She was tall but Tom was an awful lot taller, he must be six-two in his socks, Meredith calculated. (BNC)

The primary CRP for processing the first instance of *tall* in the above example is a cognitive zero: she was tall for an English woman. However, when the comparative form *taller* is introduced, the woman's height (i.e. the value that we accessed through the cognitive zero) becomes an incidental reference point for interpreting the second instance of the adjective in the text. This is what Langacker (1993: 6, 1999: 174) calls *intrinsic dynamic aspect of reference-point phenomenon*: having fulfilled the reference-point function the initially salient item recedes into the background in favour of the target, which, in its turn, may become a reference point for a new target.

[22] The adult subjects in Ebeling & Gelman's (1994) experiment mentioned in Section 6.3 often asked the experimenters which CRP they were supposed to use for the interpretation of, for instance *big hat* – an average-sized hat or the size of the hat next to it.

The analysis along the lines pursued in this chapter is in a way consistent with Kennedy's proposal to treat the notion of a standard value in broad terms. In Kennedy (1999a, 1999b) the term *standard value* covers not only the norm (*relative standard* in his terminology), but also reference points triggered by measure phrases and comparatives (in my terminology, *minimum* and *incidental CRP*, respectively).

In the next chapter, I will discuss three other CRP types – minimum, maximum, and absolute zero – which will be labelled by an umbrella term *polar anchors*. I will show that polar anchors are very often much more important to the interpretation of relative adjectives than the well-known cognitive zero.

Chapter 7. Polar anchors

Is all tallness alike – or is there a height barrier at which "tall" passes from being descriptive adjective to an essentialist identity?

B. Wieners

7.1. Introduction

In Chapters 5 and 6, I have shown that one of the basic assumptions in the analysis of relative adjectives, in general, and dimensional adjectives, in particular, is that terms constituting an antonymous pair are norm-oriented. A norm, which I call *cognitive zero*, is a reference point in the middle of the scale, usually instantiating an average value of the property relative to a comparison class. The assumption that even positive forms of relative adjectives imply comparison in the sense that a supra term, such as *tall*, means 'taller than average' and a sub term, such as *short*, means 'shorter than average' has become almost axiomatic. The vast majority of studies in both formal and cognitive semantics of relative adjectives take the notion of the norm as their starting point (Apresjan 1974; Arutjunova 1987, 1988, 1999; Bierwisch 1967; Bierwisch & Lang 1989; Carey 1978; Dirven & Taylor 1988; Durrell 1988; Gibson 1978; Katz 1972; Leisi 1975; Lyons 1969; Nikolaeva 1983; Počepcov 1990; Sapir 1944; Siegel 1980; Vendler 1968, *inter alia*).

In Chapter 6, I have already called into question the traditional analysis of dimensional adjectives as terms obligatorily interpreted vis-à-vis an average value. I have argued that the interpretation of relative adjectives does not necessarily evoke the norm. In this chapter, I will show that even in contexts where the average value *is* relevant, this reference point *by itself* is not sufficient to arrive at the desired interpretation. The extremes of the gradual (sub)scale – *polar anchors* – are frequently no less important than the cognitive zero.

I start this chapter by studying the differences between the positive form of dimensional adjectives (e.g. *tall*) and the Aer-than-average construction (e.g. *taller than average*). In Section 7.2, I suggest that one of the most important differences between the two constructions is that the latter is interpreted exclusively vis-à-vis an average value, whereas the interpretation of the former requires the activation of an additional CRP – the minimum value of "adjectiveness". In Section 7.3, I place this finding in a broader perspective of boundedness in the semantics of scalar adjectives. Section 7.4 explores the role of the upper bound on adjectival scales. And, finally, Section 7.5 discusses the role of the absolute zero in the semantics of dimensional adjectives.

7.2. Minimum of "adjectiveness" as a reference point

7.2.1. The Aer-than-average construction and the positive form

The norm-based analysis of relative terms suggests that in a sentence like *Skyscrapers are tall* the adjective is processed along the following lines. First, a class of comparison is identified (buildings). Second, the relevant dimension is chosen (vertical extent). And, finally, the referent's relation to the standard size of the comparison class is established (greater than average) (Siegel 1980: 128). The analysis along these lines strongly suggests that the expressions in (1) and (2) are equivalent.[1]

(1) Mike is tall.

(2) Mike is taller than average.

On this view, (2) only makes explicit the information that is left implicit in (1). In contrast to this well-known line of argument, I would like to propose that (1) and (2) are *not* equivalent. Rather, they instantiate different construal relationships between the speaker/hearer and the object of conceptualisation (Langacker 1987: 116-46). What is more, even in objective terms the two expressions are different, since (2) may describe a broader range of values than (1).

If *tall* and *taller than average* meant absolutely the same, it would be redundant to use the latter construction at all, since its only function would be to explicitly mention something that is intrinsically implied by bare dimensional adjectives. However, the fact that both positive forms of dimensional adjectives and the Aer-than-average construction are frequently employed by language users suggests that there must be a semantic difference, for instance, something that a comparative form in (2) does express, and the positive form in (1) does not. This section sets out to explore the relevant differences between the two constructions.

7.2.1.1. Crisp judgments. Compare sentences (3) and (4):

(3) Mike is taller than Jim.

(4) Mike is tall compared to Jim.

[1] This is what Bierwisch (1989) terms SF-equivalent without being SF-identical, where SF is 'semantic form'.

(3) may be used with reference to a wider variety of objective situations than (4). For instance, both expressions can be used when Mike is ten centimetres taller than Jim. But if Mike is one centimetre taller than Jim, only (3) would be felicitous. In other words, only comparative forms can be used to make what Kennedy (2007) calls *crisp judgments*, i.e. distinctions between entities based on minor noticeable differences in degree of the property. In contrast, the positive form used in comparative judgments, such as (4), always implies a substantial degree of divergence from the reference point.[2]

This difference forms the basis of the *Sorites paradox* illustrated by the following example:[3]

1. A person whose height is 2 m is tall.
2. A tall person who is 1 cm shorter is still tall.
3. So a person whose height is 1.99 m is tall.

Repeated applications of the second premise eventually lead to the absurd conclusion that a person whose height is 1 m is tall. To avoid this conclusion, one has to reject the second premise at a certain cut-off point, say, when the value of 1.80 m is reached. However, people are very reluctant to reject the second premise. The reason is that relative adjectives in the positive form cannot be used in crisp judgments. Thus, if we accept that 1.80 m sufficiently stands out from the standard value to be dubbed *tall*, then we have to admit that a value minimally different from 1.80 m (e.g. 1.79 m) is also distant enough from the reference point to be called *tall* (Graff 2000; Kennedy 2007).

For the present purposes, it is of paramount importance that comparatives can cover the whole area above or below the reference point, whereas bare relative adjectives only profile a segment of the gradual scale that is sufficiently distant from the standard value.

7.2.1.2. Degree modifiers with the positive form. Further evidence comes from the use of positive and comparative adjectives with scalar degree modifiers, i.e. modifiers mapping onto 'more-or-less' rather than 'either-or' mode of construal (Paradis 1997). Dimensional adjectives in the positive form collocate with all three types of scalar degree modifiers – boosters (e.g. *very short*, *terribly tall; očen' vysokij* 'very high', *črezvyčajno nizkij* 'extremely low'), moderators (e.g. *rather short*, *fairly tall; dovol'no vysokij* 'rather tall', *dostatočno nizkij* 'fairly low'), and diminishers (e.g. *a little short*, *slightly tall; nemnogo nizkij* 'a bit low'). Comparatives can only be modified by

[2] Note that the value of crisp judgments is contextually dependent. For instance, if Mike and Jim were worms, one centimetre would make a significant difference.

[3] For more information on the Sorites paradox see Campbell (1974) and Cargile (1969).

boosters (e.g. *conspicuously taller, noticeably shorter*) and diminishers (e.g. *a little taller, somewhat shorter*). Therefore, I will exclude moderators from consideration in this section. For the purposes of the present discussion, it is more relevant to compare the use of boosters and diminishers with positive and comparative forms of *tall, short* and their Russian counterparts *vysokij* 'high/tall' and *nizkij* 'low/short'.

Task 4 of the Survey (see Section 1.3.3) was designed to test the acceptability of long forms of dimensional adjectives with different types of degree modifiers. Combinations of the adjectives *vysokij* 'high/tall' and *nizkij* 'low/short' with the intensifier *očen'* 'very' were judged acceptable for both adjectives (see Table 7.1), whereas combinations with the diminisher *nemnogo* 'a little' were considered unacceptable in both cases. The difference between modifications by *očen'* and *nemnogo* was highly significant for both adjectives: *vysokij*: $t(168) = 27.5$, $p < .001$; *nizkij*: $t(168) = 20.7$, $p < .001$.

	očen' 'very'	**nemnogo 'a little'**
vysokij 'high/tall'	4.43	1.45
nizkij "low/short"	4.26	1.96

Table 7.1. Mean acceptability ratings: modifier *vs.* diminisher

The frequencies of positive and comparative adjectives modified by boosters and diminishers in the two corpora – the BNC and the RNC – are presented in Table 7.2. All four adjectives under consideration display restricted modification by diminishers when used to denote vertical extent in their positive form. The comparatives *taller* and *shorter* are more frequently modified by diminishers than positive uses of these adjectives, the difference being statistically significant in both cases: *tall*: $p < .001$ (Fisher's exact test); *short*: $p < .001$ (Fisher's exact test).

Adjectives	**Positive/comparative**	**Boosters**		**Diminishers**	
		N	**%**	**N**	**%**
tall	positive	178	4.2	3	0.07
	comparative	57	10.5	25	4.6
short	positive	96	29.4	2	0.6
	comparative	50	34.2	35	24
vysokij	positive	138	2.4	1	0.02
	comparative	19	3.2	28	4.7
nizkij	positive	12	1.1	0	0
	comparative	13	5.3	17	6.9

Table 7.2. Modification of positive and comparative adjectives by boosters and diminishers

As for the Russian adjectives, the difference is even more striking. With the only exception that will be considered below, diminishers are not used to modify the long positive forms of *vysokij* 'high/tall' and *nizkij* 'low/short' in their dimensional uses, whereas the comparative forms of these adjectives are more frequently modified by diminishers than by boosters. The difference in the use of diminishers with positive and comparative forms is significant for both adjectives: *vysokij*: $p < .001$ (Fisher's exact test); *nizkij*: $p < .001$ (Fisher's exact test).

Further, comparatives are equally felicitous with boosters and diminishers. Only in the case of *taller*, there is a significant difference between the frequencies of modifications by boosters and diminishers: $\chi^2(1) = 13.5$, $p < .001$. For the other three adjectives, there is no significant difference in the frequencies of combinations with boosters and diminishers: *shorter*: $\chi^2(1) = 3.7$, $p = .053$; *vyše*: $\chi^2(1) = 1.8$, $p = .18$; *niže*: $\chi^2(1) = 0.6$, $p = .451$. In contrast, for the positive forms there is a statistically significant difference between the frequencies of boosters and diminishers in all four cases: *tall*: $\chi^2(1) = 172.9$, $p < .001$; *short*: $\chi^2(1) = 106.1$, $p < .001$; *vysokij*: $\chi^2(1) = 136.1$, $p < .001$; *nizkij*: $\chi^2(1) = 12$, $p < .05$.

In summary, diminishers, though quite frequently used to modify comparatives, are only in very exceptional cases combined with positive dimensional adjectives. Let us consider these exceptional cases in more detail.

Of 4,235 relevant uses of *tall* in the BNC, there are only three cases of modification by diminishers: one in the written part of the BNC (example 5), and two in the same context from the spoken part of the corpus (example 6).

(5) As she moved off with the other mounted followers, Artemis determined that if her father thought it was time for her to stop riding ponies and learn to hunt on a horse, then so be it. She would make the transition. 'Isn't he **a little tall**?' Artemis asked, as she stood admiring her fifteenth birthday present, a stunning looking dark brown thoroughbred gelding which Jenkins had been instructed to lead up outside the house as a surprise. (BNC)

(6) Yeah, in the basket in the wicker basket there, there's a handle and it just clips on. Thanks. I'll buy a handle. No you can buy, get the handles here separately. Oh you can get the handles separately. Can I just advise you to swap that one, some of the flowers. Yeah, go on … are going a bit … thanks very much. Can you swap that one, the flowers are going a bit. Oh yes. I'm just looking at, erm this one it looks so pretty, no not that. That one? Yeah that's what do you think of that one. Yeah that's very nice, yes I like that. Unusual. That's a nice one. Yes that is a nice one. You see all the buds coming out. Oh yes, yes mm, mm alright? I'm wondering now, looking at it, if that erm is **a bit tall for the rest of them**. Yes. Do you know

what I mean? It does look **a bit tall**, you're quite right, erm that one's quite a low one, what about that one? Yes. I'm thinking of the red. Thinking of the red really. Deeper red? Yes. Here you go, what about that one? Oh that's, yes. (BNC)

Note that the adjectival phrases *a little tall* in (5) and *a bit tall* in (6) do not mean that the height of the horse and the flower slightly deviated from the average height of horses and flowers, respectively. Rather, in these contexts the adjective is interpreted in terms of a consequence attached to a degree of the property (cf. Pander Maat 2006). Put another way, in these cases *tall* means something like 'too tall for particular purposes'. In (5) the horse is thought to be too tall for a fifteen-year-old girl who has always had a pony and never ridden a horse. *A little tall* is a polite way of putting that the horse was, in fact, too tall for the girl to ride. (6) is a fragment of a conversation between a florist and two customers who are choosing flowers to match their bouquet. The flower that is called *a bit tall* is too tall for the rest of the bunch. Thus, the meaning of *tall* in (5) and (6) – the only cases of modification of *tall* by diminishers in the BNC – is not contingent on the average value at all.

Short denoting vertical extent is modified by diminishers twice out of 326 relevant uses in the BNC. See (7) and (8) below:

(7) Sanchez-Vicario also, of course is equally tough and she attacks every ball so well. She has very strong legs. She can stay on court for 6 or 7 hours. She was built strong. She is **a little short** but she has these other advantages. Her strength is so important to her game. All Players must have this strength if they are to succeed at the top level. (BNC)

(8) This description is not only more extended and specific than any one would find in Jane Austen's novels; it conceives of a house in a totally different way, as the foreground, not the background, of a fiction. We are told much less of Mrs Tibbs's appearance - only, indeed, that she is **somewhat short** in stature, while the opening sentence, which describes her personality, is comparatively so brief that she seems to reflect the house, not vice versa. (BNC)

Arantxa Sanchez-Vicario is 1.70 m tall, which is, in fact, not short for an average woman. The combination of *short* with the diminisher *a little* in (7) suggests that she is too short to be able to win from professional tennis-players. In contrast, *short* in (8) may be interpreted vis-à-vis standard height of English women. Nonetheless, a more prominent aspect implied by *somewhat short* is an undesirable excess of the property (Paradis 1997, cf. Bolinger 1972: 50; Klein 1997: 6; Kustova 1994: 22). *Somewhat short* in (8) could mean that Mrs. Tibbs was too short for the contempo-

rary standards of beauty, or too short for her figure, or too short to be liked by the speaker, etc. (8) is similar to (5)-(7) in that the consequential reading of the dimensional adjectives in these contexts is more prominent than the interpretation vis-à-vis an average value.

Now let us turn to the Russian data. It is remarkable that the Russian adjectives in their long form are even less frequently modified by diminishers than their English counterparts. For instance, there is no single context in the RNC where *nizkij* 'low/short' used in the dimensional sense would be modified by a diminisher (the total number of relevant uses in the positive form equals 1,045). *Vysokij* 'high/tall' is modified by the diminisher *neskol'ko* 'somewhat' only in one context out of 5,633 relevant occurrences in the RNC. Witness (9):

(9) Всем этим домом заведывал
all-SG.M.INS this-M.INS house-INS managed-SG.M.IPFV

управляющий всегда отсутствующего хозяина,
manager-NOM always be.absent-PTCP.PRS.ACT.SG.M.GEN owner-GEN

Иван Иванович Хохлов. Это был
Ivan-NOM Ivanovich-NOM Khokhlov-NOM this was-M

несколько высокий, сутуловатый человек,
somewhat high-(LF)SG.M.NOM stooping.a.bit-(LF)SG.M.NOM man-NOM

с большой бородавкой на щеке, покрытой
with big-SG.F.INS wart-INS on cheek-LOC covered-SG.F.LOC

волосами, и с вечной улыбкой, которою
hair-PL.INS and with eternal-(LF)SG.F.INS smile-INS which-SG.F.INS

он сопровождал свои шутки. (RNC)
he accompanied-SG.M.IPFV one's-PL.ACC jokes-ACC

'The person in charge of the whole house was the manager of the ever-missing owner Ivan Ivanovich Khokhlov. He was somewhat tall and stooping, with a big wart on his hairy cheek, and with a perpetual smile accompanying his jokes.'

(9) is similar to (8) in the sense that the dimensional adjective *vysokij* 'high/tall' may be interpreted relative to the average height of the comparison class (Russian men). This interpretation is, however, retracted to the background in favour of the more

prominent correlative degree reading: in the conceptualiser's eyes the manager was somewhat *too* tall.

The observation that the Russian adjectives are even less likely to be modified by diminishers as compared to the English dimensional adjectives may be related to the fact that most Russian adjectives have a long form and a short form (see Section 6.4.7). Long dimensional adjectives prompt interpretations vis-à-vis a norm, whereas short forms of these adjectives usually have consequential interpretations similar to those exemplified by (6)-(9) (Gvozdev 1961: 229ff., 1965; Groen 1998: 152ff.; Švedova 1980: 557; Timberlake 1993: 862-4; Vinogradov 1947: 262-5; Wade 1992: 164ff.; Ward 1965: 192ff.). Thus, *nemnogo vysokij* 'a bit high-LF' is odd, and *nemnogo vysok* 'a bit high-SF' is very normal, since the former expression motivates a norm-oriented interpretation ('a bit higher than average'), and the latter suggests a consequential reading ('a little too high for something'). In this respect, short forms are similar to adjectives with the suffix *-ovat-* used to denote a small degree of the undesirable property. For instance, *vysok**ovat**yj* (from *vysokij* 'high/tall') implies that the referent is minimally tall, but still too high (Filipenko 1998: 283-4; Koptjevskaja-Tamm & Rakhilina 2006).

In summary, dimensional adjectives modified by diminishers do not place focus on the deviation of the property from the norm. Rather, a correlative degree interpretation is prompted (cf. Leech & Svartvik 1975: 102; Paradis 1997, 2000a: 48, 2001: 63).[4] This does not mean, however, that the correlative reading is intrinsic only to combinations of relative adjectives with diminishers. Although the consequential interpretation tends to be very salient in adjectival phrases with diminishers, this interpretation can also be triggered by relative adjectives taking intensifiers and by unmodified gradable adjectives. The point I have tried to make here is that positive forms of relative adjectives are not likely to denote minor deviations from the reference point, even when they are modified by diminishers. In this case, the interpretation vis-à-vis the average value either recedes into the background in favour of the consequential reading, as in (8) and (9), or is absent altogether, as in (5)-(7). This again brings us to the conclusion from Section 7.2.1.2, that the positive form of relative adjectives cannot be used when a slight deviation from a reference point has to be expressed. In such cases, comparative adjectives and/or various descriptive constructions must be employed.

[4] When used with scalar adjectives denoting a negative evaluation (*odd, silly, crude, sick*), diminishers and moderators are used as understatements to soften an undesired property (Paradis 1997; Stoffel 1901).

7.2.1.3. Degree modifiers with comparatives. Unlike positive adjectives, comparatives are readily used with diminishers. By way of illustration, see (10)-(12):

(10) She turned, all flaxen and pink and white, haloed by the naked light bulbs round the mirror. She was **only a little taller** than he. (BNC)

(11) The crowds had lessened considerably, and a woman **slightly shorter** than Fox, grey-haired, was approaching the door of number 23. (BNC)

(12) Она была **чуть** **выше** Сократика, и его плечо
she was-F a.bit higher Sokratik-GEN and his shoulder-NOM

в работе все время терлось
in work-LOC all-SG.N.ACC time-ACC rubbed-SG.N.IPFV

о руку матери. (RNC)
against arm-ACC mother-GEN

'She was a bit taller than Sokratik, and when at work, his shoulder was constantly rubbing against his mother's arm.'

Sentences such as (10)-(12) are quite common in both the BNC and the RNC. Critically, comparatives are easily combined with diminishers due to their ability to express minor deviations from the reference point. For the very same reason, comparatives are felicitous with measure phrases denoting a slight difference in height, as shown in (13) and (14):

(13) We **are just under one inch taller** on getting up in the morning than we are on going to bed at night. (BNC)

(14) Средняя группа относится к росту
average-SG.F.NOM group-NOM belongs-REFL towards stature-DAT

164,5 см, так что 20-летний молодой
164.5 cm so that 20.year.old-SG.M.NOM young-(LF)SG.M.NOM

Швейцарец оказывается на несколько
Swiss.man-NOM turns.out-REFL on several

сантиметров выше, чем крестьянин Центральной
centimeters-GEN higher than peasant-NOM Central-SG.F.GEN

России. (RNC)
Russia-GEN

'The average group is 164.5 cm tall, so that a young 20-year-old Swiss man is several centimetres taller than a peasant in Central Russia.'

Consequently, the Aer-than-average construction is different from adjectives in the positive in that the former can denote minor deviations from average, and the latter cannot. Furthermore, the adjectives in the Aer-than-average construction are quite often modified by diminishers to emphasise that the referent's height only slightly deviates from the average value, and thus does not stand out from the reference point considerably enough to be dubbed by an adjective in the positive form. For instance, almost a third (28%) of all uses of the construction *vyše srednego* 'higher/taller than average' in the RNC are crisp judgments with diminishers exemplified by (15) and (16).[5]

(15) Я пока не могу сказать, что достигаю
I yet NEG may-PRS.1SG say-INF.PFV that reach-PRS.1SG

небывалых высот, но все же, думаю,
unprecedented-PL.GEN heights-GEN but all PCL think-PRS.1SG

что я **несколько** **выше** **среднего**. (RNC)
that I somewhat higher average-GEN

'I still can't say I am unprecedentedly tall, though I think I am somewhat taller than average.'

(16) Ростом он был **чуть** **выше** **среднего**, а
stature-INS he was-M a.bit higher average-GEN CONJ

у меня метр девяносто – это, наверное,
by me-GEN meter-NOM ninety this probably

благодаря спорту. (RNC)
thanks.to sport-DAT

[5] According to Pocelujevskij (1977), modification of Russian comparative adjectives by diminishers is, in a sense, redundant, since comparatives originally meant only a small deviation from the reference point and could not be used if the difference between the two values was quite big. In other words, it was a special function of comparatives to denote *minor* deviations from the point of reference. Only comparatives marked with the prefix *po-* (e.g. *povyshe*, po.higher 'slightly higher') retained this original meaning in modern Russian, where comparative forms can be used to denote both smaller and bigger deviations from reference points (cf. Barentsen 1978: 24-5; Gibson 1978: 116; Švedova 1980: 565; Vinogradov 1947: 258; Ward 1965: 189).

> 'He was a bit taller than average, whereas I am 1.90 m tall – this probably due to sport.'

To summarise the discussion so far, comparative forms used in the Aer-than-average construction are different from relative adjectives in the positive form in that only the former but not the latter can denote minor divergences from the reference point. Moreover, the Aer-than-average construction is often used to profile the slight degree of divergence from the average value. Put another way, the Aer-than-average construction tends to be employed in situations where a focus should be placed on a small deviation from the norm, since dimensional adjectives in the positive form are not able to express that meaning.

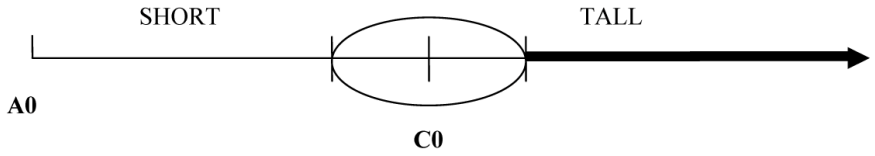
7.2.1.4. Profiling. The semantic analysis presented above provides considerable evidence in support of the claim I made at the beginning of this section that expressions such as *Mike is tall* and *Mike is taller than average* are not fully synonymous. *Taller than average* denotes the part of the scale starting from the cognitive zero, and stretching in the direction of the maximum endpoint (or infinity). *Tall*, on the other hand, focuses on the part of the scale between the minimum value of standing out from the cognitive zero and the maximum endpoint (or infinity). Compare (17) and (18):

(17) Our room Corporal was a **tall Italian** called Tambini who looked like an eagle with a head cold. (BNC)

(18) Her thoughts were interrupted by the sight of a man. He was standing aloof, black-haired, broad-shouldered and narrow-hipped, **taller than the average Italian**, an air of contained, but absolute authority setting him apart from the noisy, gesticulating mob. (BNC)

The difference between the conceptualisations of height in (17) and (18) is captured in Figure 7.1. To be called *a tall Italian*, it is not enough to have a taller than average height. One's height has to stand out considerably from the cognitive zero, that is to say diverge from it to a significant degree (cf. Apresjan 2004: 210; Cruse 1986: 206; Graff 2000, 2002; Kennedy 2007; Langacker 1987: 132; Warren 1988: 161). *Taller than average*, on the other hand, covers the whole subscale of tallness; its realm is adjacent to the cognitive zero area.

a tall Italian



taller than the average Italian

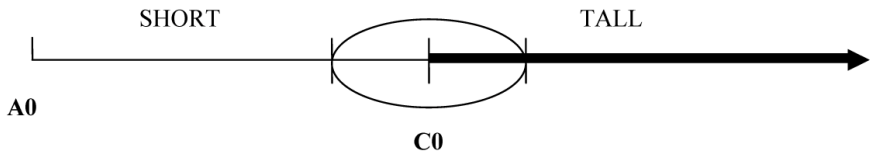


Figure 7.1. Profiling in bare adjectives and in the Aer-than-average construction.
A0 = absolute zero, C0 = cognitive zero

This semantic difference between relative adjectives in the positive form and the Aer-than-average construction is brought forth by the construal operation of *selection* (Langacker 1987: 117-20). The part of the scale that is being put in focus is the *profile* of the expression, its maximally prominent item. Thus, the Aer-than-average construction profiles the whole part of the scale above or below the norm, and the profile of bare dimensional adjectives is the area between the minimum value of "adjectiveness" and the maximum endpoint (or infinity). This semantic subtlety is functionally relevant, since only the former construction can profile the part of the scale between the cognitive zero and the minimum value of, say, tallness. Due to this functional significance, the Aer-than-average construction is usually employed either if the whole subscale should be profiled, or if the scale part between the norm and the minimum of the property has to be brought in focus. In the latter case, comparatives are usually modified by diminishers.

7.2.2. Implications for the semantics of relative adjectives

The findings reported in Section 7.2.1 have important implications for theories of relative adjectives, since they clearly demonstrate that the analysis based entirely on the notion of the norm is untenable. In line with the conclusions from Chapter 6, the data considered here have shown that the average value is often irrelevant to the interpretation of dimensional adjectives in the positive form. What is more, even in cases where the cognitive zero *is* relevant, it is not sufficient for the processing of these adjectives. Not everything that is above average can be dubbed *tall*; a certain minimum degree of tallness has to be reached instead. The minimum value of "adjectiveness" is therefore another CRP crucial in the semantics of dimensional adjectives and, presumably, other relative adjectives as well.[6] This minimum value is context-dependent and vague. However, if needed, it can also be made explicit; (19) and (20) are examples of this:

(19) Из **высоких** (**больше** **1 м**) кустарников
from high-(LF)PL.GEN more 1 m-GEN shrubs-GEN

могут подмерзать в суровые
may-PRS.3.PL freeze.a.bit-INF.IPFV in severe-(LF)PL.ACC

зимы сорта с бледно-желтой и
winters-ACC sorts-NOM with pale.yellow-(LF)SG.F.INS and

кремовой окраской цветков: "Ochroleuca",
cream.like-SG.F.INS coloration-INS flowers-GEN Ochroleuca

"Vilmoriniana", "William Purdom" (другое название
Vilmoriniana William Purdom other-SG.N.NOM name-NOM

"Purdomii"), которые к тому же
Purdomii which-PL.NOM towards that-DAT PCL

характеризуются серовато-зеленым оттенком
characterise-PRS.3.PL.REFL greyish.green-(LF)SG.M.INS shade-INS

листвы. (RNC)
leaves-SG.GEN

'The following types of tall (more than 1m in height) shrubs with pale-yellow and cream-coloured blossoms can be affected by frost during se-

[6] See, for example, Rakhilina (2000) and Koptjevskaja-Tamm & Rakhilina (2006) for the role of the minimum value in the semantics of temperature adjectives.

vere winters: Ochroleuca, Vilmoriniana, William Purdom (also called Purdomii). All these, by the way, have greyish-green leaves.'

(20) Еще тридцать лет назад на бульваре
Still thirty years ago on boulevard-LOC

предполагалось построить **высотные**
presupposed-IMPERS.IPFV.REFL build-INF.PFV high-(LF)PL.ACC

дома – **выше** **12-этажек**. (RNC)
houses-ACC higher 12-storied.buildings-GEN

'As far back as thirty years ago, tall buildings – more than 12 stories high – were supposed to be built on this avenue.'

In the rest of this section, I will present some additional evidence demonstrating the role of the minimum CRP in the interpretation of dimensional adjectives.

7.2.3. Further evidence

7.2.3.1. Semantics of moderators. Relative adjectives can be modified by moderators such as *rather, fairly, pretty, dovol'no* 'rather, fairly' and *dostatočno* 'rather, fairly'.[7] These scalar modifiers mean that the degree of the property is minimally sufficient to sanction the use of the adjective (cf. Klein 1997: 20; Stoffel 1901). It is interesting to note that not all of these words are lexically bleached. Some of them still retain the original lexical meaning that motivated their becoming a moderator. This is the case for the English adverb *fairly* and the Russian moderators *dovol'no* and *dostatočno*.

The adverb *fairly* is derived from the adjective *fair* meaning 'proper, justified'. When used as a moderator, the adverb still retains this original meaning. A *fairly tall* person is a person whose height meets the minimal requirements of tallness. In other words, it marks a value which is one of the first legitimate candidates for TALLNESS (cf. Nevalainen & Rissanen 2002).

The Russian adverb *dostatočno* is derived from the adjective *dostatočnyj* 'sufficient' (Vasiljev 2001). *Dostatočno* has two different adverbial senses, both in the domain of degree. Compare sentences (21) and (22):

[7] For instance, the subjects of the Survey judged both *dovol'no vysokij* 'rather high' and *dovol'no nizkij* acceptable: M1 = 4.24, M2 = 4.07.

(21) Чтобы птицы гнездились на вашем
so.that birds-NOM nest-SBJV.PL.IPFV on 2.PL.POSS.SG.M.LOC

участке и летом "отрабатывали" вашу
plot-LOC and summer-INS work.off-SBJV.PL.IPFV your-SG.F.ACC

зимнюю заботу о них, надо
winter-ADJ.SG.F.ACC care-ACC about them-LOC need-PRS.IMPES

строить и развешивать на деревьях
build-INF.IPFV and hang.around-INF.IPFV on trees-LOC

домики: скворечники на высоте 5-6 м,
houses-DIM.ACC startling.houses-ACC on height-LOC 5-6 m

а синичники – в 2-3 м от земли. Если
CONJ titmouse.houses-ACC in 2-3 m from ground-GEN if

в саду пока нет **достаточно высоких**
in garden-LOC yet NEG sufficiently high-(LF)PL.GEN

деревьев, то домики устанавливают на шестах.
trees-GEN then houses-DIM.ACC mount-PRS.INDF.IPFV on poles-LOC
(RNC)

'If you want birds to nest in your garden and "work off" for the care you took of them in the winter, you should make birdhouses and fix them in the trees: starling houses as high as 5 or 6 metres, and titmouse-boxes as high as 2 or 3 metres from the ground. If you do not have trees tall enough in your garden yet, you can fix the houses on poles.'

(22) В высокогорье, спускаясь по долине,
in high.mountains-SG.LOC descend-ADPTCP.PRS on valley-DAT

вам обычно придется преодолеть
2.PL.DAT usually have.to-FUT.IMPERS.PFV overcome-INF.PFV

ледник. Если он под снегом, то предельно
glacier-ACC if 3.SG.M under snow-INS then utterly

опасен невидимыми трещинами (в отличие
dangerous-(SF)SG.M invisible-(LF)PL.INS fissures-INS in difference-ACC

от бесснежного ледника, где разломы
from snowless-(LF)SG.M.GEN glacier-GEN where breaks-NOM

видны).	В	случае	если	человек				
visible-(SF)PL	in	case	if	man-NOM				
провалится			в	какую-либо		из	них	
collapse-FUT.3.SG.PFV.REFL			in	some.PCL-SG.F.ACC		from	them-GEN	
без	страховки,	он	обычно	погибает		от		
without	standby-GEN	he	usually	perishes		from		
травм	и	холода,	так	как	трещины			
traumas-GEN	and	cold-GEN	so	how	fissures-NOM			
достаточно		**высоки**	и	в	них		на	
rather/sufficiently		high-(SF)PL	and	in	them-LOC		on	
дне	скапливается		ледяная		вода. (RNC)			
bottom-LOC	accumulates-REFL		icy-SG.F.NOM		water-NOM			

'Descending from high mountains along a valley, you will usually have to surmount a glacier. If it is covered with snow, it is highly dangerous with invisible fissures (unlike a snow-free glacier where you can see the fissures). In case a person falls in one of them without standby, he will usually die from wounds and cold, since the fissures are fairly high and ice-cold water collects on their bottom.'

In (21) *dostatočno* is a totality modifier meaning 'sufficiently'; *dostatočno vysokie* is here a correlative degree construction prompting the interpretation in terms of the incidental minimum that has to be reached in order for the situation to hold – the trees have to be high enough to fix the bird-houses. In (22) *dostatočno* is a scalar modifier meaning 'rather, fairly'. It triggers the interpretation vis-à-vis the cognitive zero and indicates that the reference value deviates from the cognitive zero to some significant degree, or rather to the degree that is significant enough for the adjectival property to hold. Thus, I would like to suggest that the original meaning 'sufficiently' is still relevant here because of the evocation of the minimum as a secondary CRP. *Dostatočno vysokie treščiny* 'rather high fissures' are fissures that are high *enough* to be labelled by the adjective *vysokij*. In other words, this phrase dubs the minimal value of what might be called 'high'.[8]

[8] Remarkably, the French *assez* 'enough' can also be used as a moderator (Fortuin, forthcoming). A similar tendency has been noticed for the English *enough*. Paradis (2000a) and Stenström (2000) report the development of *enough* into a scalar modifier reinforcing the gradable property denoted by the adjective in London teenage language (e.g. *enough old, enough funny, enough quiet, enough bad*).

In a similar fashion, *dovol'no* is a moderator which to a certain degree retains the original lexical meaning of the adjective *dovol'nyj* 'satisfied, pleased'. Although it primarily evokes the schematic domain of a scale, the content domain of satisfaction is still relevant to its interpretation. Intuitively, *dovol'no vysokie doma* 'fairly high houses' in (23) are houses whose height, at least, *satisfies* the minimal requirements of tallness.

(23) Дома **довольно** **высоки**. (RNC)
houses-NOM rather high-(SF)PL

'The houses are rather tall.'

In sum, the moderators that are still "transparent" enough in terms of motivation and semantic change provide additional evidence in favour of the minimum reference point. For a relative adjective to apply, a certain minimum degree of "adjectiveness" has to be reached. Attaining the minimum degree of "adjectiveness" is marked by the combination of a relative adjective with a moderator.[9]

7.2.3.2. Constructions with measure phrases. The minimum value of the property is sometimes relevant to the interpretation of constructions with measure phrases. In this case, the minimum is made explicit by the measure phrase itself. Witness the following example from Kennedy (1999b: 63).

(24) A: You have to be at least 5 feet tall to be an astronaut.
B: I'm **5 feet tall**; in fact, I'm over 5 feet tall.

A usual interpretation of a sentence like *I am 5 feet tall* is the one where the speaker is supposed to be exactly or about five feet tall. However, in the context of (24), B's answer is interpreted vis-à-vis the minimum value of relevant tallness, i.e. the five feet value. It is because of this minimum-anchored interpretation, that B's answer is not contradictory (cf. Bierwisch 1989: 123).

Example (24) shows that English does not require a different construction to express the minimum-related meaning. The same type of construction with measure phrases can be used in both cases: to trigger the 'exactly/about' interpretation

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Interestingly, *enough* was used as a premodifer of adjectives already in Old English and disappeared in that function in the XIX century (Stenström 2000: 188).

[9] Note a similar phenomenon with regard to the Russian adjective *vidnyj*. This word can be used with reference to people who are tall and attractive. This is a metaphorical extension of the word's original meaning 'visible'. This semantic change was motivated by the idea that tall people *sufficiently* stand out to be seen. Yet again, the semantics of the bare scalar adjective is contingent on the lower bound of the property, which in this case is construed in terms of visibility.

and the 'at least' reading. Conversely, Russian has two different constructions for these two meanings. As explained earlier, Russian adjectives are not used in constructions with measure phrases at all. Nominal phrases with nouns such as *rost* 'stature' and *vysota* 'height' are used instead. Compare (25) and (26):

(25) A: Чтобы быть астронавтом, нужен рост не
so.that be-INF astronaut-INS needed-SG.M stature-NOM NEG

менее метра восемьдесят.
less metre-GEN eighty

'To be an astronaut you need to be at least 1.80 m tall.'

B: У меня рост метр восемьдесят.
at me-GEN stature-NOM metre-NOM eighty

'I am 1.80 m tall.'

(26) A: Чтобы быть астронавтом, нужен рост не
so.that be-INF astronaut-INS needed-SG.M stature-NOM NEG

менее метра восемьдесят.
less metre-GEN eighty

'To be an astronaut you need to be at least 1.80 m tall.'

B: Во мне метр восемьдесят-то есть.
in me-LOC metre-NOM eighty.PCL is

'I am 1.80 m.'

In (25), B means that s/he is exactly (or about) 1.80 m tall. This is a typical possessive construction: *u menja X* (at me X), where X is height/stature. B's answer in (26) is different. In this case, the speaker claims that s/he is, at least, 1.80 m tall. It is a locative construction of the type *v Y X-to est'* (in Y X-PCL is). This construction is, however, different from the prototypical locative construction *v Y est' X* (in Y is X) with the unusual position of the verb 'be' and the presence of the emphatic particle *to*. In (26), just as in (24), 1.80 m is the minimum value, and the referent's height is claimed to be equal to or above that minimum.

7.3. Implications for boundedness in adjectival semantics

The finding reported in this chapter that the minimum value of adjectiveness is important to the interpretation of relative adjectives in the positive form has two implications for theories of adjectival semantics. Firstly, this is evidence that boundedness is a construal relationship that is relevant not only to verbal and nominal semantics, but also to the semantics of adjectives. Secondly, these results present counterarguments to a well-established opinion that scales triggered by dimensional adjectives (and other relative adjectives) are open at both ends. Let us now briefly look at these two issues.

7.3.1. Boundedness

One of the construal operations of the type *schematic structuring* described by Talmy (2000) is individuation. An important aspect of individuation is *state of boundedness*.[10] Something can be construed either as having clear boundaries (bounded) or as having no boundaries at all (unbounded). The principal notions of this category – boundedness and unboundedness – have been discussed primarily with respect to nouns (count *vs.* mass nouns) and verbs (perfective *vs.* imperfective forms). Mass nouns and imperfective verbs construe entities and processes as lacking clear boundaries, whereas count nouns and perfective verb forms construe individual entities and bounded actions (Talmy 2000: 63-4).

Notice that this account of boundedness says nothing about adjectives. There were, however, a few attempts to extrapolate the notion of boundedness to the study of adjectival semantics (Amaral 2006; Frazier et al. 2006; Kennedy & McNally 2005; Kennedy 2007; Paradis 1997, 2000a, 2001, 2005; Paradis & Willners 2006; Rotstein & Winter 2004; Syrett 2007; Syrett et al. 2005; Winter 2006; Yoneoka 1992).

Paradis (2005) treats boundedness as a "schematic template of high generality, which plays a role in other schematic templates, such as SCALE" (p. 55). In earlier work, Paradis (1997, 2000a, 2001) studied boundedness as a fundamental characteristic of adjectival gradability. Following Bolinger (1967a), she distinguishes between two modes of construal, or two types of image-schematic domains, relevant to gradable terms – one of totality ('either-or' conception) and one of scalarity ('more-

[10] Note that Talmy (2000) uses the term *boundness* with regard to individuation. Other authors spell this term *bound**ed**ness* to emphasise that this phenomenon is related to boundaries, rather than binding (e.g. Paradis 2001; Rotstein & Winter 2004). In this thesis, I will use the latter variant.

or-less' conception). Both adjectives and adverbs were shown to display this dichotomy.

On this view, gradable adjectives are divided into two groups – bounded (associated with the boundary) and unbounded (not associated with the boundary). Adjectives that are, by default, associated with a boundary and thus display a totality construal are divided into limit (e.g. *clean, full, sufficient, true*) and extreme (e.g. *amazing, excellent, huge, tiny*) adjectives. Adjectives with the more-or-less construal of properties are called *scalars* (e.g. *fast, interesting, nice, tall*); these adjectives are unbounded.[11]

In a similar fashion, adverbs of degree also fall into two categories – totality and scalar modifiers – distinguished on the basis of the mode of construal (cf. Červenkova 1974; Syrett 2007). As mentioned earlier, totality modifiers include maximizers (e.g. *absolutely, completely, entirely, perfectly, totally, utterly*) and approximators (e.g. *almost, nearly*). Scalar modifiers comprise boosters (e.g. *awfully, extremely, frightfully, highly, jolly, very*), moderators (e.g. *fairly, pretty, quite, rather*), and diminishers (e.g. *a bit, a little, slightly, somewhat*).

Paradis (1997) suggests that a modified adjective and a modifying adverb have to fit each other on the level of the schematic domain. Or rather, it is argued, the adjectival image-schema selects the relevant type of degree modification. Thus, scalar adjectives select modifiers indicating a subrange on a scale (e.g. *very tall*, *fairly tall*). Limit and extreme adjectives, on the other hand, require modifiers which are capable of reinforcing the extreme point or the absolute limit (*absolutely amazing*, *almost clean*).

The data from the London-Lund Corpus – a written corpus containing texts from the sixties and seventies – supported Paradis's (1997) hypothesis that different modes of construal determine the choice of a degree modifier. So, scalar adjectives were shown to choose scalar modifiers. Extreme and limit adjectives proved to take totality modifiers. Paradis (1997, 2001) has also shown that totality adjectives are more likely to display a non-default mode of construal than scalar adjectives. Put another way, through contextual modulation totality adjectives can function as scalar terms (e.g. *clean* > *very clean*; *possible* > *very possible*), whereas scalar adjectives are quite rigid unbounded items that are not likely to display totality construal (cf. Syrett 2007: Ch. 4).

In 2000, Paradis tested her hypothesis again, this time using the Bergen Corpus of London Teenage Language (1993). This second study replicated the results re-

[11] Mettinger (1999) in this case makes a distinction between two types of image-schemas – a scale for gradable antonyms and a container for gradable complementaries.

ported in Paradis (1997). Similar results were also reported for Swedish by Paradis & Willners (2006) and for Chinese by Chang (2004) and Lai (2001).

These findings are very useful for the study of boundedness in adjectival semantics and for the theory of gradable adjectives in general. However, I do not accept the 'scale-or-point' rationale of the distinction between bounded and unbounded adjectives. Paradis (1997, 2000a, 2001, 2005) argues that unbounded adjectives (scalars) construe the property as a range on a scale, whereas bounded adjectives (limit and extreme terms) are point-like conceptualisations (cf. Bolinger 1967a; Broekhuis 1999: 23-36; Červenkova 1974). However, even if totality adjectives denote a point, it is a point *on a scale*. This makes modification by approximators, i.e. words indicating that "the property of the referent in question falls short of the limit implied by the meaning of the adjective" (Paradis 1997: 63), possible. Critically, this is also an aspect of scalarity. Furthermore, as shown by Bolinger (1967a: 6) and Paradis (1997, 2001), some people find comparative forms of extreme adjectives, such as *perfect* and *excellent*, quite acceptable. Some of the limit adjectives, such as *clean* and *free*, can also be used in comparative constructions. What is more, it is absolutely possible to think of the properties denoted by these adjectives as ranges rather than points on a scale, which sanctions utterances such as *My room is clean, and yours is even cleaner* (cf. Rotstein & Winter 2004). These observations strongly suggest that bounded adjectives are also scalar terms. Therefore, in this thesis I use the term *relative adjectives* rather than *scalars* to refer to words such as *tall* and *good*.

7.3.2. Open and closed scales

The conclusion that both bounded and unbounded adjectives can evoke a scale is in line with findings from a series of studies into the structure of adjectival scales inspired by Kennedy & McNally (2005). Studies reported in Amaral (2006), Frazier et al. (2006), Kennedy (2007), Rotstein & Winter (2004), Syrett (2007), Syrett et al. (2005), and Winter (2006) strongly suggest that both bounded and unbounded adjectives are scalar terms. The two adjectival types, however, differ as to the structure of the evoked scales. Adjectives called *scalar* in the Paradis model were shown to be open-scale predicates, whereas, *totality* adjectives are claimed to be projections onto closed scales.

Like Paradis, Kennedy & McNally (2005) use as empirical evidence the distribution of degree modifiers with gradable adjectives. They argue that unbounded (open-scale) adjectives, such as *tall*, cannot combine with proportional modifiers such as *half, mostly* and *most of the way*, nor do they take maximality modifiers such as

completely, 100%, fully. Conversely, bounded (closed-scale) adjectives, such as *full*, are felicitous with both proportional and totality modifiers. Closed scales are further divided into totally closed (*completely visible/invisible*), lower closed (*fully ?bent/straight*), and upper closed scales (*100% pure/?impure*). Adjectives evoking lower-closed scales are sometimes called *partial*; adjectives interpreted vis-à-vis upper-closed scales are termed *total* (Rotstein & Winter 2004; Winter 2006).

The observation that bounded adjectives can trigger the image-schematic domain SCALE is also supported by psycholinguistic data reported in Frazier et al. (2006). They conducted four experiments on judgment, reading, and interpretation of sentences containing closed-scale adjectives. Their study has shown that bounded adjectives are obligatorily processed vis-à-vis gradual scales. The results also suggest that the main difference between partial and total adjectives is the type of the standard value (CRP in my terminology). Partial adjectives (e.g. *dirty*) are minimum-oriented, and total adjectives (e.g. *clean*) are maximum-standard terms. Minimum-oriented adjectives require that the referent possesses some minimal degree of the property (e.g. *impure, wet, bent*), whereas maximum-standard adjectives require their referents to display the maximal degree of the property (e.g. *pure, dry, straight*). These default CRPs were shown to have implications for modification of total and partial adjectives by diminishers and maximizers. Maximum-standard adjectives take maximizers such as *absolutely, completely,* and *perfectly*, and approximators such as *almost*; minimum standard adjectives can be modified by diminishers such as *slightly* and proportional modifiers such as *partially* (Frazier et al. 2006; Rotstein & Winter 2004).

Similar findings are reported in Syrett (2007: Ch. 5). Her analysis of the spoken part of the BNC revealed that maximum-oriented bounded adjectives such as *full* and *straight* have a higher probability of being modified by totality adverbs (her *restricted adverbs*), and that relative adjectives, such as *long* and *tall*, are overwhelmingly more likely to be modified by non-restricted (scalar) adverbs. Further, Syrett (2007) presented experimental results showing that even 30-month-old infants make use of their knowledge of adverbial modifiers when learning the meaning of adjectives (Syrett 2007: Ch. 6). On preferential-looking tasks, the subjects systematically attended to properties that were consistent with the type of a degree adverb modifying a novel adjective. For instance, when a new adjective was introduced in the context of *completely* (e.g. *These are both completely wuggin*), the children attended to properties that may have a maximum endpoint (such as straightness or transparency). However, when the same adjective was introduced in the context of *very*, the infants attended to relative properties, such as length and tallness. In the no-adverb

condition, the subjects performed at chance level, which was taken as an indication that there is no default scalar interpretation of an unmodified novel adjective.

I agree with the above proposals that both medium- and extreme-oriented adjectives are scalar terms. The difference between my proposal and theirs is that I claim for multiple CRPs, rather than a single standard value. The fact that adjectives may have one default reference point does not mean that more reference-point phenomena cannot be involved in their processing. I argue that the difference between the two adjectival types is in the *relative* salience of a particular default reference point over the others. For bounded adjectives, the polar anchors (minimum and/or maximum) are, by default, primary CRPs, the cognitive zero being only incidentally relevant in cases of "contextual modulation". For unbounded adjectives, on the contrary, the medium value is, by default, more prominent than the extremes of the gradual scale. This default, however, can be overridden by contextually determined bounded construals. I will elaborate this point in Sections 7.4 and 7.5.

Another fundamental difference between the line of argument pursued in this thesis and the studies outlined above is that I do not recognise the absoluteness of bounded adjectives. On the view advocated by Kennedy & McNally (2005) and their followers, closed-scale adjectives are supposed to be *absolute* in the sense that their standards are fixed and thus context-independent, i.e. they do not give rise to vagueness. Open-scale gradable adjectives, on the contrary, are claimed to have contextually dependent standards and are therefore called *relative* (Kennedy 2007; Kennedy & McNally 2005; Syrett et al. 2005, see also Broekhuis 1999: 25). Counter to this view, I would like to suggest that reference points of bounded adjectives are not context-independent either. For instance, what counts as a maximum standard of *clean* depends on context and communicative situation. It is hardly controversial that operation rooms in a hospital, a street in a busy city, and a stable have different standards of cleanliness (cf. Tribushinina 2006a).

Furthermore, I would like to suggest that the distinction between bounded adjectives, such as *clean*, and unbounded adjectives, such as *tall*, though relevant and explanatory, should not be overestimated. In Section 7.2, I have presented evidence suggesting that even bare dimensional adjectives require the minimum value of "adjectiveness" as a reference point anchoring their processing. These results present a counterargument to the assumption that scales triggered by dimensional adjectives (and other relative antonyms) are fully unbounded. I will consider this issue in more detail in the rest of this chapter, where I will suggest that relative adjectives, just as "absolute" adjectives, can be construed both as bounded and unbounded terms. By default, they tend to have unbounded construals. However, in actual lan-

guage use – and first of all, when the adjectives are used in particular noun contexts – the defaults can be overridden. Having considered the role of the minimum CRP in the semantics of dimensional adjectives, I now turn to the discussion of two other types of polar anchors – the maximum point and the absolute zero.

7.4. Maximum as a point of reference

7.4.1. Introduction

Linguists working on relative adjectives are unanimous that these words trigger a gradual scale that has no maximum endpoint, i.e. properties denoted by them can extend infinitely (Amaral 2006; Apresjan 2000: 236; Bierwisch 1989: 201; H. Clark 1973: 38; Croft & Cruse 2004: 170; Cruse 1986: 204-6; Kennedy 2007; Kennedy & McNally 2005; Lyons 1977, II: 276; Mettinger 1999: 105-6; Pander Maat 2006; Paradis 1997, 2000a, 2001; Petkova-Kaleva 2003; Syrett 2007; Syrett et al. 2005; Vanden Wyngaerd 2001; Winter 2006). Two types of evidence are usually provided in support of this claim. Firstly, scalar antonyms are not used with totality modifiers (e.g. *#completely short, #almost tall*). Secondly, in purely ontological terms, there is no upper boundary to height, width, wealth, etc.[12] This section sets out to explore whether these basic assumptions are as uncontroversial as they are usually taken to be.

7.4.2. Polar anchors in language acquisition

Scholars of language acquisition have shown on numerous occasions that children use the endpoints of the gradual scale (not the average value!) as CRPs in the acquisition of relative adjectives. For instance, H. Clark (1970b, 1973) suggests that young children start using an adjective such as *big* with reference to extremely large objects, and only by the age of 5 years they learn to use the cognitive zero in judgments of magnitude.

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[12] Another, less frequently cited piece of evidence comes from the distribution of adjectival complements to modals verbs in languages such as Dutch. As noticed by Barbiers (1995), adjectival complements of modal verbs "must denote a value on a bounded lattice" (p. 164). For example, *De deur moet open* (lit. The door must open) 'The door must be opened' is felicitous, since *open* is a bounded adjective. In contrast, *De toren moet hoog* (lit. The tower must high) 'The tower must become high' is unacceptable, because *hoog* is an unbounded term. In a similar vein, Vanden Wyngaerd (2001) shows that unbounded adjectives cannot be used in resultatives, unless they get a bounded reading motivated by the semantics of the head-noun (cf. Martin heft zijn brommer *snel/kapot gesleuteld. 'Martin wrenched his moped fast/broken.'). See, however, Bolinger (1972: 277) for counterarguments from English.

This claim was also supported by an experimental study reported in Smith et al. (1986). The results of this study suggest that children start using relative adjectives by applying them only to extreme values (e.g. *big* only for extremely big objects) and only later extrapolate them to broader categories. So, when asked to name the size of a series of objects, children will mark the endpoints of the continuum as 'big' and 'little' and suggest that the objects between the extremes are neither big nor little (cf. Sera & Smith 1987). Furthermore, they tend to start from categorical judgments (e.g. elephants are always big and mice are always small) and later move to operating on relative standards (cf. Ryalls & Smith 2000, Smith et al. 1986; Smith et al. 1988). I will return to this issue in Chapter 9.

7.4.3. Categorical maximum

In the pilot study (Section 1.3.1), my Russian informants frequently used a description such as 'somewhat lower than a mountain', when asked to describe a referent of the AN-combination *vysokij xolm* 'high hill'. Conversely, the expression *nizkaja gora* 'low mountain' was defined as a 'mountain that is a little bigger than a hill'. In a similar fashion, several informants described the referent of *nizkoe derevo* 'low tree' as a 'tall bush', and the referent of *vysokoe zdanie* 'tall building' as a 'skyscraper'.

These are just a few examples of a very pervasive phenomenon of categorical thinking. The central idea is basically simple: a hill cannot be infinitely tall; at a certain point it will stop to be a hill and will be conceptualised as a mountain, i.e. it will turn into another category. Note in this respect the following example from the Internet:

(27)

Олимп –	гора	в	Греции	(не	
Olympus-NOM	mountain-NOM	in	Greece-LOC	NEG	
высокая,	кстати,	почти	высокий	холм),	
high-(LF)SG.F.NOM	by.the.way	almost	high-(LF)SG.M.NOM	hill-NOM	
на	которую	древние	греки	поместили	
on	which-SG.F.ACC	ancient-PL.NOM	Greeks-NOM	placed-PL.PFV	
жилище	своих	богов. (www.art1.artefakt.ru)			
dwelling-ACC	one's-PL.GEN	gods-GEN			

'Olympus is a mountain in Greece (by the way, not a high one, almost a high hill), where ancient Greeks placed their Gods.'

Since adjectives are normally used to modify a noun and almost never function in isolation (perhaps, only in the case of autonymy, which mostly happens in artificially made linguistic discourse), the principle of categorically determined tallness must have direct implications for adjectival semantics. Although in abstract terms, there is no upper bound to tallness, every language user knows that a hill, even a very tall one, *cannot be infinitely tall*. This idea looks quite trivial, yet it has been neglected in the numerous studies of adjectival semantics suggesting that the maximum value is *never* relevant to the meaning of relative antonyms. It is quite obvious, however, that the maximum is only irrelevant if adjectives are studied in isolation from their actual contexts of use. Consider examples (28) and (29):

(28) Перед ними стоял журнальный
before them-INS stood-SG.M.IPFV journal-ADJ.SG.M.NOM

столик, тоже какой-то необычный,
table-DIM.NOM too some.PCL-SG.M.NOM unusual-(LF)SG.M.NOM

чересчур высокий. (RNC)
too high-(LF)SG.M.NOM

'There was a coffee table in front of them; it was also unusual, too high'.

(29) Laura came down from London on the long-distance bus. She had never learned to drive and disliked the train because, she said, you were too low in a train to see properly. A coach was just right; like being on a very tall horse, or even an elephant. And nowadays coaches had lavatories and armchairs and dear little hostesses whom Laura liked to induce to tell her their life stories. (BNC)

In these examples, the adjectives *vysokij* 'high/tall' and *tall* are interpreted relative to the categorical maximum. The coffee table in (28) – called a 'magazine table' in Russian – is described as 'unusual' and 'too high'. The speaker does not mean to say that the table was too high for particular purposes. Rather, what is meant here is that the table was too high for the category of coffee tables. It is part of our world knowledge how high a coffee table, a writing desk, or a dinner table usually is. The coffee table in (28) exceeds the categorical maximum of height; therefore the 'too'-construction is used. This construction is a usual way of signalling that a certain maximum value (categorical or incidental, cf. Section 7.4.8.1) has been exceeded. This does not mean, however, that bare scalars cannot do that. For instance, in (28) it would be absolutely felicitous to use the unmodified adjective *vysokij* 'high/tall' instead of the combination with *čeresčur* 'too'.

In (29) the passenger's position with respect to the ground level is compared to sitting on a very tall horse, or even an elephant. Notice that the noun *elephant* marks the change of height at the point when the speaker realised that her position in the bus was probably higher than even a very tall horse. At this point, the categorical maximum for horses was surpassed. It is remarkable that Laura did not assume that once she calls a horse *very tall* she may use that expression with reference to height values that are much bigger than the usual height of horses. This shows that when adjectives are used to modify nouns (and thus to describe referents of these nouns), there *is* an upper bound to height. Even a very tall horse cannot be infinitely tall. Arutjunova (1988: 235, 1999: 65) calls this CRP type *taxonomic norm*.

Exceeding the maximum value is signalled by changing the noun in (29) and by implying that the object was a bad example of its category in (28). Another possibility is changing the adjective. See, for instance, (30)-(32):

(30) У него был **исполинский** рост, 2 метра
at him-GEN was-M gigantic-SG.M.NOM stature-NOM 2 metre-GEN

и 4 сантиметра, в толпе ему
and 4 centimetre-GEN in crowd-LOC him-DAT

оказывались по плечо даже **самые**
appeared-PL.IPFV.REFL up.to shoulder-ACC even most-PL.NOM

высокие люди. (RNC)
high-(LF)PL.NOM people-NOM

'He was a man of gigantic stature – 2 metres 4 centimetres – when he was amidst other people, even the tallest of them barely reached his shoulder.'

(31) В досаде Мельский ворочался,
in annoyance-LOC Mel'skij-NOM turned-SG.M.IPFV.REFL

бранил себя за эту неизвестную
scolded-SG.M.IPFV self-ACC for this-F.ACC unknown-(LF)SG.F.ACC

ему доселе слабость и снова закрывал
him-DAT up.to.now weakness-ACC and again closed-SG.M.IPFV

глаза; но если иногда забывался, как
eyes-ACC but if sometimes forgot-SG.M.IPFV.REFL as

перед сном, то вид юродивого, его
before sleep-INS then view-NOM touched-GEN his

бледные впалые щеки, его
pale-(LF)PL.NOM hollow-PL.NOM cheeks-NOM his

мрачный взгляд и бродящие глаза,
gloomy-(LF)SG.M.NOM look-NOM and wandering-PL.NOM eyes-NOM

его **высокий** стан, выраставший
his high-(LF)SG.M.NOM stature-NOM grow-PTCP.PST.ACT.SG.M.NOM

выше и выше и, наконец, превращавшийся
higher and higher and finally turn-PTCP.PST.ACT.SG.M.NOM

в **исполинский**, неотступно были в мечтах
in gigantic-SG.M.ACC persistently were in dreams-LOC

молодого офицера и мучили его,
young-(LF)SG.M.GEN officer-GEN and tortured-PL.IPFV him-ACC

как бред горячки. (RNC)
as delirium-NOM fever-GEN

'Melsky was tossing and turning from vexation, scolding himself for the weakness he had never known before and then he closed his eyes again. But if the young officer could forget himself for a moment, as if before falling asleep, then his dreams were persistently occupied by the vision of the God's fool, his hollow pale cheeks, his gloomy look and wandering eyes, his tall stature growing taller and taller and finally turning into gigantic. All these tortured him like a fever delirium.'

(32) Это был **высокий**, но не **громадный**
this was-M high-(LF)SG.M.NOM but NEG huge-SG.M.NOM

мужчина средних лет, с волосами до
man-NOM middle-PL.GEN years-GEN with hairs-INS up.to

плеч и черной бородой, уложенной кольцами
shoulders-GEN and black-SG.F.INS beard-INS laid-SG.F.INS rings-INS

по сирийской моде. (RNC)
on Syrian-DAT fashion-DAT

'He was a tall, but not a huge middle-aged man, with shoulder-long hair and black beard fixed in rings in Syrian fashion.'

The person whose height surpasses the categorical maximum of tallness for human beings are not called *tall* in (30)-(32). Rather, the greater-than-human stature is described by adjectives such as *ispolinskij* 'gigantic' in (30) and (31) and *gromadnyj* 'huge' in (32). Consider also (33):

(33) **Не по летам** был он высок и статен. (RNC)
NEG on years-DAT was-M he high-(SF)SG.M and stately-(SF)SG.M

'He was too tall and too stately for his age.'

The phrase *ne po letam* (lit. not on years) 'excessively for one's age' in (33) is a highly frequent Russian expression. It is different from the 'for'-construction in that the latter invites the addressee to process the adjective relative to the average value of the comparison class, whereas the former suggests that the maximum for the age group has been surpassed.

Another construction indicating that the categorical maximum has been exceeded is *more than A* (Carter & McCarthy 2006: 766). Witness (34):

(34) Everyone knows who they are. At nearly seven feet tall, they are impossible to miss. But the freshmen on Georgetown's men's basketball team are **more than tall**. These guys are talented and ready to contribute right now. (www.thehoya.com/basketball2004/111604/sports3.cfm)

More than tall suggests that people whose height exceeds categorical maximum for humans cannot be dubbed *tall*. A more extreme term is needed.

Some particularly interesting evidence was provided by Strack & Mussweiler (1997). In a series of experiments investigating the role of incidental reference points in comparative judgments, they found that people eagerly use knowledge of categorical maximums (and minimums), when applicable. The subjects in the experiments were first asked whether a particular entity was above or below an incidental standard of comparison (e.g. *Is the Mississippi longer or shorter than 25,000 miles?*). After that they were asked how long the entity actually was. Strack & Mussweiler found that the incidental anchor from the first question significantly influenced the way the subjects answered the second question. And, what is more relevant for the present discussion, they found that the comparative tasks took more time if the anchor was plausible than when the task could be solved on the basis of the generic (categorical) knowledge. If the reference point offered in the question lay beyond the categorical boundaries (like the Mississippi in the above example), the answer was provided relatively fast. However, if the offered anchor was within the categorical boundaries of, say, river length, it took the subjects more time to make the

decision. The important conclusion suggested by Strack & Mussweiler (1997) is that categorical polar anchors (MIN and MAX) are psychologically real and highly relevant in comparative judgments with scalar adjectives.

Another interesting piece of evidence comes from Paradis & Willners (2006), a study investigating the effects of boundedness on negation in Swedish. They studied these effects by means of questionnaires. What is particularly interesting for our present purposes is the very architecture of the questions used in the survey. The subjects received sentences of the following type: *Vägen längs kusten är inte bred* 'The road along the coast is not wide' followed by the question *Vilken typ av väg är det?* 'What is the road like?'. The respondents were then asked to grade how wide they thought the road was on a scale of eleven boxes. The endpoints of the scale were marked by tags – 'path' and 'motorway' in this case (see Figure 7.2). Thus, in spite of the fact that Paradis (1997, 2000a, 2001, 2005) treats adjectives like *wide* and *long* as strongly unbounded (see Section 7.3.1), Paradis & Willners (2006) represent the scale as a categorically bounded one. The road that is more than minimally wide is actually not a road, but a path; and a maximally wide road is a motorway (cf. Rakhilina 2000: 139). Note, by the way, that it is not impossible to conceive of a road as an infinitely wide entity, for instance speculating on a fantastic future in the spirit of science fiction. This would be one of the possible construals of width, an unbounded one. A bounded construal is another possibility.

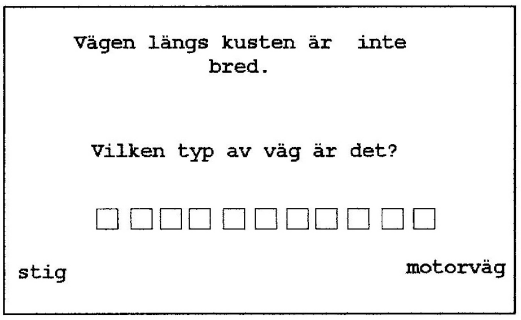

Figure 7.2. The road along the coast is not wide (Paradis & Willners 2006)

Before closing this section, it should be observed that the categorical maximum in relative adjectives is a reference-point phenomenon closely related to compound prototypes of colour terms (Chapter 4). The pitfalls of the accounts claiming for the overall unboundedness of scalar adjectives are basically of the same kind as the

fallacious assumption that colour adjectives are context-independent absolute terms. These two assumptions naturally follow from the attempts to study adjectives out of their immediate noun contexts. Taken in isolation, dimensional adjectives can trigger unbounded scales, since theoretically there is no upper boundary to height. Likewise, colour terms used on their own, are likely to call forth only the idea of the prototypical hue. However, adjectives are normally used to modify nouns. Their meaning interacts with the nominal meaning, producing different semantic effects. As a result, in actual AN-combinations dimensional adjectives are often oriented to the maximum value of the property with respect to the nominal category in question (cf. Hay et al. 1999; Vanden Wyngaerd 2001). In a similar vein, colour adjectives modifying different noun heads can denote a whole panoply of shades and colours and not only the focal one. The conclusion is quite straightforward: we cannot escape considering adjectives in noun contexts, since that is how they are normally used in actual communication.[13]

7.4.4. Incidental landmarks as maximum reference points

The maximum point of an entity's height can be associated with the position or dimensions of another, contiguous entity. In the pilot study (Section 1.3.1), dimensional judgments with prepositions *po* 'up to' and *do* 'until, reaching' were very frequent in the responses of my Russian informants. For instance, the referent of *nizkaja trava* 'low/short grass' was defined as grass "up to the ankle", and *vysokie sapogi* 'high jackboots' were judged as boots reaching the thigh or the middle part of the shin. Likewise, *nizkij zabor* 'low fence' was described as the fence "up to the human knee". The use of EGO as a reference point for making dimensional judgments is a very ubiquitous phenomenon which will be dealt with in the next chapter. For now, it is interesting to observe that parts of the human body can be used as benchmarks signalling the maximum of the property with respect to a particular referent. Although such incidental landmarks are often related to the human body, other objects can also indicate the maximum value of, say, height for a certain class of entities. Witness (35) and (36):

[13] It has been often suggested in the literature that the main function of adjectives is to modify nouns (Bhat 2004; Blokh 1994: 198; Ivanova et al. 1981: 36; Kharitonchik 1986: 13; Khlebnikova 1963: 38; Rakhilina 2004; Smirnitsky 1959: 149-52; Vinogradov 2001: 158; Žirmunsky 1976: 210). In this sense, adjectives are semantically and morphologically dependent on their head-nouns. Therefore, there are a lot of languages where adjectives display morphological agreement with nouns, but there are no languages where nouns would agree with adjectives.

(35) Славину крохотную каморку с **высоким,**
Slava-POSS.SG.F.ACC tiny-SG.F.ACC closet-ACC with high-(LF)SG.N.INS

под самый потолок окошком уместно
under most-SG.M.ACC ceiling-ACC window-DIM.INS appropriately

было бы назвать светелкой. (RNC)
be-SBJV.IMPERS PCL.COND call-INF.PFV attic-INS

'It would be more appropriate to call Slava's tiny room with a high window reaching the ceiling an attic.'

(36) Его юго-западный угол срезан
3.SG.M.POSS south.western-SG.M.NOM corner-NOM cut.off-(SF)SG.M

высокими до потолка окнами и дверью с
high-(LF)PL.INS until ceiling-GEN windows-INS and door-INS with

выходом на балкон (сейчас, увы, несуществующий). (RNC)
exit-INS on balcony-ACC now alas not.existing-SG.M.ACC

'Its south-western corner is cut off by the high windows reaching the ceiling and the door leading to the balcony (which, unfortunately, does not exist any more).'

The windows in (35) and (36) are presented as having the maximal height. This maximal value is marked by the position of the contiguous entity – the ceiling. In line with Section 7.4.3, these examples demonstrate that there *is* maximal height that is relevant to the semantics of these adjectives. It is very unlikely that recipients of (35) and (36) conceptualise the height of the windows as potentially infinite. After all, a window cannot be higher than the wall in which it is framed.

Another entity which is very frequently used as an upper bound to height in the RNC is the sky. See, for instance, (37)-(39):

(37) Собственно, это и было главное условие
actually this and was-N main-SG.N.NOM condition-NOM

нашего временного проживания здесь, на
our-SG.N.GEN temporary-SG.N.GEN residence-GEN here on

этой даче, под **высокими, как бы**
this-F.LOC dacha-LOC under high-(LF)PL.INS as PCL.COND

приподнимающими **августовское** **синее**
lifting.a.bit-PL.INS August-ADJ.SG.N.ACC dark.blue-SG.N.ACC

небо **соснами**, – ее присутствие. (RNC)
sky-ACC pine.trees-INS her presence-NOM

'As a matter of fact, her presence was the main condition of our stay here, on this dacha, under the tall pine-trees that seemed to slightly raise the dark-blue August sky.'

(38) Что же это получается? – убивался
what PCL this proves-REFL killed-SG.M.IPFV.REFL

Фип, присев отдохнуть под
Phip-NOM sit.down.a.bit-ADPTCP.PST rest-INF.PFV under

высоким-высоким, **до** **самого** **неба,** **деревом.**
high.high-(LF)SG.M.INS until most-SG.N.GEN sky-GEN tree-INS

Летают – и не птички. (RNC)
fly-PRS.3.PL and NEG birds-DIM.NOM

'What could it be? – Phip was wondering while having a rest under the tree as high as the sky – They can fly, but they are not birds.'

(39) И самые высокие снежные вершины,
and most-PL.NOM high-(LF)PL.NOM snowy-PL.NOM peaks-NOM

выше **которых** **только** **небо**. (RNC)
higher which-PL.INS only sky-NOM

'And the highest snowy peaks, only the sky is higher.'

Even though people know that a tree cannot reach the clouds, the sky is conceptualised in (37)-(39) as the absolute boundary to height. The height-describing expression *do samogo neba* 'reaching the sky' is highly frequent in Modern Russian.

7.4.5. Scalar degree modifiers

It has been suggested on numerous occasions that the modified adjective and the modifying adverb must match each other in the conceptualisation of the property as either bounded or unbounded. Totality modifiers – maximizers and approximators – reinforce the boundedness of the property and are therefore felicitous with

gradable complementaries, such as *wrong* and *clean*. Scalar modifiers – boosters, moderators, and diminishers – are claimed to conceptualise the property in terms of a range on a scale, and are therefore felicitous with unbounded relative adjectives (Amaral 2006; Broekhuis 1999; Kennedy 2007; Kennedy & McNally 2005; Paradis 1997, 2000a, 2001; Syrett 2007; Syrett et al. 2005; Vanden Wyngaerd 2001; Winter 2006). This line of argument suggests that scalar degree modifiers cannot trigger the maximum point and are always interpreted vis-à-vis the medium value.

A closer scrutiny, however, reveals quite a number of counterexamples. See, for instance, (40) and (41):

(40) Her husband, Uncle George, and their two daughters, Maggie and Marie, were like her, **extremely short**; not one of them would have reached the five foot mark. (BNC)

(41) The Worlds Edge Mountains are **extremely tall** and almost impossible to cross where they border the Empire. (BNC)

Although *extremely* is considered to be a scalar degree modifier (Paradis 1997: 36, 80-1), it nonetheless calls forth the idea of the maximum motivated by its semantics. An extreme is the largest possible amount or degree of something (Cambridge English Dictionary). Intuitively, if someone is described as *extremely tall*, he is claimed to have the greatest possible height. It should be observed, however, that the extreme itself can undergo further gradation. For instance, the family members in (40) are all extremely short, but it does not mean that one of them cannot be shorter than the others. It is also worth noting that *extremely* is probably undergoing a semantic change from a maximizer to a booster. A similar development has taken place for *quite* and *very*. In the times of Chaucer, *quite* was only used in the sense of 'entirely' (e.g. *quite right*). The weaker sense of 'fairly' (as in *quite tall*) is attested from mid 19th century (Paradis 1997: 74). Similarly, *very* originally meant 'true, genuine, really' (cf. Ger. *wahr*, Du. *waar*), and turned into a booster in the Middle English period (Cuzzolin & Lehmann 2004; Lorenz 2002; Mendez-Naya 2003; Peters 1994; Stoffel 1901, see also Xmelevskij 2003 for the description of this tendency in Slavic languages).[14] However it may be, the maximum-anchored sense of *extremely* is not completely bleached yet, anyway not in contexts like (40) and (41).

[14] Likewise, the Russian booster *ves'ma* 'very' used to be a maximizer meaning 'completely' (from *ves'* 'whole'). Later it became a booster close in meaning to *očen'* 'very'. In current Russian, it is often used as a moderator meaning 'quite' (Arutjunova 1988; Jakovleva 1994: 296; Tribushinina 2008a). Note that this sort of semantic change is an example of subjectification, i.e. a process in which the objective content of a linguistic unit gradually disappears and the role of subjective evaluation increases (Traugott 1989, 1995, cf. Athanasiadou 2007).

Extremely in combination with scalar adjectives indicates that the reference value is located in the MAXIMUM-zone. But there are also plenty of examples where scalar modifiers manifest that the categorical maximum has been surpassed. Consider the following examples from the BNC:

(42) The village straddles the coast road and includes a row of coastguard cottages, an ancient manor house (where Oliver Cromwell once stayed and claiming the oldest section of wallpaper in the country), and the most interesting New Inn; a large **uncommonly tall** building for this area. Somehow it conjures images of smuggling days, perhaps because of its standing as the chief gathering place for the seafarers of former times. (BNC)

(43) A smiling, benign Levy said, 'Before we begin, I'd like the opinion of our Chinese genius,' and sticking his head out of the door he shouted, 'Kwak! Kwak!'(Like the mating call of a Scottish duck.) An **unusually tall**, graceful, oriental man materialised at his side. (BNC)

(44) An outstanding Girl at this time was Phyl Blakeston. **Unusually tall**, even for the Plaza troupe which was her line, her excellent dancing seemed to come so naturally to her that the other Girls were full of praise for her work. (BNC)

(45) At that moment 'a white light shone forth like a sword' from Gandalf, as many people see 'the light that shone' round Éowyn and Faramir as they come down to the Houses of Healing. Galadriel is 'illumined' by 'great light' when Frodo offers her the Ring, and seems '**tall beyond measurement**'. (BNC)

The fact that the building in (42) is called *uncommonly tall* suggests that buildings can also be "commonly tall". Put another way, language users have knowledge of the maximal height characteristic of (hotel) buildings. If this categorical maximum is surpassed, modifiers such as *uncommonly* (example 42), *unusually* (examples 43 and 44), and *beyond measurement* (example 45) can be employed. Lorenz (2002) suggests that these intensifiers give a *telic* evaluation of the situation in the sense that a property is conceptualised as surpassing a certain maximum. Other scalar modifiers of *tall* and *short* prompting the interpretation vis-à-vis the maximum value in the BNC are the following: ***tall*** – *abnormally, excessively, incredibly, really, satanically, strangely*; ***short*** – *exceedingly, excessively, really, unusually*. Consider also examples (46)-(49) attested in the RNC:

(46)	Для	японца –	**непривычно**	**высокий**. (RNC)
	for	Japanese-M.GEN	unusually	high-(LF)SG.M.NOM

'He was unusually tall for a Japanese.'

(47)

В	результате	сложных		скрещиваний	
in	result-LOC	complex-(LF)PL.GEN		crossings-GEN	
получены	**необычно**	**высокие**		кустистые	
received-(SF)PL	uncommonly	high-(LF)PL.ACC		bushy-(LF)PL.ACC	
розы	с	повторным	цветением,	которые	
roses-ACC	with	repeated-SG.N.INS	blossoming-INS	which-PL.ACC	
назвали		полуплетистыми,	или	шрабами. (RNC)	
called-INDF.PFV		half.lashy-PL.INS	or	shrubs-INS	

'Unusually tall rose-bushes with repeated blossoming were produced by multiple crossings. They were called semi-stalk roses or shrubs.'

(48)

Пусть	гостиная	в	этом	небольшом			
let	living.room-NOM	in	this-M.LOC	not.big-SG.M.LOC			
двухэтажном	доме	будет	**необычайно**				
two.storied-SG.M.LOC	house-LOC	be-FUT.3.SG	uncommonly				
высокой	(выше	шести	метров!),	чтобы	свет		
high-(LF)SG.F.INS	higher	six-GEN	metres-GEN	so.that	light-NOM		
в	нее	лился		со	всего		
in	3.SG.F.ACC	pour-SBJV.SG.M.REFL		from	whole-SG.N.GEN		
Балтийского	моря. (RNC)						
Baltic-SG.N.GEN	sea-GEN						

'Let the living-room in this small two-storied house be uncommonly high (more than six metres high!) so that light from the whole Baltic Sea could flow into it.'

(49)

Это	обстоятельство	имело	для	меня	особую	
this	circumstance-NOM	had-N	for	me-GEN	special-SG.F.ACC	
важность,	так	как	вчерашний		незнакомец	
importance-ACC	so	as	yesterday-ADJ.SG.M.NOM		stranger-NOM	
возвышался	над	подоконником	по			
towered-SG.M.IPFV.REFL	above	window.sill-INS	up.to			

грудь,	другими	словами:	либо	он	был
breast-ACC	other-PL.INS	words-INS	or	he	was-M

человеком	**чрезмерно**,	даже	**неестественно**
man-INS	excessively	even	unnaturally

высокого	роста,	либо	висел	в
high-(LF)SG.M.GEN	stature-GEN	or	hung-SG.M.IPFV	in

воздухе,	как	галлюцинация. (RNC)
air-LOC	as	hallucination-NOM

'This circumstance was especially important to me, since the chest of the yesterday's stranger towered above the window-sill. In other words, either he was excessively, even unnaturally tall, or he was hanging in the air like a hallucination.'

The adverbs in (46)-(49) are very similar to the English modifiers considered above. They are all scalar terms indicating a very high degree of the property. At the same time, each of them invites the addressee to conceptualise the property in terms of the exceeded maximum. For instance, the height of the unusually tall person in (46) exceeds the expected maximum height of his nation. The rose-bushes in (47) are taller than their tallest ancestors. The height of the living-room in (48) exceeds by far the Russian maximum. And the unnaturally tall person in (49) is taller than any human the speaker knows. At the same time, the height of all these referents is conceptualised as very tall vis-à-vis some average value. Thus, both the medium and the maximum reference points anchor the processing of the dimensional adjectives in these cases.

Other scalar modifiers suggesting the maximum-related interpretation of *vysokij* 'high/tall' and *nizkij* 'low/short' in the RNC are the following: ***vysokij*** – *črezvyčajno* 'extremely'*, nečelovečeski* 'non-humanly'*, neobyknovenno* 'unusually'*, nepravdopodobno* 'implausibly'*, nevoobrazimo* 'incredibly'*, nesurazno* 'absurdly'*, stranno* 'strangely'; ***nizkij*** – *črezvyčajno* 'extremely'.

In sum, the fact that dimensional adjectives are easily combined with scalar degree modifiers does not imply that their meanings are always construed as unbounded ranges on a scale. The examples considered in this section clearly demonstrate that some scalar degree modifiers can trigger both the medium- and the maximum-related interpretation. This brings us again to a more general conclusion that adjectives cannot be studied in terms of only one CRP type. Several points of

reference are usually activated for the processing of these words; a particular interpretation is then facilitated by the *interaction* of various CRPs.

7.4.6. Totality modifiers

It has already become a point of general agreement that relative adjectives are open-scale terms and are therefore incompatible with totality modifiers – maximizers and approximators (Amaral 2006; Broekhuis 1999: 25; Cruse 1986: 217; Hay et al. 1999; Kearns 2007; Kennedy 2007; Kennedy & McNally 2005; Klein 1997; Leech & Svartvik 1975: 101-2; Lehrer 1985: 420-1; Paradis 1997, 2000a, 2001; Rotstein & Winter 2004; Syrett 2007; Syrett et al. 2005; Vanden Wyngaerd 2001; Winter 2006). The function of maximizers (e.g. *absolutely, completely*) is to reinforce the upper bound of the property; approximators (e.g. *almost*) are used to indicate that the reference value approaches the expected limit. In other words, maximizers conceptualise the property as located at the maximum point, and approximators construe the reference value as adjacent to the upper bound (Klein 1997; Nouwen 2006; Rotstein & Winter 2004). Since relative adjectives (*scalars* in the Paradis model) are usually treated as typically unbounded items, they are doomed to be incompatible with totality modifiers. To quote Paradis (1997: 159):

> Scalar adjectives denote a property, the variability of which is conceived of in terms of a range on a scale. Therefore it is natural for scalar adjectives to combine with degree modifiers which are capable of indicating a subrange on a scale, e.g. *very good, fairly long.* Totality modifiers, however, are incompatible with these typically unbounded scalar adjectives, e.g. *?absolutely good, ?almost long.*

Although I agree that scalar adjectives are more easily combined with diminishers, moderators and boosters than with totality modifiers, I would like to suggest that their incompatibility with maximizers and approximators is not as uncontroversial as it seems. Firstly, the fact that combinations such as *absolutely tall* sound odd out of context does not mean that particular contexts cannot make them felicitous. Secondly, the majority of relevant studies were done on the English data or, rarely, data from other Germanic or Romance languages. The fact that expressions such as *completely tall* are by default infelicitous in English and a few other languages does not mean that there are no languages where combinations of scalar adjectives with totality modifiers are perfectly acceptable. Russian, for instance, is different from the Germanic languages in the distribution and acceptability of totality modifiers

with scalars.[15] For this reason, I will consider the data from English and Russian in separate subsections.

7.4.6.1. English data. As mentioned earlier, totality modifiers are not that frequent in combinations with relative antonyms in English. For instance, there are no examples of such combinations with the adjectives *tall* and *short* in the BNC.[16] However, it is not inconceivable that some contexts can construe the scale as a bounded one and render the use of totality modifiers with relative adjectives possible. Consider examples (50) and (51):

(50) The VRC-1 comes with a comfortable padded seat mounted to an adjustable frame. The frame is designed to allow for adjustments from **really tall** riders to **absolutely short** riders. (http://gamevortex.com)

(51) SPG 10 'Tall Buildings' offers design guidance for any tall buildings that may be proposed within the County Borough. For the purposes of the guidance, tall buildings are divided into two categories. ***Absolutely tall*** *buildings* are those higher than six storeys or 18 metres. *Relatively tall buildings* are those lower than 18 metres but which are two storeys or 6 metres higher than the average height of buildings in the immediate vicinity. (www.bridgend.gov.uk)

(50) comes from an advertisement of a virtual racing chassis (VRC) – a living-room imitation of a racing car. To emphasise that the machine can be used by people of *all* heights – including the extremes of the scale – the author combines the adjectives *tall* and *short* with the maximizers *really* and *absolutely*. Bounded construal of the scale of height is facilitated by our knowledge that people cannot be infinitely tall, nor can they be shorter than a certain value (people who are shorter than maximal categorical shortness for human beings have a separate label – *dwarf*).

(51) is an introduction to the Supplementary Planning Guidance (SPG) published by the Bridgent County Borough Council. For practical purposes of technical communication, tall buildings in the borough are divided into *relatively tall buildings* – those that are two storeys higher than average (note that two storeys is the

[15] Although the studies enumerated above were done predominantly on the English data, some of the authors seem to present their conclusions as semantic universals. Interestingly, Syrett (2007) chose to investigate the role of degree adverbs in the acquisition of adjectival types (relative *vs.* absolute) precisely because of the assumed universality of the adverb-adjective patterns found in English. She preferred degree adverbs to resultatives, because, in the case of resultatives, unlike in degree modification, "semantic restrictions on the adjective are not universal and are therefore not an unambiguous cue for the language learner" (Syrett 2007: 145).

[16] A few combinations of other dimensional adjectives with totality modifiers (e.g. *absolutely thick, absolutely wide, nearly long*) were, however, attested in the BNC (cf. Syrett 2007: 162).

minimum value of standing out from the cognitive zero, cf. Section 7.2), and *absolutely tall buildings* that exceed the maximum established in the borough – the six-storey value. It is remarkable that the maximum on the scale of building height is conceptualised here as an extreme *region* on a scale, not a point.

It is also noteworthy that expressions like *completely short* and *totally short* are becoming increasingly frequent in colloquial English. (52) and (53) are examples from American online forums; (54) comes from a British website. In such cases, *completely* and *totally* are used for the purpose of pragmatic strengthening to indicate that, from the speaker's point of view, it is indeed the case that the subject is short (cf. *sovsem* 'completely', see Section 7.4.6.2).

(52) 5'10 is ok, i guess. i thought u meant he's **totally short** like 5'4 short. (http://hypercoolmike.multiply.com/journal/item/43)

(53) It didn't look too short when she gave me the cut, but when I washed my hair it looked **completely short** and awful. (http://www.oes.org/page2)

(54) I've grown mine since 2004... of course i did have it cut between then but not to **completely short**. (http://www.ps3forums.com/archive/index.)

Kennedy & McNally (2005), Rotstein & Winter (2004), and Frazier et al. (2006) argue that *completely* has two different meanings. When it modifies maximum-standard adjectives, it is a maximizer referring to the end of the scale. In combination with relative and minimum-standard adjectives, it means something like 'very' (cf. Klein 1997: 19). Although I agree that *completely* could be undergoing a semantic change from a maximizer to a booster (the way it happened for numerous maximizers across languages, see Section 6.4.5), I would like to suggest that *completely* modifying relative and minimum-standard adjectives may also be a totality modifier. That *completely* combined with a relative adjective does not necessarily mean 'very' becomes clear from the following example:

(55) By the way you don't have to be 6 feet to be considered tall. 5"10 is not **completely tall** but it is still taller then the average guy and who says someone tall would want to go out with such a bitch like yourself? (www.discovervancouver.com)

(55) comes from a discussion on the Vancouver Forum. The topical issue is a woman who left her boyfriend because he was only 5'10. Notice that in combination with *not*, the AN-combination *completely tall* is not interpreted vis-à-vis the maximum tallness for human beings. Nor does it mean 'very tall'. Rather, it marks the minimum point at which one has all the rights to be called *tall* (Klein 1997: 88,

cf. Section 7.2). A man who is 177 cm tall is not very tall; actually, he is not tall at all. He is of medium height, and thus not qualifying completely for the label *tall*. Thus, a combination of relative adjectives with maximizers can be not only maximum-, but also minimum-anchored. The function of the maximizer here is rather metalinguistic: it signals that the referent's height has reached the minimum value necessary to qualify for *tall* (see also Kearns 2007; Nuccorini 2006). It is noteworthy that modification of relative adjectives by approximative adverbs – such as *almost* – triggers only this kind of minimum-related (metalinguistic) interpretation. Witness (56)-(60):

(56) Dr. Weathers is a trim, tidy woman of sixty. She is narrow, and when she comes from behind her desk to shake Eleanor's hand, she doesn't simply stand and walk; she unfolds, and surprises Eleanor with her sheer height. Eleanor, who considers herself **almost tall** at five-nine, finds herself at eye level with the doctor's amethyst pendant necklace. (http://deeplyshallow.com)

(57) 5'9", I'm **almost short**, and **almost tall**. (www.thecomatorium.com)

(58) Sitting alone in the back of the dining room, at his usual table, was an older gentleman. His thick white hair fell onto his forehead. His bright eyes remained sharp at long distances, but he wore the black reading glasses to eat. He was not a tall man, and his slightly hunched posture made him appear **almost short**. (M. Gimenez, *The Color of Law*)

(59) My New Year's promise was about eating vegetables and growing tall. I'm **almost tall**, tall, tall. I grew a lot. I tried green beans and carrots. I still don't like vegetables at all. I like apples and oranges. (www.signonsandiego.com)

(60) "We'd make babies and watch them play volleyball by a green ocean." Smoke comes out of Cal's nostrils. She can barely see his face with the sun the way it is, so she imagines Bogart on a barstool, gritting handsomely on a Pall Mall. "They'd have to be tall babies to see over the net," Karen says. "I'm **almost tall**. You're **almost tall**. We have the genes for it." (J.Z. Hall, *Karen and Cal Consider Their Future*)

Examples (56)-(60) clearly indicate that the height of people who are called *almost tall* or *almost short* is above or below the cognitive zero, respectively. However, their height does not stand out significantly enough from the average for the bare adjectives to apply (cf. Klein 1997: 62-3). To signal the approximation to the minimum value of tallness/shortness, the approximative adverb is used. Since the value located in the mid-zone could theoretically be dubbed by either *almost tall* or *almost*

short, the choice of the linguistic expression is largely motivated by the sort of conclusions we would like to prompt on the part of the addressee (cf. Verhagen 2005: Ch. 2). For instance, the author of (58) invites the reader to imagine a man who is getting old, with his hair getting white, his posture hunched, and his stature getting shorter. In this case, the conclusion associated with the SHORT-subscale is suggested by the use of *almost short*. The child in (59), on the contrary, is dreaming of getting tall. She still falls short of the standard of tallness, but to indicate that she is on the right way, she uses the combination *almost tall*. Similarly, in (60) the man who is not tall himself (nor is his wife), is dreaming of having tall children. To persuade his wife that it is quite possible, he construes their medium height as being *almost tall*.

Notice also that all the referents in the above examples are humans. This fact is very suggestive. Since our thinking is highly anthropocentric and our own (human) height is a lot more relevant to us than the height of any other entities, the scale of human height is very fine-grained and precise. People are usually interested in which category they belong to – tall, medium, or short; this also has implications, for instance, for buying clothes. The fine-tooth detail of human-related scales enables us to use totality modifiers that require a fixed standard of comparison. For example, when I asked one of my Russian informants (not a linguist!) whether he considered himself tall, he gave the following answer, translated here for convenience: 'To be called *tall* you have to be above 180 cm. I am 179. So I am almost tall.' Rotstein & Winter (2004: 279) provide a similar example:

(61) A tall basketball player is someone above 2.00 meters high, John is 1.98 meters, so he is almost tall.

Rotstein & Winter (2004) use this example to show that relative adjectives, that are, by default, oriented to the standard value in the middle of the scale, can be combined with approximators if another standard of comparison – the 2-metres value in this case – is made explicit (see also Amaral 2006; Kennedy 2007). I would like to go even further and suggest that a contextual "standard value" does not necessarily have to be explicitly mentioned, especially when it comes to human height. People are quite competent about what counts as tall or short stature. Hence, an incidental standard of comparison does not have to be introduced to make the modification by *almost* possible (see examples 56-60).

As indicated earlier, so-called total adjectives are felicitous with *almost* because of their default orientation to the maximum standard (e.g. *almost clean*, *almost straight*). In this respect, total adjectives are different from minimum-oriented (partial) adjectives (e.g. #*almost bent*, #*almost dirty*). Clearly, then, gradable complementaries are only felicitous with approximative adverbs if their primary CRP is the maximum of

the property. The analysis presented above suggests that relative adjectives are different from gradable complementaries in this respect. When relative antonyms are modified by approximators, they are processed vis-à-vis the minimum, not the maximum value of the property. In a similar vein, Kearns (2007: 55) argues that "where adjectives associated with open scales are modified by endpoint-oriented adverbs, the adverb is interpreted with reference to the lower bound of the relative property – that is, the least degree of the property that counts as A in evaluating *x is A*".

7.4.6.2. Russian data. As mentioned above, the distribution of totality modifiers with relative adjectives in Russian (and other Slavic languages) is different from English (and other Germanic languages). In English, both sub and supra terms are very infrequent with totality modifiers, and a very specific context (such as judgments on the fine-grained scale of human height) is required to facilitate this type of modification. Some Russian scalars, on the contrary, are acceptable with totality modifiers, even out of context. More specifically, Russian sub terms are felicitous with maximizers. Conversely, supra terms are similar to their English counterparts in the sense that they require a very constraining context making combinations with maximizers possible.

Červenkova (1974) distinguishes between Russian subs and supras on the basis of boundedness. She argues that Russian supra terms denote unbounded properties and are therefore infelicitous with totality modifiers. Conversely, sub terms denote bounded properties (i.e. properties having an upper boundary) and are therefore felicitous with the maximizing adverbs *sovsem* 'completely', *absoljutno* 'absolutely' and *soveršenno* 'perfectly'.[17] The same observation is made in Apresjan (1974), a study that treats pairs such as *vysokij* 'high/tall' : *nizkij* 'low/short', *dlinnyj* 'long' : *korotkij* 'short', and *dalekij* 'far' : *blizkij* 'close' as quasi-antonymous because of their asymmetrical distribution with degree modifiers, *viz.* both members of the antonymous pair are compatible with boosters, such as *očen'* 'very' and *ves'ma* 'quite', but only the sub terms are felicitous with maximizing adverbs, such as *sovsem* 'completely' and

[17] There are semantic and distributional differences between the three maximizers. Relative adjectives are more acceptable with *sovsem* 'completely' than with *absoljutno* 'absolutely' and *soveršenno* 'perfectly'. One reason could be that only *sovsem* 'completely' can denote dynamic accumulation of the property (Apresjan 2004: 1073; Červenkova 1974, Filipenko 1998: 283; Tribushinina, forthcoming). *Absoljutno* 'absolutely' and *soveršenno* 'perfectly' are more likely to denote conformity to the prototype and are thus more acceptable with prototype-oriented adjectives, such as colour terms and shape adjectives (Apresjan 2004: 1072). For a detailed study of these adverbs I refer the reader to Červenkova (1974).

absoljutno 'absolutely' (see also Apresjan 2004: 1072-4; Tribushinina, forthcoming; Vorotnikov 2000: 41-2).

In this connection, it should be observed that the subjects of the Survey rated the combination of the sub term with the maximizer *sovsem* 'completely' as more acceptable than the combination of its supra partner with the same maximizing adverb. The mean acceptability rating of the sentence *Ėtot kust sovsem nizkij* 'This bush is really low' was 3.62, whereas the mean acceptability rating of the sentence *Ėto zdanie sovsem vysokoe* 'This building is completely high' was 1.88. The difference between the two ratings was significant ($t(168) = 14.4$, $p < .001$).[18]

Modification of sub terms such as *nizkij* 'low/short' and *nevysokij* 'not.high' by maximizers is very frequent in Modern Russian. The maximizer *sovsem* 'completely' is listed in dictionaries of combinability as one of the most frequent words *nizkij* 'low/short' combines with (e.g. Denisov & Morkovkin 1978). Witness also the following examples from the corpus and the Internet:[19]

(62)

Домна	Платоновна	росту	невысокого,		
Domna-NOM	Platonovna-NOM	stature-GEN	not.high-(LF)SG.M.GEN		
и даже	очень	невысокого,	а	скорее	
and even	very	not.high-(LF)SG.M.GEN	CONJ	sooner	
совсем	**низенькая**,	но всем	она	показывается	
completely	low-DIM.SG.F.NOM	but all-PL.DAT	she	seems-REFL	
человеком	крупным. (RNC)				
person-INS	big-SG.M.INS				

[18] Note that 3.62, though significantly different from 1.88, is not a very high acceptability rating. This result could be caused by the fact that *sovsem* 'completely' often implies either a dynamic accumulation of a property in a referent (Červenkova 1974, Filipenko 1998: 283) or comparison with other members of the scale (Tribushinina, forthcoming), cf. example (62). A sentence taken out of context, like the one used in the Survey, may fail to set the comparative framework needed for the interpretation of *sovsem* 'completely'.

[19] It is quite difficult to find an appropriate English translation for combinations of relative adjectives with *sovsem*. The word *sovsem* consists of the root *ves'* 'the whole of' and the prefix *so-* 'with, together' and can therefore be glossed as 'completely, entirely'. Very often, it is translated as *quite*, which is not correct, since the English sentence *The table is quite low* means that the table is low to some moderate degree, whereas the Russian sentence *Stol sovsem nizkij* means that the lowness of the table reaches its upper bound, *viz.* the table cannot be lower (Apresjan 1974; Červenkova 1974; Vorotnikov 2000). Thus, it is possible to say in English *This table is quite low, but that one is even lower*, which is impossible in a corresponding Russian sentence with *sovsem*: *#Ėtot stol sovsem nizkij, a tot ešče niže. Sovsem* also bears a modal meaning, which Červenkova (1974) describes as 'you should not think I am exaggerating'. Given these semantic peculiarities and in want of a better counterpart, I will use the English word *really* as a translation of *sovsem*.

'Domna Platonovna is somewhat short, she is even very short, or rather really short, but it seems to everybody that she is a stout person.'

(63) Тут из Питера к нам восковые
here from Peter-GEN towards us-DAT waxen-PL.ACC

фигуры привозили, так Пушкин у них
figures-ACC brought-INDF.IPFV so Pushkin-NOM at them-GEN

совсем **невысокого** роста. (RNC)
completely not.high-(LF)SG.M.GEN stature-GEN

'We have seen an exhibition of wax figures from St. Petersburg lately. I should say that their Pushkin was really short.'

(64) В его магазинах сейчас много клиентов **совсем**
in his shops-LOC now many clients-GEN completely

низкого роста. (http://topcareer.ru/db/tc)
low-(LF)SG.M.GEN stature-GEN

'Now his shops have a lot of customers who are really short.'

The combinations of the sub terms *nizkij* "low/short" and *nevysokij* 'not.high' with the maximizer *sovsem* 'completely' suggest that the extreme value – maximal shortness for *nizkij* 'low/short' and "untallness" for *nevysokij* 'not.high' – has been reached (Červenkova 1974: 47).[20] It should also be noted that these modifications are acceptable not only in anthropocentric contexts. As already suggested by the results of the Survey, referents other than human beings can also be called *sovsem nizkij* 'completely low/short'. (65)-(68) are examples of this:

(65) Да и топор на чердаке высоко не занесешь,
PCL and axe-ACC on attic-LOC high-ADV NEG raise-FUT.2.SG.PFV

потому что крыша **совсем** **низкая**. (RNC)
because roof-NOM completely low-(LF)SG.F.NOM

'Moreover, you cannot raise the axe high enough in the attic, because the roof is really low.'

(66) Так что дворец так устроен: нижний
so that palace-NOM so arranged-(SF)SG.M lower-SG.M.NOM

[20] For the difference between shortness and "untallness" see Section 8.5.2.1.

этаж – сравнительно очень хороший,
floor-NOM comparably very good-(LF)SG.M.NOM

средний – **совсем** **низкий**, с маленькими
middle-SG.M.NOM completely low-(LF)SG.M.NOM with small-PL.INS

комнатами и верхний этаж – собственно
rooms-INS and upper-SG.M.NOM floor-NOM properly

говоря, роскошный; в нем находятся:
speaking luxurious-(LF)SG.M.NOM in 3.SG.M.LOC locate-PRS.3.PL.REFL

приемная зала, бальная и
reception-ADJ.SG.F.NOM room-NOM ball-ADJ.SG.F.NOM and

концертная. (RNC)
concert-ADJ.SG.F.NOM

'Thus, the palace looks like this: the ground floor is, by comparison, very good, the first floor is really low with small rooms, and the upper floor is the luxurious one with a reception room, a ball room and a concert room.'

(67) Под ногами – колоссальное количество фиалок.
under feet-INS colossal-SG.N.NOM amount-NOM violets-GEN

Они несколько отличаются от наших:
they somewhat differ-PRS.3.PL.REFL from our-PL.GEN

цветок с большим количеством – лепестков,
flower-NOM with big-SG.N.INS amount-INS petals-GEN

окрашенный в яркий
coloured-(LF)SG.M.NOM in bright-(LF)SG.M.ACC

сине-голубой цвет, стебель –
dark.blue.light.blue-SG.M.ACC colour-ACC stem-NOM

совсем **низенький**. (N. Inozemcev, *Frontovoj dnevnik*)
completely low-DIM.SG.M.NOM

'There are lots of violets under my feet. They are somewhat different from ours: a blue flower has a lot of petals and a stem is really short.'

(68) За футбольными воротами для выбивания
behind football-ADJ.PL.INS gates-INS for beating-GEN

ковров располагался забор,
carpets-GEN was.located-M.IPFV.REFL fence-NOM

отделяющий двор от территории
separating-SG.M.NOM yard-ACC from territory-GEN

детского сада. Забор бетонный,
child-ADJ.SG.M.GEN garden-GEN fence-NOM concrete-ADJ.SG.M.NOM

совсем **низенький**, меньше метра в
completely low-DIM.SG.M.NOM less metre-GEN in

высоту. (D. Danilov, *Dom desjat'*)
height-ACC

'Behind the football gates used for beating carpets there was a fence separating the yard from the kindergarten. It was a concrete gate, really low, less than a metre high.'

As explained earlier, supra terms, such as *vysokij* 'high/tall', display restricted compatibility with maximizers. Very constraining contexts are needed to make this modification felicitous. It is not surprising, then, that all the examples attested in the Internet come from the discussion of human height. See, for instance, (69) and (70):

(69) Так что поддерживаю каблуки :), и рост тут
so that support-PRS.1.SG heels-ACC and stature-NOM here

совсем не главное, хотя конечно если уж
completely NEG main-SG.N.NOM though certainly if PCL

рост **совсем** **высокий** то лучше не
stature-NOM completely high-(LF)SG.M.NOM then better NEG

перебарщивать с их высотой. (http://forum.vitebsk.by)
overdo-INF.IPFV with their height-INS

'So I support wearing heels. And it does not matter much how tall you are. Though if you are really tall, do not wear heels that are too high.'

(70) Мой рост 170 см. мне нравятся
my-SG.M.NOM stature-NOM 170 cm me-DAT like-PRS.3.PL.REFL

парни чуть повыше! но считаю, что рост –
guys-NOM a.bit a.bit.higher but count-PRS.1.SG that stature-NOM

это не главное! главное – это чувства, а
this NEG main-SG.N.NOM main-SG.N.NOM this feelings-NOM CONJ

они от сантиметров не зависят!
they from centimetres-GEN NEG depend-PRS.3.PL

желательный рост для меня – где-то 175!
desirable-SG.M.NOM stature-NOM for me-GEN somewhere.PCL 175

я каблуки носить не люблю, платформу тоже,
I heels-ACC wear-INF.IPFV NEG love-PRS.1.SG platform-ACC too

а если **совсем** **высокий** будет, то
CONJ if completely high-(LF)SG.M.NOM be-FUT.3.SG that

придется, а то не допрыгну!
have.to-FUT.IMPERS.REFL CONJ that NEG as.far.as.jump-FUT.1.SG.PFV
(http://forums.saratov.ru)

'I am 170 cm tall, and I like guys a bit taller than myself! Though I think that height is not the main thing! Feelings is what really matters, and they do not depend on centimetres! I would like to have a boyfriend about 175 cm tall. I don't like wearing heels and wedge-heels. And in case he will be really tall, I will have to wear them to avoid jumping too high!'

A very interesting question that arises in this connection is why Russian sub terms are acceptable with maximizers, whereas supra terms display very restricted modification by totality modifiers.[21] One way to explain this riddle is to accept that complete shortness is the same as the absolute zero on the scale of height. However, this explanation is not convincing, since the absence of height is not equal to maximal shortness. The former is the reference plane which serves as a starting point for measuring height (see Section 7.5), whereas the maximal value of short-

[21] *Sovsem nizkij* 'completely low' yields more hits on a Google search than *sovsem vysokij* 'completely high', although the unmodified *vysokij* 'high/tall' is thrice as frequent as *nizkij* 'low/short'. Likewise for *absolutely short* vs. *absolutely tall, completely short* vs. *completely tall*, and *totally short* vs. *totally tall* partly, of course, due to other factors, such as the ability of *short* to denote both spatial and temporal dimensions.

ness is a categorically or consequentially determined upper bound. If the absolute zero is surpassed, the adjective must be changed into another adjective representing a different spatial axis (e.g. *high* becomes *deep*). And when the categorical maximum is surpassed, either a gradable relative adjective is substituted by an extreme term (e.g. *small* becomes *tiny*) or the referent passes into another category (*man* becomes *dwarf*). Yet, intuitively, the fact that there is a salient reference plane in the vicinity of the lower bound (e.g. ground, floor) and no visible reference plane in the vicinity of the upper bound has implications for the distribution of maximizers with scalar adjectives in Russian. Even though maximal shortness and the absolute zero are *different* reference-point phenomena, the perceptual salience of the ground renders the maximum associated with the sub term more prominent than the maximum in the semantics of supra adjectives (cf. Lehrer 1985: 420).[22]

It is also noteworthy that despite the differences in the compatibility of sub and supra terms with maximizers, there is no significant difference between the two groups of scalars as to the modification by approximators. Both *počti vysokij* 'almost high' and *počti nizkij* 'almost low' were judged unacceptable by the respondents of the Survey. The mean acceptability rating for the sentence *Ėto zdanie počti vysokoe* 'This building is almost high' was 1.44; the mean rating of acceptability for the expression *Ėtot kust počti vysokij* 'This bush is almost low' was 1.36. Although *počti vysokij* 'almost high' was judged slightly better than *počti nizkij* 'almost low', the difference was not significant. Some counterexamples can, however, be found, even in the RNC:

(71) И что-то, несомненно, более уродливое, чем
and something.PCL undoubtedly more ugly-(LF)SG.N.NOM than

оно, потому что я не был достаточно мал,
it because I NEG was-M sufficiently small-(SF)SG.M

был просто невысок, то есть **почти**
was-M simply not.high-(SF)SG.M that is almost

высок с маленькой оговоркой. (RNC)
high-(SF)SG.M with small-SG.F.INS reservation-INS

[22] Holyoak (1978) reports an experiment on the comparison of digits. The results suggest that the uppermost digit (e.g. 9) took longer to encode than the lowest digit (1). Holyoak gives the following explanation: "intuitively, 1 seems to be clearly marked as the lowest digit (perhaps more so than zero <…>), while 9 is not so clearly the uppermost digit" (p. 221). A similar asymmetry was observed by Jacowitz & Kahneman (1995) in the domain of incidental reference points. They argue that lack of symmetry between high and low anchors is related to different degrees of certainty associated with the definite lower bound and an indefinite upper bound (see Section 10.3.2).

'And it was undoubtedly something uglier than that, because I was not quite small, I was simply not tall, or rather almost tall, with minor reservations.'

(72)

На	это	употребление	генерал	еще	годился;
on	this-N.ACC	usage-ACC	general-NOM	still	was.suitable-M

он	был	довольно	сановит	и	приличен –
he	was-M	rather	imposing-(SF)SG.M	and	decent-(SF)SG.M

росту	**почти**	**высокого**,	с	крашеными
stature-GEN	almost	high-(LF)SG.M.GEN	with	dyed-(LF)PL.INS

бакенами	и	усищами	(он	прежде
side.whiskers-INS	and	big.moustache-PL.INS	he	earlier

служил	в	кирасирах),	с	лицом	видным,
served-SG.M.IPFV	in	cuirassiers-LOC	with	face-INS	visible-SG.N.INS

хотя	несколько	и	обрюзглым. (RNC)
though	somewhat	and	flabby-SG.N.INS

'The general was still young enough to be called like this. He was rather stately and attractive, almost tall, with dyed side-whiskers and a big moustache (he used to be a cuirassier), with a beautiful, though a bit flabby, face.'

(73)

Росту	он	был	**почти**	**высокого**. (RNC)
stature-GEN	he	was-M	almost	high-(LF)SG.M.GEN

'He was almost tall.'

(74)

Роста	среднего,	**почти**	**низкого**,	довольно
stature-GEN	medium-SG.M.GEN	almost	low-(LF)SG.M.GEN	rather

хорошо	сложен,	лицо	имел	круглое,
well	built-(SF)SG.M	face-ACC	had-SG.M.IPFV	round-SG.N.ACC

неприятное,	волосы	рыжеватые,	глаза
unpleasant-(LF)SG.N.ACC	hairs-ACC	reddish-(LF)PL.ACC	eyes-ACC

темно-голубые,	был	мрачен,	задумчив,
dark.light.blue-PL.ACC	was-M	gloomy-(SF)SG.M	thoughtful-(SF)SG.M

неловок. (S.M. Solovjov, *Istorja Rossii s drevnejšix vremen*)
awkward-(SF)SG.M

'He was of medium height, almost short, fairly well-built. He had a round unpleasant face, reddish hair, blue eyes. He was gloomy, pensive and awkward.'

(75) По внешности своей Джулс особенно от
on appearance-DAT one's-SG.F.DAT Jules-NOM particularly from

других не выделяется. Она среднего
others-GEN NEG stands.out-REFL she medium-SG.M.GEN

роста, **почти** **низкая** со спортивным
stature-GEN almost low-(LF)SG.F.NOM with sporty-SG.N.INS

телосложением. (http://www1.grotter.ru)
build-INS

'Jules does not have outstanding looks. She is of medium height, almost short, with an athletic build.'

(76) У женщин 170 см – это **почти** **высокая** для
at women-GEN 170 cm this almost high-(LF)SG.F.NOM for

армянок. (http://forum.hayastan.com)
Armenians-F.GEN

'For Armenian women, 170 cm is almost tall.'

(77) Да, я вижу перед собой траву, длинную
yes I see-PRS.1.SG before self-INS grass-ACC long-(LF)SG.F.ACC

и **почти** **высокую** траву. (azps.ru/hrest/38/8489070)
and almost high-(LF)SG.F.ACC grass-ACC

'Yes, I see grass, long and almost tall grass.'

It should be observed that, according to my informants and the results of the Survey, the phrase *počti vysokij* 'almost high' is slightly more acceptable than *počti nizkij* 'almost low'. It could be related to the fact both the approximative adverb 'almost' and the supra adjective 'tall/high' suggest inferences associated with the upper bound of the scale (Verhagen 2005: 49). Moreover, these inferences are often positive (see Section 6.3.2.4).

It is also interesting to notice that almost all attested examples, with the only exception given in (77), are descriptions of human height. This replicates the results yielded by the English data and reported in Section 7.4.6.1. 'Almost', like other totality modifiers, requires a *definite* reference point, not a vague standard of comparison. Language users have fairly precise intuitions about the minimum value at which 'tall' can apply to humans. Our intuitions about the height of other entities – like buildings and bushes in the Survey – are much less precise and explicit than our knowledge of egocentric scales. This enables us to use expressions such as 'almost tall' with reference to human height and only rarely in other contexts.[23]

7.4.7. State of boundedness

We are now in position to summarise the main findings with respect to the maximum as a CRP. Counter to numerous proposals that relative adjectives are unbounded terms evoking open scales, this study has shown that state of boundedness is not as rigid as is often considered to be. Due to our ability to view the world in alternate ways, we are able to construe adjectival scales as either bounded or unbounded. It is a very natural intuition that a scale of height has a lower bound (zero = ground), but no upper bound, since hypothetically there is no limit to height. The analysis presented above suggests that this view is too simplistic.

To begin with, minimal tallness is not the same as maximal shortness, nor is maximal shortness equal to the absolute zero of height. Rather, minimum tallness/shortness is the degree to which the reference value has to deviate from the cognitive zero to make the application of the positive form possible. This minimum value is always relevant in the semantics of the positive form. That is why dimensional adjectives in the positive form are infelicitous in crisp judgments. When the reference value is in the mid-zone and does not stand out from average considerably enough, relative adjectives can be modified by approximators on condition that the minimum value is fixed rather than vague, which, for example, is often the case for the scale of human height.

Unlike the minimum value that is always relevant to the processing of bare dimensional adjectives, the relevance of the maximum value depends on the contextually determined construal of the scale. Taken in isolation, relative adjectives (in English) are projected onto scales without the upper bound. This default construal

[23] Similarly, the subjects of the Survey found both *edva vysokoe zdanie* 'barely high building' and *edva nizkij kust* 'barely low bush' unacceptable: M1 = 1.2, M2 = 1.2. This is again due to the vagueness of the lower bound for object categories other than human beings.

accounts for the fact that combinations such as *completely tall* and *absolutely short* are often judged infelicitous. However, adjectives are normally used to modify nouns, and knowledge of extra-linguistic entities sets categorical boundaries. For instance, a tree can be very tall, but it cannot be infinitely tall. When adjectives are processed in their noun-contexts, the scale is likely to be conceptualised as a bounded one. It has a lower bound (minimum of "adjectiveness") and an upper bound (categorical maximum of the property). Bounded construals facilitate the use of totality modifiers with (by default) unbounded relative adjectives. Furthermore, we have seen that Russian sub terms *by default* trigger bounded scales, whereas supra terms in Russian are similar to relative adjectives in English.

We can therefore conclude that the interaction of adjectival and nominal concepts can be the basis of *bounding operations* (Talmy 2000: 51-66). In other words, the categorical maximum is imposed on the unbounded scale of dimensional adjectives by the semantics of their head-noun (or another noun denoting the referent that is claimed to possess the property). Witness (78):

(78) When it is green, and growing, maize improves the landscape; but when, in autumn, it is tall and dried out, it is no longer so inviting, looking more like so many thickets of brown paper. (BNC)

Tall interpreted out of context can trigger an unbounded scale, which renders modification by maximizers and proportional modifiers infelicitous. However, in a context like (78) the scale of height is bounded. What is more, in (78) *tall* itself manifests that the final point in the development of maize has been reached.[24] Talmy (2000: 66) calls this type of bounding operations *terminalisation*.

Bounding operations in adjectival semantics are so ubiquitous that to conceptualise a categorical scale as an open one, special unbounding terms are sometimes employed (see also Apresjan 2004: 748). See, for example, (79) and (80):

(79) Высокий храм – величавый,
high-(LF)SG.M.NOM cathedral-NOM grand-(LF)SG.M.NOM

обремененный убранством, на вид суровый,
burdened-(LF)SG.M.NOM furniture-INS on view-ACC severe-(LF)SG.M.NOM

темный, но сияющий золотом; **бесконечно**
dark-(LF)SG.M.NOM but shining-SG.M.NOM gold-INS infinitely

[24] This is similar to the use of dimensional adjectives in child language. Children use adjectives like 'big' and 'tall' to mark the termination of the growing process and thereby conceptualise TALLNESS and BIGNESS as the final point of maturation (e.g. Maratsos 1973).

высокий		иконостас. (RNC)
high-(LF)SG.M.NOM		iconostatis-NOM

'It is a high cathedral, grand, burdened with furniture, severe in appearance, dark, but shining with gold; an infinitely high iconostasis.'

(80)

"Сейчас	они поймут", –		подумал	Иуда,
now	they understand-FUT.3.PL.PFV		thought-SG.M.PFV	Judas-NOM
и	вдруг	что-то	странное,	похожее
and	suddenly	something.PCL	strange-(LF)SG.N.NOM	similar-(LF)SG.N.NOM
на	ослепительную	радость	падения	с	**бесконечно**
on	blinding-SG.F.ACC	joy-ACC	falling-GEN	from	infinitely
высокой		горы	в	голубую	
high-(LF)SG.F.GEN		mountain-GEN	in	light.blue-SG.F.ACC	
сияющую		бездну,	остановило	его	сердце. (RNC)
shining-SG.F.ACC		abyss-ACC	stopped-SG.N.PFV	his	heart-ACC

'Now they will understand, – Judas thought, and suddenly something strange, like a dazzling joy of falling from an infinitely high mountain into a blue shining abyss, struck his heart.'

Reduplication is another possibility to construe height as an unbounded scale. In this case, the property is conceptualised as being very far from the cognitive zero, but the scales are construed without the upper bound. In English, degree adverbs are usually repeated, as in (81). In Russian, it is possible to reduplicate either intensifiers (example 82) or adjectives (examples 83 and 84).

(81) But in a way then, they shouldn't, they shouldn't make such a big thing about all these skinny models, then, because, like, if you look at all these magazines and stuff, all these basically beautiful women are all like, you know, **very, very** thin, **very very** tall. (BNC)

(82)

Очень-очень	высокие		берега /	и	они друг
very.very	high-(LF)PL.NOM		shores-NOM	and	they friend-NOM
к	другу	ну	не	берега /	склоны. (RNC)
towards	friend-DAT	PCL	NEG	shores-NOM	slopes-NOM

'Very, very high river banks / towards each other … not really river banks / slopes'.

(83) О, какие **высокие**, **высокие**, далекие,
oh which-PL.NOM high-(LF)PL.NOM high-(LF)PL.NOM far-(LF)PL.NOM

вечные горы. (RNC)
eternal-(LF)PL.NOM mountains-NOM

'Oh, how very, very high, far and eternal those mountains are. '

(84) **Высокая-высокая** лестница тянется в небо. (RNC)
high.high-(LF)SG.F.NOM staircase-NOM drags-REFL in sky-ACC

'Very, very high stairs stretch up into the sky.'

In brief, due to our ability to construe the world in alternate ways, scales triggered by dimensional adjectives do not always lack the maximum endpoint. The speaker can conceptualise height as either a bounded or an unbounded scale. This section has suggested that the maximum endpoint is often associated with the categorical dimensions of an entity. However, a maximum can also be an incidental value determined by the current communicative situation. In the following subsection, I will briefly look at some examples of the incidental maximums used as CRPs for the processing of dimensional adjectives.

7.4.8. Incidental maximum points

7.4.8.1. Consequential grading constructions. The most obvious and pervasive example of the incidental polar anchors in the semantics of relative adjectives are consequential grading constructions such as *too/enough A (to)*, *so A that*, *such A that*, also called *correlative degree constructions* (see Section 6.3.1.3). 'Too' indicates that the incidental maximum has been surpassed, and 'enough' suggests that the incidental minimum has been reached (cf. Bierwisch 1989: 194). Thus, in these constructions the adjective is interpreted vis-à-vis a consequence attached to a degree of the property. Consider the following examples, where the consequential grading constructions manifest that the maximum has been exceeded, and, as a result, the described situation cannot hold:

(85) We expect to recover 90 to 95 per cent of the trees. The smaller ones will be rented out for several Christmases. When they get **too tall** they will re-

tire happily to their natural habitat. Which is more than can be said for the thousands of turkeys destined for the Christmas dinner table. (BNC)

(86) Why trim the grass **so short that** not even a goat could get its incisors into the chlorophyl? (BNC)

(87) Во время поездки из аэропорта в
in time-ACC journey-GEN from airport-GEN in

зоосад кобылица рисковала
zoo.garden-ACC mare-NOM risked-SG.F.IPFV

простудиться: ее клетка была **слишком**
catch.cold-INF.PFV.REFL her cage-NOM was-F too

высокой и не помещалась в крытую
high-(LF)SG.F.INS and NEG fit-PST.SG.F.IPFV in covered-SG.F.ACC

машину. (RNC)
car-ACC

'On the way from the airport to the zoo, the mare was running the risk of catching a cold; its cage was too high and did not fit into a van.'

(88) Когда он был студентом в Париже, он всегда
When he was-M student-INS in Paris-LOC he always

жаловался на то, что он **такого**
complained-SG.M.IPFV on that what he such-SG.M.GEN

высокого роста, широкоплечий, **что**
high-(LF)SG.M.GEN stature-GEN broad.shoulderd-(LF)SG.M.NOM that

не может незаметным быть. (RNC)
NEG may-PRS.3.SG unnoticeable-(LF)SG.M.INS be-INF

'When he was a student in Paris he used to complain that he was so tall and broad-shouldered that he could not stay unnoticed.'

When the trees in (85) surpass the maximal height of Christmas trees, they cannot be rented out any more. The length of grass in (86) is construed as exceeding the maximal shortness, so that even a goat cannot eat it. In a similar vein, the scale in (87) is bounded by the consequence attached to the height of the cage: it surpassed the maximum value that would have allowed it to fit into the van. And the subject

in (88) is claimed to have transcended the maximum height at which he could have stayed unnoticed. In sum, all these scales are bounded by an incidental maximum and a consequence attached to surpassing it.

As explained in Chapter 6, the correlative degree reading is not confined to the consequential grading constructions. It can also be prompted by scalars modified by intensifiers (example 89) and even by bare adjectives (examples 90 and 91).

(89) Вы **очень** **высокого** роста, в
you-PL very high-(LF)SG.M.GEN stature-GEN in

бронетанковые части не годитесь. (RNC)
armour.tank-ADJ.PL.ACC parts-ACC NEG fit-PRS.2.PL.REFL

'You are very tall, you are not good for the armoured units.'

(90) Голубоглазая, с крупными, но тонко вырезанными
blue.eyed-SG.F.NOM with big-PL.INS but finely cut.out-PL.INS

чертами лица, она не собиралась
features-INS face-GEN she NEG gathered-SG.F.IPFV.REFL

стать актрисой, ее заветной мечтой
become-INF.PFV actress-INS her cherished-SG.F.INS dream-INS

был балет, но, к сожалению девочки, занятие
was-M ballet-NOM but towards pity-DAT girl-GEN doing-ACC

танцем пришлось прекратить: **высокий**
dance-INS had.to-IMPERS.PFV stop-INF.PFV high-(LF)SG.M.NOM

рост, крупные руки и ноги закрыли
stature-NOM big-PL.NOM hands-NOM and feet-NOM closed-PL.PFV

ей дорогу на балетную сцену. (RNC)
her-DAT road-ACC on ballet-ADJ.SG.F.ACC stage-ACC

'Blue-eyed, with large but clear-cut facial features, she was not going to become an actress, her secret dream was ballet. But, unfortunately, she had to quit dancing: her tall stature, big hands and feet made her career in ballet impossible.'

(91) Шедевра не получилось – режиссер
masterpiece-GEN NEG turned.out-IMPERS.PFV.REFL director-NOM

погиб	на	съемках,	когда	грузовик,	на
perished-SG.M.PFV	on	shooting-PL.LOC	when	truck-NOM	on

котором	он	стоял,	проезжал	под
which-SG.M.LOC	he	stood-SG.M.IPFV	rode-SG.M.IPFV	under

низким	мостом. (RNC)
low-(LF)SG.M.INS	bridge-INS

'The film was not to become a masterpiece. The director died when the truck on which he was filming rode under a low bridge.'

The addressee in (89) is claimed to be not good enough for the armoured units, because his height exceeds the maximal admissible height of the soldiers riding tanks. The subject in (90) was too tall to become a ballerina, and the bridge in (91) was too low to go under it while standing on a truck.

For now, I will limit the discussion to the incidental maximum. It should, however, be noted that if 'enough' is used in this construction, the adjective is interpreted vis-à-vis an incidental *minimum* value that has to be reached in order for the consequence to hold. For a more detailed discussion of this type of interpretation see Section 6.3.

7.4.8.2. Maximum and minimum in comparatives. There are, at least, three aspects in which polar anchors are relevant to the processing of comparative constructions. In the first place, as noticed by Kennedy (1999b: 88-9, 184-5), the subject in comparatives of superiority must possess some degree of the property that exceeds the *maximal* degree of that property in the landmark. For perspicuity, consider the following example from Kennedy & McNally (2005: 374):

(92) Kim is taller than Lee.

On this analysis, Kim's height should, at least, minimally exceed the maximal degree to which Lee is tall (cf. Gibson 1978: 51).[25] Thus, both types of polar anchors – minimum and maximum values – are claimed to be relevant to the interpretation of comparatives of superiority.[26]

[25] Crucial evidence presented by Kennedy & McNally (2005) is that both minimum-standard adjectives (usually derived ones) and comparative forms of relative adjectives can be modified by *much* (cf. *a much deserved rest* and *much taller than Lee*)

[26] Note that this interpretation is not confined to comparative adjectives and can also be prompted by positive forms used in comparative judgments. E.g. Ваш дом — предмет вашей законной гордости, высок, его не укроешь за забором, да и не надо (RNC). 'Your house –

Another type of comparative construction evoking the maximum point is the English equative *as A as possible* (example 93) and the corresponding Russian comparative of superiority *kak možno Ae* 'as may Aer' (example 94).

(93) Then she put on her husband's best clothes, tied the turban high so as to look **as tall as possible**, jumped astride the pony, and set off to the field where the tiger was waiting. (BNC)

(94) Предлагаю: нарастить забор **как можно выше**,
suggest-PRS.1.SG graft-INF.PFV fence-ACC as may higher

желательно до неба, чтобы к нам
desirably until sky-GEN so.that towards us-DAT

проникали только небесные вести. (RNC)
penetrate-SBJV.PL.IPFV only sky-ADJ.PL.NOM news-PL.NOM

'I suggest making the fence as high as possible, preferably up to the sky so that only heavenly news could reach us.'

Maximum-related interpretation is especially salient in negated comparatives. See, for instance, (95) where the addressee's height is the maximum value for dimensional judgments about Pericles' stature:

(95) Он выделялся целою головой из
he stood.out-SG.M.IPFV.REFL whole-SG.F.INS head-INS from

толпы, а Перикл был **не выше**
crowd-GEN CONJ Pericles-NOM was-M NEG higher

тебя. (RNC)
you-GEN

'He was well a head taller than everyone else in the crowd, and Pericles was no taller than you.'

In the second place, as shown by Barbiers (1995), comparative adjectives are bounded terms, since only the comparative form of relative adjectives can be used as a complement of modal verbs in Dutch (cf. #*De toren moet hoog.* 'The tower must

which you have all the rights to be proud of – is high. You cannot hide it behind a fence, and you do not have to.' In this example, the height of the house must, at least, minimally exceed the maximal height of the fence.

become high.' vs. *De toren moet hoger* 'The tower must become higher.'). The lower bound in this case is determined by the position of the landmark (e.g. the actual height of the tower); the upper bound coincides with the landmark-plus-increment value (cf. Vanden Wyngaerd 2001).

Finally, there is growing evidence in cognitive psychology that polar anchors are relevant to making comparative judgments with scalar adjectives. For example, a study reported in Holyoak (1978), already mentioned in Chapter 2, has shown that subjects involved in comparison of two digits, compared them not directly to each other, but to a polar CRP (MAX or MIN). So, they compared the distance from the two digits to 1, if the task was *Which is* ***smaller*** *of the two digits?* and to 9, if the question was *Which is* ***larger*** *of the two digits?* Furthermore, reaction times increased with distance from the endpoints. In light of these findings, Holyoak concludes that the reference stimuli at the endpoints of the scale facilitate comparative judgments involving bipolar adjectives. Thus, if the question is *Which is larger?*, then the supra subscale is activated with the maximum endpoint as the most prominent CRP. Conversely, the question *Which is smaller?* triggers the subscale of the sub term with the minimum endpoint as the most salient reference-point stimulus. The reference-point model is therefore able to account for the semantic congruity effect (see Section 2.3.3).[27]

Similar "endpoint effects" were reported for other types of comparison tasks. Holyoak & Mah (1982) found that geographical distances and object sizes are compared more quickly when the stimuli are relatively close to an explicit or implicit polar reference point. For example, judgments on locations of cities along the west-east coast of the United States depended on which coast was specified as the reference point.

In the experiment reported in Woocher et al. (1978), subjects were taught eight-item linear orderings such as "A taller than B taller than C…". After that, they were asked to choose the "taller" term in different two-item combinations. The reaction times decreased with the distance from the polar CRPs (cf. Potts 1974). Woocher and colleagues have also shown that polar anchors had more effect on reaction times than the medium point.

A study conducted by Jamieson & Petrusic (1975) has provided similar results. In two experiments, college students needed more time to select the smaller of a

[27] It is interesting to note that the semantic congruity effect was found in questions with spatial adjectives, such as *high* : *low*, but not with prepositions, such as *over* : *under* (Ryalls et al. 1998) and not with verbs, such as *win* and *lose* (Smith et al. 1988), which suggests that orientation to extremes is something intrinsic to the semantics of spatial adjectives, and not to spatial language or opposites in general.

pair of large animals than to select the larger one. Conversely, the smaller of a pair of small animals was selected more quickly than the larger one. Jamieson & Petrusic conclude that the question itself assigns an "ideal point", against which stimuli are compared. Response times were shown to be directly related to the distance from the polar anchors.

These studies present compelling evidence in favour of polar anchors as CRPs used for the processing of comparative constructions with polar antonyms. Maximum and minimum points are either made explicit or implied by the communicative situation at hand.

7.4.8.3. Superlatives. Intuitively, superlative forms as such imply the idea of a maximum, since they denote the largest degree of the property (in absolute or relative terms). The comparison class can be either explicitly mentioned, as in (96) and (97), or implied, as in (98) and (99).

(96) At more than 18 hands, Party Politics, who was the **tallest of Saturday's 40 runners**, had been criticised for being ungainly. (BNC)

(97) Their house was the **tallest on Thrush Green**. (BNC)

(98) There were trees outside, great towering hulks of oak, ash and chestnut that stood almost as tall as the house itself. On windy nights they tapped at the windows with woody fingers. When it rained their branches swayed and hissed with a sound like that of the ocean spilling over some distant shore. Last summer Frankie had climbed the **tallest** ash and found himself in a whole new world. (BNC)

(99) On the far side they followed the river about a mile downstream until they reached the same narrow point where the temporary bridge is constructed every year. Here they left the valley and climbed up into the forest. It took them all day to build the bridge – felling two of the **tallest** pines, stripping them bare, easing them with ropes down the steep slope to the river. (BNC)

Superlative forms denote the contextually determined maximum, and are therefore perfectly acceptable with *almost* (e.g. *This building is almost the tallest in the city*). For the same reason, superlatives are infelicitous with *barely* (e.g. #*This building is barely the tallest in the city*), since *barely* confirms inferences associated with the lower bound and "requires some room for improvement" (Verhagen 2005: 50).

7.4.9. Interaction of polar anchors

As suggested by the analysis of numerous examples in this section, maximum and minimum values often interact. For instance, in Kennedy's example given in (92), Kim's *minimal* height is, at least, equal to the *maximal* degree to which Lee is tall. Consider also the following example from the RNC:

(100) Московские архитекторы проектируют
Moscow-ADJ.PL.NOM architects-NOM project-PRS.3.PL

самый высокий небоскреб мира. (RNC)
most-SG.M.ACC high-(LF)SG.M.ACC skyscraper-ACC world-GEN

'Moscow architects are working on the project of the highest skyscraper in the world.'

In (100), the minimum point that has to be exceeded in order to qualify for the 'tallest skyscraper in the world' is the maximal height of the tallest *existing* skyscraper. Two mental spaces are set up by this utterance. In the first input space – REALITY SPACE – the tallest existing building is the maximum on the scale of building height. In the second input space – PROJECT SPACE – there is a new skyscraper under design. In the blend, the building to be designed is placed on to the scale of existing skyscrapers. As a result, the maximum point from the REALITY SPACE becomes the minimum point that has to be surpassed in order to count as the tallest skyscraper in the world.

Having considered two types of polar anchors (MAX and MIN), I now turn to the analysis of another lower-bound phenomenon – the absolute zero.

7.5. Absolute zero

7.5.1. Relevant research in the past

It has often been argued that dimensional adjectives trigger lower-bound scales, where the minimum point is equal to the absolute zero of the property (Apresjan 1974: 303, 2000: 236; Broekhuis 1999: 24; H. Clark 1971, 1973; Clark et al. 1973; Croft & Cruse 2004: 170; Dirven & Taylor 1988: 386; Lyons 1977, II: 276; Mettinger 1999: 105-6; Pander Maat 2006). For the illustration of this claim, see Figure 7.3 representing the scale of length suggested by Croft & Cruse (2004: 170).

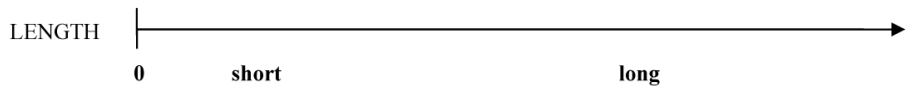

Figure 7.3. The scale for *long* : *short* (Croft & Cruse 2004: 170)

In Figure 7.3, the scale of LENGTH has a lower bound at the point of zero length. This configuration is based on a very natural intuition that the shorter the object becomes, the less visible it is; until it completely disappears. This intuition is captured in the following passage from *Alice in Wonderland*. After Alice had emptied the bottle saying DRINK ME, she started "shutting up like a telescope":

(101) And so it was indeed: she was now only ten inches high, and her face brightened up at the thought that she was now the right size for going through the little door into that lovely garden. First, however, she waited for a few minutes to see if she was going to shrink any further: she felt a little nervous about this; "for it might end, you know," said Alice to herself; "in my going out altogether, like a candle. I wonder what I should be like then?" And she tried to fancy what the flame of a candle looks like after the candle is blown out, for she could not remember ever having seen such a thing. (L. Carrol, *Alice in Wonderland*)

In this example, the result of reaching maximal shortness is conceptualised as a total absence of height. The same sort of conceptualisation is reflected in the following frequent Russian expressions: *Ty takaja xudaja. Ot tebja ničego ne ostalos'* 'You are so thin. Nothing is left of you', *Ona sovsem sošla na net* 'She has grown really thin' (lit. She completely came down to "no"), and *On takoj korotkij. Ego ot pola ne vidat'* 'He is so short that he does not stand out from the floor'.

However, this intuition is rather of extra-linguistic nature, since, as has been shown in Sections 7.2 and 7.4, linguistically zero height is neither equal to minimal tallness, nor is it the same thing as maximal shortness.[28] For one, dimensional adjectives display restricted modification by maximizing adverbs. And even in languages like Russian, where sub terms are felicitous with maximizers, adjectives as such (even when modified by maximizing adverbs) can denote only the maximal property (e.g. shortness), but not the absolute zero of the property. Consider (102):

[28] This intuition does, however, hold for maximum-standard complementaries, where the lower bound (zero) of one adjective coincides with the upper bound (maximum) of the opposite term (e.g. *full* : *empty*; *visible* : *invisible*).

(102) Костер небесный все ниже и ниже: розовый,
fire-NOM sky-ADJ.SG.M.NOM all lower and lower pink-SG.M.NOM

алый и вот уже совсем низкий,
scarlet-SG.M.NOM and PCL already completely low-(LF)SG.M.NOM

малиновый, гаснут угли его. (RNC)
crimson-SG.M.NOM go.out-PRS.3.PL coals-NOM his

'The heavenly fire is getting lower and lower: pink, scarlet, and finally it is getting really low, crimson, its charcoals are going out.'

In (102), the state of maximal lowness of fire is construed as a phase preceding the absence of flame. The adjective *nizkij* 'low/short' modified by the maximizer *sovsem* 'completely' suggests the maximum-related interpretation. To manifest the attainment of zero height, a non-adjectival expression is used (*gasnut ugli ego* 'its charcoals are going out').

This line of reasoning has led to an alternative view that scales used for interpreting relative adjectives are open at both ends, i.e. they have neither the upper nor the lower bound (Cruse 1986: 204-6; Kennedy 2007; Kennedy & McNally 2005; Paradis 1997, 2001; Petkova-Kaleva 2003).

In the rest of this chapter, I will investigate the role of the absolute zero as a CRP for processing dimensional adjectives denoting vertical extent. I will suggest that the absolute zero, though not as salient as other CRP types, *is* relevant to some aspects of adjectival semantics. Furthermore, certain constructions can render this CRP type primary.

7.5.2. Starting point for measurement

One of the constructions prompting the zero-anchored interpretation is the use of dimensional adjectives after measure phrases, as in (103):

(103) She had big feet and one of her daughters was **six feet tall**, unusual in those days. (BNC)

The absolute zero is a natural starting point for measurement. Therefore, in constructions with measure phrases, as in (103), this CRP receives primary salience, whereas the cognitive zero, minimum and maximum recede into the background. H. Clark (1971, 1973) argues that people use the same perceptually salient reference planes both in spatial cognition and in the interpretation of spatial adjectives. The

primary reference plane for the vertical dimension, according to H. Clark, is the ground:

> <…> in fact, each adjective has two points of reference. Consider the adjectives *high* and *low*. To say *The balloon is high* (or *low*) is really to say *The balloon is high* (or *low*) *off the ground*. Implicit in such simple statements is a zero point, an origin, the point of reference from which all measurement is taken. *High* and *low* happen to have a particular reference plane – ground level – unless some other reference plane is mentioned explicitly. This origin or zero point could be called the primary point of reference. Adjectives also have a secondary point of reference. *High* and *low*, to continue the example, both refer to height off the ground, but *high* indicates a distance that surpasses some implied standard, and *low* indicates a distance that fails to meet that standard. This standard depends very strongly on what exactly is being measured, as many linguists have pointed out, for one would describe a balloon as high in a room when it was perhaps 6 feet high, but in a large auditorium perhaps only if it was 10 to 20 feet high. The main point here is that *high* has two implicit reference points: ground level (the primary one) and some standard height (the secondary one) (H. Clark 1973: 36).

Thus, for H. Clark the absolute zero is the primary CRP and the cognitive zero is secondary (also Holyoak 1978: 238). Counter to H. Clark (1971, 1973) and Clark et al. (1973), Pander Maat (2003) argues that only relative uses of gradable adjectives are CRP-related. Absolute construals exemplified by constructions with measure phrases, on the contrary, are claimed to be CRP-free (cf. Pander Maat 2006). I would like to follow H. Clark in asserting that both absolute and relative construals of scalar antonyms are CRP-related. The difference between the two construals can be accounted for by the *relative* salience of one CRP type over the others. Dimensional adjectives in their relative use are only marginally oriented to the absolute zero. Absolute construals, on the contrary, are primarily zero-oriented, since the exact distance or extension from zero is what matters in expressions such as *six feet tall*.

There is some controversy in the literature about what counts as the zero reference plane for dimensional adjectives denoting vertical extent. Numerous studies suggest that it is the ground level (Apresjan 2000; H. Clark 1971, 1973; Clark et al. 1973; Durrell 1988; Lyons 1977, II: 690; Vogel 2004, but see Kravchenko 1993). Some others suggest that it is the centre of the earth (Leisi 1975: 100; Weydt & Schlieben-Lange 1998) or the bottom of the measured object itself (Dirven & Taylor 1988: 386). I would like to suggest that human cognition is quite flexible about that. Very often, indeed, the ground level is the reference plane for making dimen-

sional judgments. It may coincide with the bottom of the object, as in (104), but it does not have to; witness (105).

(104) As he came out of the Chapel, his sons stood back to let him pass. Over six feet tall, and square-shouldered, Marcus Judge was still an imposing character. (BNC)

(105) The building was 84 metres high, though because it was situated on a hill, with five storeys below ground, it looks shorter than it is. (BNC)

The building in (105) is 84 meters high if measured from the bottom. But since this bottom below the ground level is invisible, a naïve conceptualiser is likely to use the ground level, and not the bottom of the building, as a reference plane for making dimensional judgments about the building height.

The zero point can also be any other plane, such as a car seat in (106), the top of a snowdrift in (107), and even a point in a vertical plane as in (108):[29]

(106) За рулем сидел высокий человек,
behind steer-INS sat-SG.M.IPFV high-(LF)SG.M.NOM man-NOM

чьи чуть прищуренные глаза за
whose-PL.NOM a.bit screwed.up-PL.NOM eyes-NOM behind

стеклами очков выражали
glasses-INS spectacles-GEN expressed-PL.IPFV

сосредоточенность. (RNC)
concentration-ACC

'The driver was a tall man, whose screwed up eyes showed a high degree of concentration.'

(107) У низкого от наваленных сугробов
at low-(LF)SG.M.GEN from heaped-PL.GEN snowdrifts-GEN

собственного забора он притормозил,
own-SG.M.GEN fence-GEN he braked.a.bit-SG.M.PFV

ткнул машину мордой в ворота,
poked-SG.M.PFV car-ACC snout-INS in gates-ACC

[29] Vogel (2004) comments that of 770 uses of the Swedish *hög* 'high/tall' in her corpus, in 127 cases the adjective was used to refer to an object located elsewhere than on the ground or floor (e.g. table, water surface).

вышел и бахнул дверью. (RNC)
went.out-SG.M.PFV and banged-SG.M.PFV door-INS

'He stopped his car near his own fence, that was low from snowdrifts, dropped the car with its muzzle facing the gate, got out and slammed the door.'

(108) Да и можно ли остаться равнодушным,
PLC and may PLC stay-INF.PFV indifferent-(LF)SG.M.INS

например, к тому, как из отвесно
for.example towards that-DAT how from plumb-ADV

гладкой скалы на большой высоте
smooth-(LF)SG.F.GEN rock-GEN on big-SG.F.LOC height-LOC

выходит росток, который изгибается и растет
goes.out sprout-NOM which-SG.M.NOM bends-REFL and grows

вверх вдоль скалы, превращаясь в высокое
upwards along rock-GEN turning in high-(LF)SG.N.ACC

дерево? (RNC)
tree-ACC

'Isn't it impossible to stay unmoved when you see a sprout coming out of a steep smooth rock high off the ground, bending and growing upwards along the rock, and eventually turning into a tall tree?'

In summary, even though the lower bound is not as prominent in the semantics of dimensional adjectives as it is in the semantics of gradable complementaries (cf. Section 7.3), the absolute zero of no height is an important CRP for spatial adjectives as well. It provides a reference plane and a starting point for measurement. Furthermore, it partly determines the upward direction of the scale. This aspect will be dealt with in the following subsection.

7.5.3. Upward growth: the case of *tall*

It is often assumed that *tall* is used exclusively with respect to human height, and the vertical size of other objects is described by means of *high* (e.g. Sharoff 2006). Taylor (2003) noticed that this division is not that absolute, in the sense that *high* can also describe human height, and *tall* can be used with reference to entities other

than a human being. Although I will consider this issue in greater detail in Chapter 8, it is relevant for the present discussion that the use of *tall* is extended from human referents to other entities on the basis of similarity with a human being. Objects that, like humans, stand on the ground and grow in the upward direction from that reference plane can be dubbed *tall* (Dirven & Taylor 1988; Taylor 2003). This upward growth can be either a natural process, as in trees and other sorts of vegetation, or the result of human activity, as in buildings and other constructions. Table 7.3 presents the frequency of referent categories of *tall* in the BNC.[30] The table shows, in line with Dirven & Taylor (1988) and Taylor (2003), that second and third largest group of referents – after human beings – are vegetation and constructions, the objects that share the human property of having support on the ground and growing in the upward direction from this reference plane.

Referent categories	**Examples**	**Tokens**	**%**
Human beings	child, man, girl, woman	3,096	62.66
Vegetation	bush, flowers, grass, plant, trees	569	11.52
Constructions	bell-tower, building, dome, house	477	9.65
Containers	bottle, box, glass, jug	103	2.08
Animals	bird, bull, dog, horse, rhinoceros	97	1.96
Furniture and appliances	bookcase, chair, refrigerator, stool	90	1.82
Openings	door, entrance, portal, window	83	1.68
Vehicles	car, caravan, mast, ship	63	1.28
Eminences	cliff, hill, pinnacle, mountain	55	1.11
Supports	base, buttress, leg, stem	47	0.95
Enclosures	fence, gates, hedge, partitions	43	0.87
Clothing	hat, helmet, collar	38	0.77
Monuments	obelisk, sculpture, statue	26	0.53
Interior	apartment, gallery, room	22	0.45
Body parts	head, limb, thigh	10	0.2
Other	book, candle, cane	122	2.47

Table 7.3. Referent categories of *tall* in the BNC

It is instructive for our present purposes that orientation to the zero plane is one of the factors facilitating category extension of *tall* to referents other than human beings. It should also be observed that the zero plane at the bottom is crucial not only to the meaning of *tall*, but also to other dimensional adjectives denoting vertical

[30] Both positive and non-positive (comparative and superlative) forms of *tall* were used in the calculations.

extent.[31] For instance, as noticed among others by Apresjan (1974), Bierwisch (1967), Leisi (1953), Sharoff (2002, 2006), Rakhilina (1995, 1998, 2000),[32] and Vogel (2004), if an object has a point of attachment at the top and no absolute zero at the ground level, it is not dubbed 'high'. So, a vertical rope hanging from the ceiling is not high, it is long.[33] Similarly, pillars having a support at the bottom are dubbed 'tall' or 'high', whereas rainwater-pipes fixed at the top are 'long'.[34] This shows that the absolute zero, its position and the direction of the scale determined by it are important aspects in the semantics of dimensional adjectives.

7.5.4. Closeness to the ground: the case of *nizkij*

Rakhilina (2000) comments that the reference plane at the ground level is crucial to the semantics of *nizkij* 'low/short', since entities prototypically dubbed by this adjective are claimed to have functional tops located close to the ground. Similar results were reported by Vogel (2004) for the Swedish *låg* 'low'. This observation is supported by the data from the RNC, where the most frequent referents of *nizkij* 'low/short' are pieces of furniture, such as *stol* 'table' (72 occurrences), *kreslo* 'armchair' (27 occurrences), *divan* 'sofa' (23 occurrences), and *skamejka* 'bench' (20 occurrences) (see Section 8.4.3 for further details).

Interestingly enough, the adjective *nizkij* 'show/short' is derived from the noun *niz* 'bottom, lower part'. The association with the ground level is therefore bolstered by the morphological relation and by etymological motivation. Furthermore, *nizkij* is often used in contexts where closeness to the ground is made explicit. (109)-(113) are examples:

(109)	Многие	также	считают,	что	"чамп-кар" –	**низкий**,
	many	also	count-PRS.3.PL	that	champ-car	low-(LF)SG.M.NOM

[31] Numerous studies in language acquisition have shown that children between 3 and 5 years of age use *big* to mean 'tall', thus considering the vertical extent decisive in the determination of object size (Coley & Gelman 1989; Lumsden & Poteat 1968; Maratsos 1973, 1974; Ravn & Gelman 1984). One of the possible explanations offered in literature is that the vertical dimension, unlike the horizontal one, is prominent due to having a "fixed baseline against which to measure: the ground" (Maratsos 1973: 752).

[32] I thank Wim Honselaar for bringing these studies to my attention.

[33] Clark et al. (1973) report an experiment where the subjects were asked to judge which of the two objects was higher under two conditions: the explicit reference line was either at the bottom or at the top of the objects. The reaction times increased significantly when the reference line was at the top, which is consistent with the assumption that height extends in an upward direction.

[34] Although these observations hold for English, Russian, as well as other Germanic and Slavic languages, they do not necessarily have a universal status. I do not exclude the possibility that there might be languages where a rope hanging from the ceiling can be dubbed 'high'.

длинный,	широкий,	**словно**	**распластанный**	
long-(LF)SG.M.NOM	wide-(LF)SG.M.NOM	as.if	spread- SG.M.NOM	

по	**асфальту**	наземный	истребитель –
on	asphalt-DAT	on.ground-ADJ.SG.M.NOM	fighter-NOM

выглядит	гораздо	красивее. (RNC)
looks	much	beautiful-COMP

'Many people also think that the "champ-car" – a low, long, wide ground fighter as if sprawling all over the asphalt – looks much better. '

(110)

Например,	я	не	понимаю		модных
for.example	I	NEG	undertstand-PRS.1.SG		fasionable-PL.GEN

низких	кроватей	потому что	с	них
low-(LF)PL.GEN	beds-GEN	because	from	them-GEN

тяжело	вставать,	на	них	неудобно
heavily	rise-INF.IPFV	on	them-ACC	uncomfortably

ложиться –	**приходится**	**падать**	**почти**	
lie.down-INF.IPFV.REFL	have.to-PRS.IMPERS.REFL	fall-INF.IPFV	almost	

на	**пол**. (RNC)
on	floor-ACC

'For example, I do not understand the fun of low beds, because it is difficult to get up from them and hard to lie down – you almost have to fall on the ground.'

(111)

Люсю	окружили		подружки,		завидуя	ей и
Ljusja-ACC	surrounded-PL.PFV		girlfriends-NOM		envying	her-DAT and

жалея	ее,	возле	них	же	крутилась
pitying	her-ACC	near	them-GEN	PCL	turned-SG.F.IPFV.REFL

Таньчора,	а	старуха	одна
Tanchora-NOM	CONJ	old.woman-NOM	alone-SG.F.NOM

сидела	на	**низком**,	**вросшем**
sat-SG.F.IPFV	on	low-(LF)SG.N.LOC	in.grow-PTCP.PST.ACT.SG.N.LOC

в	**землю**	бревне,	неподалеку	от	девчонок,	и
in	ground-ACC	log-LOC	not.far	from	girls-GEN	and

тоскливо,	покорно	караулила,	когда	над
melancholically	submissively	watched-SG.F.IPFV	when	above

островом	покажется	пароходный
island-INS	appear-FUT.3.SG.PFV.REFL	steamer-ADJ.SG.M.NOM

дым. (RNC)
smoke-NOM

'Ljusja was amongst her girlfriends who envied her and felt sorry for her. Tanchora was also fussing around by their side. The old woman was sitting not far from them on a low log going deep into the ground and was melancholically and submissively waiting for the steamer smoke to appear above the island.'

(112)

Еще	приятно	бегать	по	густой		и
still	pleasantly	run-INF.IPFV	on	dense-SG.F.DAT		and

низкой	траве,	она	**стелется**	**по**	
low-(LF)SG.F.DAT	grass-DAT	3.SG.F	creeps-REFL	on	

земле,	как	пушистое	одеяло,	и	на
ground-DAT	as	fluffy-SG.N.NOM	blanket-NOM	and	on

просеках	стоят	черные	пни,	там
cuttings-LOC	stand-PRS.3.PL	black-(LF)PL.NOM	stumps-NOM	there

плохо	бегать,	но	зато	можно
badly	run-INF.IPFV	but	on.the.other.hand	may-IMPERS

увидеть	зеленых	ящериц. (RNC)
see-INF.PFV	green-PL.GEN	lizards-GEN

'I also like running on dense low grass creeping over the ground as a downy blanket. It is difficult to run in parts where the trees have been cut out and black stumps stand all over the place. But there you can see green lizards.'

(113)

Представьте	себе	широкую	**низкую**	избу,
imagine-IMP.PL	self-DAT	wide-(LF)SG.F.ACC	low-(LF)SG.F.ACC	izba-ACC

вросшую			**в**	**землю**,		крытую	
in.grow-PTCP.PST.ACT.SG.F.ACC			in	ground-ACC		covered-SG.F.ACC	
дерном,	без	окон,	с	очагом	из		
turf-INS	without	windows-GEN	with	hearth-INS	from		
камней	вместо	печи,	с	земляным			
stones-GEN	instead	stove-GEN	with	ground-ADJ.SG.M.INS			
полом	и	в	редких	случаях	с	нарами. (RNC)	
floor-INS	and	in	rare-PL.LOC	cases-LOC	with	bunk-INS	

'Imagine a broad low hut, going deep into the ground, covered with turf, without windows, with a hearth used as a stove, with earth instead of floor, and in rare cases with a plank-bed.'

The example in (113) merits some further discussion. Here *nizkij* 'low/short' modifies the noun *izba*. An izba is a Russian peasant's hut. A great deal of such traditional houses get dilapidated, demolished and replaced by modern cottages or high-rises. It should be observed that *nizkij* is quite frequently used in the RNC to describe old dilapidated constructions (26 instances with the noun *dom* 'house', 16 with *izba* 'peasant's hut', 11 with *zdanie* 'building', 7 with *barak* 'barrack', 3 with *xata* 'hut', 2 with *lačuga* 'hovel'). In the majority of these uses, dilapidation – a process of crimping in the direction of the ground – is at issue.[35] Witness (114)-(117):

(114)

Стены	низкие	и	ветхие,	сторожевые	
walls-NOM	low-(LF)PL.NOM	and	dilapidated-PL.NOM	watching-PL.NOM	
башни	скорее	декоративные,	воротам	даже	
towers-NOM	sooner	decorative-PL.NOM	gates-DAT	even	
таран	не	нужен –	достаточно	пинка	ноги. (RNC)
ram-NOM	NEG	needed-SG.M.NOM	enough	kick-GEN	foot-GEN

'The walls are low and dilapidated, the watchtowers are rather used as decoration, the gates do not even need ramming, you can simply kick them out.'

(115)

Слева,	справа,	впереди –	везде	взгляд
left-ADV	right-ADV	straight.ahead	everywhere	look-NOM

[35] One of my Russian informants explained the difference between *nizkij dom* 'low house' and *nevysokij dom* 'not.high house' in the following way: the former is dilapidated, and the latter simply does not have a second floor.

царапался об одно и то же:
scratched-SG.M.IPFV.REFL about one-N.ACC and that PCL

низкие развалины, груды битого кирпича
low-(LF)PL.NOM ruins-NOM heaps-NOM broken-SG.M.GEN brick-GEN

и осколков бетона, тощие змеи
and splinters-GEN concrete-GEN gaunt-PL.NOM snakes-NOM

проволоки, скорчившиеся в тщетной
wire-GEN contort-PTCP.PST.ACT.PL.NOM in vain-(LF)SG.F.LOC

попытке выползти наружу. (RNC)
attempt-LOC creep.out-INF.PFV outside

'To the left, to the right, straight ahead – everywhere your look bumped into the same thing: low ruins, heaps of broken bricks and concrete shivers, gaunt snakes of wire contorted from useless attempts to creep out.'

(116) Длинный и низкий, как баржа,
long-(LF)SG.M.NOM and low-(LF)SG.M.NOM as barge-NOM

барак давно провонял запустением и
barrack-NOM long-ADV stank.through-SG.M.PFV desolation-INS and

гнилью, и присутствие Богодула ничем не
rot-INS and presence-NOM Bogodul-GEN nothing-INS NEG

помогало ему. (RNC)
helped-SG.N.IPFV 3 SG.M.DAT

'Long and low like a barge, the barrack was filled with the stink of desolation and rotting. Even Bogodul's presence did not help.'

(117) Как раз напротив этой доски была
as once in.front this-F.GEN board-GEN was-F

длинная низкая хата с крохотными
long-(LF)SG.F.NOM low-(LF)SG.F.NOM hut-NOM with tiny-PL.INS

оконцами, годная разве на снос,
windows-DIM.INS suitable-(LF)SG.F.NOM only on demolition-ACC

в нее со двора вели пять
in 3.SG.F.ACC from yard-GEN lead-PST.PL.IPFV five

дверей	с	тамбурчиками. (RNC)
doors-GEN	with	lobbies-DIM.INS

'Across from this board, there was a long low hut with tiny windows, good enough only to be demolished. It had five doors with small halls behind them.'

Similarly, according to Apresjan (2004), only *nizkij* 'low/short', but not *nevysokij* 'not.high' can be used if a person has become short through aging. The process of getting old is in this case conceptualised as "growing in the direction of the ground". These examples strongly suggest, in line with Rakhilina (2000) and Vogel (2004), that the absolute zero at the ground level is an important CRP in the semantics of *nizkij* 'low/short'.

7.5.5. Asymmetry

Some particularly important piece of evidence in favour of the absolute zero as a CRP for interpreting relative adjectives is the well-known asymmetry between sub and supra terms (Bierwisch 1967: 8-9, 1989; Blutner 1989: 434; Broekhuis 1999: 28-9; H. Clark 1973: 38; Croft & Cruse 2004: 173-5; Cruse 1976, 1986; De Schutter 1976: 25; Dixon 1977: 33; Eisenberg 1994: 241; Klein 1980: 29; Lehrer 1985; Lyons 1969: 466-7, 1977, II: 305ff.; Nikolaeva 1983: 236-7; Rusiecki 1985: 13-5; Vendler 1968: 96; Vogel 2004: 43-6; Wierzbicka 1996: 54). The essence of the asymmetry is that a supra term is always more general than its sub partner, for it can denote not only the upper subscale, but also the whole scale. The latter type of use is known as *nominal* or *impartial*. In other words, not every time an adjective such as *tall* is used, it means a value above the cognitive zero, i.e. its use is not always *contrastive*, or *committed*.[36]

English supra terms, unlike their sub counterparts, are impartial when used after measure phrases (example 118), in questions with *how* (example 119), correlative degree constructions with *enough* (example 120), and in equatives (example 121). Note also that names of scales are derived from supra terms: *height, length, width, depth, thickness*.

[36] Another manifestation of the sub-supra asymmetry is that only supra terms can be used as means of adnominal degree modification. For instance, *big beer-drinker* and *enormous idiot* are felicitous, whereas *small beer-drinker* and *tiny idiot* only hold in the dimensional sense. Morzycki (2006) reports that this tendency holds for numerous languages.

(118) Ten stone, two ounces. Quite enough for a man only **five feet, five and a half inches tall**. (BNC)

(119) The steely-grey eyes ran over Paula again. **How tall** are you? Five nine and a half. (BNC)

(120) It's important to choose a variety that will grow **tall enough** to reach the surface as you cannot raise such plants on bricks. (BNC)

(121) They grow sticking up vertically on sandy sea floors, some only a few centimetres long, some half **as tall as a man**. (BNC)

Unlike the supras, English sub terms used in the same constructions are marked, i.e. they suggest that the size of an object is smaller than the norm. Witness (122)-(125):

(122) The name is Grady, **five feet short** in stockings and boots, a slightly distorted offshoot of a good breed of humans who race horses. (http://en.wikipedia.org/wiki/The_Last_Night_of_a_Jockey)

(123) Jackie is short. He's so short you can see his feet on his driver's license. **How short** is he? That boy is short as hell. (http://www.darkhorizons.com/news10)

(124) I thought with this hat this dress was **short enough**. (BNC)

(125) But then Stuart meets a little girl who is fully human but every bit **as short as Stuart**, and his heart is lost to her. (BNC)

As explained in Section 5.4.2.3, the asymmetry between the terms constituting an antonymous pair cannot be accounted for in terms of the cognitive zero. However, as suggested by several studies, this difference can be explained by evoking another point of reference – the absolute zero (E. Clark 1973: 105; H. Clark 1973: 38; Clark et al. 1973: 330-7; Croft & Cruse 2004: 175; Lehrer 1985; Murphy 2003: 186). To quote H. Clark:

> Note that it is the first member of each pair that is used as the basis for each scale name. Thus, one can define a positive direction for the *long-short* scale as extending infinitely in one direction from the primary point of reference, the zero point of no length. The dimension is called length in English, whereas shortness is defined only with respect to the secondary point of reference. Shortness is a defective scale extending only from that secondary standard in a negative direction to the zero point, the primary point of reference. Each of the other scales works in the same way, with the unmarked member of the pair used as the

> name of the scale defining the positive direction and as the term labelling an excess in that direction (H. Clark 1973: 38).

Thus, the meanings of the antonyms, such as *tall* : *short*, are symmetrical relative to the cognitive zero, but are asymmetrical with respect to the zero value of the property (heightlessness). *Tall* identifies the direction that goes away *from* the absolute zero value, whereas *short* describes the direction that goes *towards* the absolute zero value. Thus, the direction of measurement coincides with the direction denoted by *tall*, and is opposite to the one denoted by *short* (see Figure 7.4).

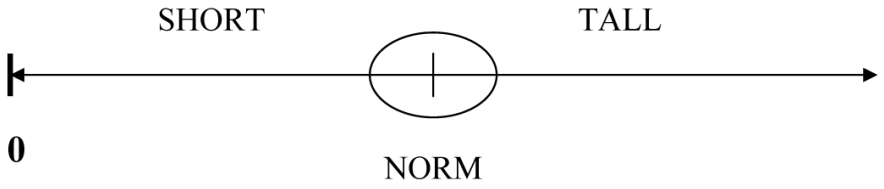

Figure 7.4. Subscales of tallness and shortness

In this sense, *short* is more complex than *tall*, for it "involves reversal of direction" (E. Clark 1973: 106).[37] This conclusion is supported by the findings regarding the recognition of polar antonyms by aphasics. For example, Drummond et al. (1981) report that aphasic subjects recognise unmarked supra terms more easily than their marked sub counterparts. In the same vein, Clark (1969) found that adults solve deductive problems of the kind *If Pete isn't as bad as John, then who is best?* significantly faster, if the task contains supras, rather than subs. Similarly, Clark (1972) demonstrated that adult subjects more easily understand instructions containing supra terms than those containing sub terms (see also Clark 1970a).

In a similar fashion, Schenning & Van Hout (1994) found that adult L2 learners acquire spatial terms referring to the top before they learn the terms for the bottom. Remarkably no such asymmetry was found for the lateral axis (left : right).

Further evidence comes from L1 acquisition of dimensional adjectives. E. Clark (1973) has shown that children understand supra terms better than their sub counterparts (see also Barner & Snedeker 2007; Daems 1977; Ehri 1976; Townsend 1976; but cf. Hallett 1974). In a similar vein, Sera & Smith (1987) report that young

[37] For an alternative explanation see Radden & Kövecses (1999: 47).

children agree to label intrinsically small objects *big* at the presence of an even smaller object, but are reluctant to apply *little* to intrinsically big objects that are smaller than an incidental standard of comparison in their current visual field. Similarly, Smith et al. (1988) have shown that children start using the comparative of supras in the adult-like unmarked manner (i.e. for the whole dimension and not only for intrinsically large entities) before they learn to use subs in a similar way (cf. Ryalls 2000: 34; Smith 1984: 377). It is plausible to assume that this relative complexity of sub terms is due to their counterintuitive directionality, running opposite to the line of measurement.

7.5.6. Absolute zero and maximal shortness

Before closing this chapter, I would like to emphasise once again that the absolute zero is not the same reference-point phenomenon as the upper bound of shortness, nor it is equal to the lower bound of tallness. If we call something *sovsem nizkij* 'completely low/short', we probably mean that the categorical maximum has been reached. For example, *Ėto sovsem nizkaja gora* 'This is a completely low mountain' does not mean that the mountain is close to the ground. Rather, this sentence suggests that the mountain has reached the maximal shortness inherent to the category of mountains. If it were even shorter, we would probably call it a hill (cf. example 27). Thus, it is not the case that a mountain called 'completely low' is level with the ground and we cannot see it; it is just that at this point we do not see it as a mountain any longer and categorise it, for instance, as a hill. Consider also (126):

(126) Наш верхотурский тракт проходил
our-SG.M.NOM attic-ADJ.SG.M.NOM highway-NOM passed-SG.M.IPFV

предместьем Мельковой, где дома делались
suburb-INS Mel'kova-GEN where houses-NOM did-PL.IPFV.RELF

все ниже и ниже, пока не превратились в
all lower and lower until NEG turned-PL.PFV in

жалкие лачуги, где ютилась
miserable-(LF)PL.ACC hovels-ACC where huddled.together-SG.F.IPFV

городская бедность. (RNC)
urban-SG.F.NOM poverty-NOM

> 'Our high road went through the suburbs of Melkova where houses were getting lower and lower and eventually turned into shabby hovels in which the town's poor were huddling together.'

The houses in (126) are presented as getting lower and lower. And at a certain point, when the maximal "lowness" for the category of houses is reached, the constructions get a new label – 'hovels'. This is the categorical maximum of lowness (cf. 7.4.2), which is not the same as the absolute zero, i.e. the ground level from which the height of the houses is measured. When the categorical maximum is reached, houses become hovels. However, that does not mean that the property no longer exists and that the roof of the hovel is on the ground level.

Thus, the assertion that scales evoked by dimensional adjectives have no lower bound, because combinations such as *completely short* are infelicitous is not legitimate. This chapter has shown that there are two different types of lower-bound phenomena relevant to the sub terms denoting vertical extent. One is maximum shortness – a category-related value that is linguistically more prominent in Russian than in English. The other is the absolute zero – a natural reference plane and a starting point for taking measurement.

7.6. Summary

In this chapter, I have argued that the division of gradable adjectives into scalar (unbounded) and non-scalar (bounded) terms is difficult to maintain, since bounded adjectives can also evoke scales. However, the two adjectival types differ in the primary CRP anchoring their scales. Dimensional adjectives and other unbounded terms are, by default, medium-oriented. Bounded adjectives, such as *clean* : *dirty*, are primarily anchored by the extremes of the scale – minimum for partial adjectives (e.g. *dirty*) and maximum for total adjectives (e.g. *clean*).

It has been argued on numerous occasions that bounded adjectives are "absolute" terms, in the sense that their standards of comparison are fixed and context-independent (Amaral 2006; Frazier et al. 2006; Kennedy 2007; Kennedy & McNally 2005; Rotstein & Winter 2004; Syrett 2007; Syrett et al. 2005; Winter 2006). In this respect, they are claimed to be different from relative adjectives such as *tall* : *short*, since the latter are interpreted vis-à-vis a contextually determined standard value. Although I agree with the above proposals that total and partial adjectives are scalar terms, just as true antonyms, I do not recognise the rationale of the distinction between relative and "absolute" adjectives. Crucially, so-called "absolute" adjectives

are also context-dependent, even though their primary CRP is not located in the middle of the scale.

Therefore, I would like to offer a new rationale of the distinction between the two adjectival types – *the relative primacy of one CRP type over the others*. Although, by default, relative antonyms such as *tall* : *short* evoke the average value as their CRP, the findings reported in this chapter clearly indicate that other CRP types – such as minimum and maximum values – can also be involved in the interpretation of these adjectives. Moreover, in particular contexts polar anchors can become more prominent than the cognitive zero (cf. Section 6.3). Therefore, modification of relative adjectives by maximizers and approximators is not as impossible as it is often claimed. Gradable complementaries, in their turn, have as their default values interpretation vis-à-vis polar anchors – maximum for total adjectives and minimum for partial adjectives. However, defaults can be overridden by context, and the cognitive zero can occasionally become primary in the processing of these words (see Section 6.4.8).

Another important finding from this study is that there is no one-to-one relationship between adjective type and scale type. Counter to the previous research, I have shown that it is not always the case that relative adjectives, such as *tall* and *short*, trigger open (unbounded) scales. Although relative adjectives in English and several other language are indeed, by default, unbounded, their counterparts in Russian and other Slavic languages evoke lower-bound scales. This explains why English relative adjectives are, by default, infelicitous with maximizing adverbs, whereas Russian sub terms are acceptable with maximizers.

These results reinforce the conclusion that the borderline between bounded and unbounded adjectives is not as strict as is normally considered to be. Boundedness of adjectival scales, just as state of boundedness in nominal and verbal semantics, can be shaped by contextually determined construals of the property denoted by the adjective. Some other facets of the construal relationships in the semantics of dimensional adjectives will be discussed in the next chapter.

Chapter 8. EGO as a cognitive reference point: evidence from near-synonyms

Man is the measure of all things.
Protagoras

8.1. Introduction

8.1.1. Reference-point status of the self

Using a human body as a point of reference is a very pervasive phenomenon in human perception. As suggested by Dmitrovskaja (1991), in human perception man and world become one in the sense that for humans perceiving the world is difficult without recognition of oneself in that world.[1] What is more, we interiorise the world in a very specific, anthropomorphic way (cf. Condillac 1756; Potebnja 1999; Von Humboldt 1963).

A number of studies in social psychology have shown that the self is a very salient CRP used to guide the processing of new information. Cognitive salience of the self leads to asymmetries in similarity judgments in the sense that people judge others as more similar to themselves than themselves to others (Holyoak & Gordon 1983; Kunda & Nisbett 1988; Srull & Gaelick 1983; Tversky 1977), just as they judge non-focal hues more like focal hues than the other way around (Bowdle & Medin: in press; Rosch 1975a, 1975b). The reference-point status of the self has a number of implications for social expectations and judgments about other people.

For example, a study reported in McFarland & Miller (1990) found simultaneous false consensus effects and false uniqueness effects in self-other perception. The subjects in the experiment overestimated the proportion of other people who would react to an unpleasant experience in the same way as they did (false consensus). However, they considered themselves unique as to the intensity of their emotional reactions (false uniqueness).

In a similar vein, Kunda & Nisbett (1988) report that their subjects believed that an individual could be better predicted by a group than a group by an individual, *if that individual was another person*. Conversely, *if the individual was the self*, a group was assumed to be better (or equally) predicted by an individual than an individual by a group. The explanation offered by Kunda & Nisbett (1988) is that when mak-

[1] Spiker & Ricks (1984) found that autistic children lacking visual self-recognition and self-awareness are more likely to be mute or lacking in communicative speech than children with autism who are able to recognise themselves in the mirror. In other words, the development of communicative language and self-recognition were shown to be highly related.

ing predictions about another person and a group, a group is cognitively more salient, whereas in comparisons involving a group and the self, the self is equally or more complex than a group, and it has a reference-point status.

In a similar vein, numerous linguistic studies have shown that language is highly anthropomorphic and that the self is an important reference point used for producing and interpreting linguistic information. As suggested, among others, by Apresjan (1995), Jakovleva (1994), Karaulov (1994), Kolšanskij (1975, 1984, 1990), Kravchenko (1993), Lyons (1969, 1977), Nikitina (1994), Padučeva (1991), Rakhilina (1998, 2000), Serebrennikov (1988), Zolotova (1991), and Wierzbicka (1985, 1996), anthropocentricity should be central to the study of language. To quote Lyons:

> Looked at from one point of view, man is merely a middle-sized physical object. But in man's world – the world as man sees it and describes it in everyday language – he is, in the most literal sense, the measure of all things. Anthropocentrism and anthropomorphism are woven into the very fabric of his language: it reflects his biological make-up, his natural terrestrial habitat, his mode of locomotion, and even the shape and properties of his body (Lyons 1977, II: 690).

There are lots of manifestations of the so-called "human factor" in language. To name just one example, in the majority of languages inanimate objects are categorised by means of the human body.[2] For instance, in English we speak of face and hands of the clock, foot of the mountain, nail heads and table legs. In this chapter, I will consider another manifestation of the "human factor" in language, namely the interpretation of dimensional adjectives vis-à-vis the image of the self (as a reference point).

8.1.2. EGO in the semantics of dimensional adjectives: relevant research in the past

H. Clark (1971, 1973) and Clark et al. (1973) suggest that there are two important reference planes in man's perceptual space. These reference planes are determined by the very structure of our bodies. One is the absolute zero at the ground level, with the upward direction as the positive one (see Section 7.5). The other is the perceiver himself with the direction of moving away from the self (forward) as the

[2] This facet of language use is known as the *human-body part model* (Rakhilina 2000: Ch.4; Svorou 1994).

positive one (see also Tversky 2003).[3] These two dimensions are coded in languages such as English as height (*high* : *low, tall* : *short*) and distance (*far* : *near*), or length (*long* : *short*). What is more, it is argued, the human body is used as a reference plane both in spatial cognition and in the processing of spatial adjectives, since "the child knows much about space and time before he learns the English words for space and time, and his acquisition of these terms is built onto his prior cognitive development" (H. Clark 1973: 28, cf. Dirven & Taylor 1988). One of the manifestations of this strong correlation between spatial perception and spatial language is that perceptually positive directions diverging from the two salient reference planes (upward and forward) are linguistically encoded in the more general, unmarked terms, such as *far* and *high* (see Section 7.5.5).

Another facet of the reference-point status of the self relevant to dimensional adjectives is manifest in sentences such as (1) analysed in Yoneoka (1992).

(1) Look at the tall giraffe!

(1) can mean that a particular giraffe is taller than an average giraffe or other giraffes in the current visual scene. In this use, the adjective is interpreted either vis-à-vis a cognitive zero or vis-à-vis an incidental landmark. Imagine, however, that (1) was uttered by a parent drawing a child's attention to a giraffe while walking in the zoo. In this case, it is argued, the giraffe is not necessarily compared to the class of giraffes. Rather, it is more likely that the class of giraffes is compared to the class of people (cf. Arutjunova 1988). Yoneoka calls this use of *tall* "absolute", in the sense that the giraffe is claimed to be tall not by virtue of exceeding some relative standard (for its comparison class), but because of being a giraffe (cf. Chapter 9). Counter to Yoneoka, I would like to suggest that both uses are relativistic: the difference between them resides in the relative salience of one CRP over the other (cf. Sera & Smith 1987). On the "relative" interpretation, the adjective is interpreted with respect to the cognitive zero, and the "absolute" reading is called forth by activating another CRP – the self. So, in one case the giraffe is tall *relative* to the class of giraffes; and in the other case it is tall *relative* to the class of people. The two uses, as suggested by Yoneoka (1992), can be distinguished by differences in focal stress. (2) exemplifies an average-related use, (3) is an instantiation of an EGO-related use:

(2) Look at the TALL giraffe!

[3] Kravchenko (1993: 50-51) argues that both the vertical and the horizontal dimension have the observer as their reference point. In the latter case, the zero point is level with the observer's eyes.

(3) Look at the tall girAFFE!

Suzuki (1970) goes even further and claims for the overall primacy of, what he calls, an *anthropomorphic norm* in the semantics of relative adjectives. His line of reasoning is based on the analysis of examples such as (4)-(9):

(4) Giraffes have long necks.

(5) A duck has short legs.

(6) The rabbit has long ears.

(7) ?Men have short necks.

(8) ?Men have long arms.

(9) Some people have short legs.

Suzuki makes a very good observation that the average value for a comparison class specified by the subject is unlikely to be relevant to the use of adjectives *long* and *short* in sentences (4)-(6). Suzuki claims that the "measure" (CRP in my terminology) that is relevant in such cases is the human body, or rather proportions of the human body. This makes generic judgments about humans exemplified by (7) and (8) infelicitous. Dimensional judgments about human body-parts are only acceptable if an individual person or a group of people are described vis-à-vis the norm (cognitive zero) for humans, as in (9). The following passage is worth citing in full:

> The fact of the matter is that when we see animals having a conspicuous physical feature peculiar to them, we make, consciously or unconsciously, comparisons between the image we have of our own selves and those that strike our eyes, and we express our impression of their physical proportions by choosing such adjectives as long or short depending upon the case.
>
> The neck of a giraffe, for example, strikes us as disturbing the balance we associate with animals of the same bulk. People don't say that dogs have long necks because in this case the ratio of the neck to the body falls well within the boundary of the proportional norm we have in mind, so that we do not feel the harmony is lost. And this sense of balance, of harmony seems ultimately to derive from the very proportion obtaining between the parts of our human body.
>
> What is implied in the general statements above described is our wonder, surprise or disparagement of the figures possessed by these animals. Because of this, it is meaningless for us to comment upon the proportions we ourselves have which are, after all, nothing more than the yardstick, the norm itself. This is why universal statements refer-

> ring to the human body find no place in our speech. This norm I would call anthropomorphic, and the recognition of this mechanism, I think, leads us further into the semantic subtleties besetting sentences of the opaque construction (Suzuki 1970: 555).

Suzuki's claim is supported by the results of the pilot study conducted with Russian informants (see Section 1.3.1). As explained in Chapter 7, my informants regularly explained the meanings of *vysokij* 'high/tall' and *nizkij* 'low/short' in combinations with different noun-heads using the human body as a "yardstick".[4] For instance, low grass was defined as ankle- or knee-high; a low fence and a high chair as reaching the waist, and a high snowdrift as a heap of snow reaching the chin. Likewise, in the corpora AN-combinations with dimensional adjectives are frequently accompanied by comparative judgments with the human body used as a sort of ruler. Witness (10)-(13):

(10) Inside, I was barely able to stand upright at the highest point, for I was **head and shoulders taller** than my sinister host. (BNC)

(11) This wasn't a fair challenge, Harry being more than **a head taller** than Sam and built like an ox. (BNC)

(12) Трава здесь **высокая,** **по** **самые**
grass-NOM here high-(LF)SG.F.NOM up.to most-PL.ACC

уши. (RNC)
ears-ACC

'The grass here is high, reaching your ears.'

(13) Сейчас стоят великолепные луга /
now stand-PRS.3.PL magnificent-(LF)PL.NOM meadows-NOM

[4] It is also well-known that old anthropocentric systems of measurement derived from the measurements on our own bodies (Gibson 1978: 52; Lyons 1977: 692; Ruff 2003; Shemanaeva 2006). For instance, in ancient Egypt, the basic unit of length was the cubit, i.e. the length of the forearm from the elbow to the middle finger extended (Harlan 1986). Similarly, the Russian units of measurements such as *aršin, djujm* (from Du. *duim*), *lokot' 'pjad',* and *sažen'* are all measurements on human bodies (predominantly on arms and hands). Some cultures still use these old anthropomorphic units of measurement. The English yard, for instance, is the distance from the tip of the nose to the tip of the extended arm and thumb. Note that these anthropomorphic measures were functionally significant (Frank 1998). For example, yards were primarily used for measuring cloth or rope. Similarly, foot as a unit of measurement is not simply the length of the human foot; rather it is the distance between the rungs of the ladder (Harlan 1986).

трава **выше** **пояса** / не косят / ни коров. (RNC)
grass-NOM higher belt-GEN NEG mow-PRS.INDF NEG cows-GEN

'The meadows are magnificent now. The grass is waist-high. No mowers. No cows.'

Not only parts of the human body, but also humans as such can be explicitly used as standards of comparison. See (14)-(16) in this respect.

(14) Later in the afternoon I saw a meal for all 600 prisoners being cooked in one gigantic iron pot over a blazing fire. The pot was **taller than a man**, and a prisoner had to climb up on a table in order to extract a sample with a huge ladle. (BNC)

(15) В Сайсарском округе – одном из восьми
in Saisarsky-SG.M.LOC circuit-LOC one-M.LOC from eight-GEN

округов в черте Якутска – озер много,
circuits-GEN in line-LOC Yakutsk-GEN lakes-GEN many

и все они заросли камышом
and all-PL.NOM they-NOM overgrew-PL.PFV reed-INS

выше **человеческого** **роста**. (RNC)
higher human-SG.M.GEN stature-GEN

'In Saisarsky district – one of the eight districts of Yakutsk – there are a lot of lakes, and they are all overgrown with reeds that are taller than man.'

(16) А у них была с собой туристская
CONJ at them-GEN was-F with self-INS tourist-ADJ.SG.F.NOM

палатка. Маленькая, **ниже** **человеческого** **роста**.
tent-NOM small-SG.F.NOM lower human-SG.M.GEN stature-GEN

Но все же не ниже роста человеческой ноги.
but all PCL NEG lower stature-GEN human-SG.F.GEN leg-GEN
(RNC)

'And they had a tent with them. A small one, shorter than a man, but still not shorter than a human leg.'

Note that comparison to human height is not confined to comparative constructions. Positive forms of dimensional adjectives can also be modified by expressions making the reference-point status of the human body explicit. See (17) and (18):

(17) Прямо на тропинке стоял **высокий**, в
straight on path-LOC stood-SG.M.IPFV high-(LF)SG.M.NOM in

два **человеческих** **роста**, крест, обмотанный
two human-PL.GEN stature-GEN cross-NOM wrapped-SG.M.NOM

соломой и тряпками. (RNC)
straw-INS and rags-INS

'Right on the path there was a high cross, as tall as two humans, wrapped with straw and rags.'

(18) Крупные, налитые соком ягоды словно
big-PL.NOM filled-(LF)PL.NOM juice-INS berries-NOM as.if

виноградными гроздьями висели на **высоких**,
vine-ADJ.PL.INS bunches-INS hang-PL.IPFV on high-(LF)PL.LOC

в **рост** **человека**, стеблях. (RNC)
in height-ACC man-GEN stems-LOC

'Big juicy berries looked like grapes growing on stems as tall as a man.'

Another compelling piece of evidence demonstrating the role of the anthropomorphic reference point in the processing of relative adjectives was provided by Rips & Turnbull (1980). In a series of experiments, they found that predicatively used relative adjectives were verified faster if they satisfied not only the standard value for a comparison class, but also the anthropomorphic standard. For instance, sentences such as (19) were verified faster than sentences such as (20), even if both referents surpassed the average height of their own class.

(19) Horses are tall.

(20) Roses are tall.

The difference between the two sentences is that in (19) the referent is taller than an average animal *and* taller than a human being, whereas roses in (14) are taller than average flowers, *but* shorter than humans and objects humans daily deal with.

Thus, dimensional adjectives are processed not only with respect to the average, minimum, and maximum values of the comparison class; the dimensions and the orientation of the human body constitute another crucial CRP anchoring the interpretation of these words. Following H. Clark (1973), I will term this reference point *EGO*. As has been demonstrated in this section, several implications of EGO

were studied with regard to dimensional adjectives in the past.[5] This chapter sets out to explore another, less thoroughly studied aspect of EGO, namely the way it motivates the distribution of dimensional adjectives and the semantic differences between them. I will offer some reflections on the semantic relations between near-synonymous dimensional adjectives – the Russian pair *nevysokij* 'not.high' *vs. nizkij* 'low' and the English pair *tall* vs. *high* – and suggest that EGO is invaluable to the explanation of the semantic and combinatorial differences between the members of these pairs. In Section 8.2, I test the hypothesis that the difference between the Russian sub terms *nevysokij* 'not.high' and *nizkij* 'low/short' is their combinability with nouns denoting taller-than-human *vs.* shorter-than-humans entities. In Section 8.3, I consider the differences between the English supra terms *tall* and *high* discovered within the paradigm of vantage theory. In Section 8.4, I reconsider the Russian data in the light of the findings reported for English. The results are summarised in Section 8.5.

8.2. *Nizkij* vs. *nevysokij*

8.2.1. Problem setting

8.2.1.1. Height vis-à-vis EGO. In this section, I will critically assess the hypothesis presented in Rakhilina (2000) that *nizkij* 'low/short' is used to describe objects that are smaller than human beings, whereas *nevysokij* 'not.high' is employed with reference to entities that are as tall as or taller than human beings. If this hypothesis proves correct, it will indicate that EGO is straightforwardly involved in the use of the two dimensional terms. I will test this hypothesis on the basis of the corpus data and the results of the Survey. But before reporting the findings from these two sets of data, it is necessary to take a brief look at Russian morphology in order to clarify the status of the negative item *ne* 'not' in *nevysokij* 'not.high'.

8.2.1.2. Triplets. According to Lyons (1977, II: 275), in many languages the most frequently used antonyms are morphologically unrelated (*good* : *bad*; *tall* : *short*; *old* : *young*), whereas the majority of adjectives have morphologically related opposites (*formal : informal*; *correct* : *incorrect*; *moral* : *immoral*). Some adjectives, however, have

[5] Suzuki (1970: 556) and Rips & Turnbull (1980) have shown that not only dimensional adjectives, but also other semantic groups of relative adjectives display orientation to the anthropomorphic standard of comparison. See also Kotjevskaja-Tamm & Rakhilina (2006) for the analysis of temperature adjectives along these lines; and Giljarova (2002) for the role of EGO in the semantics of shape adjectives and classifiers.

both types of opposites, thus forming triplets rather than binary oppositions: *true* : *untrue*/*false*, *interesting* : *uninteresting*/*boring*, *friendly* : *unfriendly*/*hostile*. As suggested by Cruse (1986: 246-7), a prefixed opposite and its morphologically simple counterpart are normally very close in meaning, varying from "almost identical" alternatives (*unmarried* vs. *single*) to pairs displaying somewhat bigger semantic differences (*unhappy* vs. *sad, unkind* vs. *cruel*), cf. Apresjan (1974: 306ff.).

In Germanic languages, dimensional adjectives, unlike evaluative adjectives, do not have morphological antonyms (e.g. **unlong*).[6] Slavic languages are different from Germanic languages in this respect. Slavic dimensional adjectives may have both types of antonyms – a morphologically related and a morphologically unrelated one (Ivanova 1982; Rakhilina 2000; Šabes 1989; Sharoff 2006). Russian affixal opposites are normally derived from supra terms by means of the negative prefix *ne-*: *nevysokij* 'not.high', *neglubokij* 'not.deep', *neširokij* 'not.wide'. The use of the sub counterparts with the negative prefix is either impossible (e.g. #*nenizkij* 'not.low', #*nemelkij* 'not.shallow', #*neuzkij* 'not.narrow') or only marginally possible. For instance, *nemalen'kij* 'not.small', though possible, has a very restricted combinability (for details see Rakhilina 2000: 135).

So, as mentioned earlier, the supra term *vysokij* 'high/tall' has two antonyms – *nizkij* 'low/short' and *nevysokij* 'not.high'. It is partly for this reason that *nizkij* 'low/short' and *nevysokij* 'not.high' are less frequent in the corpus than *vysokij* 'high/tall'. Since there is only one term for the upper subscale and two terms for the lower subscale, the referents of *vysokij* 'high/tall' are divided between the two alternative opposites, which reduces the overall frequency of each of them. Another reason could be that everything BIG attracts more attention than SMALL (Arutjunova 1987, 1999; Cruse 1986; Počepcov 1990; Sharoff 2002, cf. Section 5.2.2).

8.2.1.3. Sentential *vs.* morphological negation. It is widely accepted in the relevant literature that the negative particle *ne* and the negative prefix *ne-*, though etymologically related and homonymous, are two different linguistic constructions – the former being an independent word, the latter a morpheme that only functions as part of a larger unit (Apresjan 1974: 306ff.; Gvozdev 1961: 260; Ivanova 1982: 121ff.; Švedova 1970: 212; Vinogradov 1960; Vinogradov & Švedova 1964: 507ff.). Compare sentences (21) and (22):

[6] The Dutch *ondiep* 'not.deep' seems to be a counterexample. But this pattern is not productive in the domain of dimensional adjectives. Furthermore, there is no morphologically unrelated antonym of 'deep' in Dutch.

(21) Ваня не высокий.
Vanja-NOM NEG high-(LF)SG.M.NOM

'Vanja is not tall.'

(22) Ваня невысокий.
Vanja-NOM not.high-(LF)SG.M.NOM

'Vanja is somewhat short.'

In (21) *ne* is a sentential negation; it negates the predication of the property TALLNESS to the referent Vanja. In (22) *ne-* is a negative prefix, whose function is to form a morphologically related antonym of *vysokij* 'high/tall'. The prefixed adjective *nevysokij* 'not.high' assigns the property NEVYSOKOST' 'untallness' to the referent (cf. Keijsper 1986: 355-6). Compare sentences (21) and (22) with examples (23) and (24) analysed in Verhagen (2005: 32):

(23) Mary is not happy.

(24) Mary is unhappy.

As suggested by Verhagen (2005, 2007), both *unhappy* and *not happy* evoke the notion of happiness as the ground for describing Mary's mood. However, (23) profiles two different epistemic stances, and (24) just one. In other words, by means of *not* the speaker invites the addressee to entertain two different mental spaces containing two opposite epistemic stances towards the proposition that Mary is happy. The second mental space evoked by (23) – Mary *is* happy – can be referred to by means of the connective *on the contrary*, witness (25). Affixal negation in (24) evokes only one mental space "reversing the scale associated with the adjective to which it is attached, and does not invite the addressee to consider-and-abandon the thought of applying that scale with its normal orientation" (Verhagen 2005: 32). Hence, in this case there is no opposite stance to which the discourse marker *on the contrary* in (26) could apply. Put another way, 'feeling depressed' is not contrary to the speaker's opinion (Mary is unhappy), it is contrary to the second conceptualiser's stance (Mary is happy). Since the latter is evoked only by sentential, but not by morphological negation, (25) is felicitous and (26) is not.

(25) Mary is not happy. On the contrary, she is feeling really depressed.

(26) #Mary is unhappy. On the contrary, she is feeling really depressed.

Sentence (21) is similar to (23) and sentence (22) is more like (24). Only (21), but not (22), can be followed by the connective *naprotiv* 'on the contrary' introducing the morphologically unrelated opposite of *vysokij* 'high/tall'. Compare (27) and (28) in this respect:

(27) Ваня не высокий. Напротив, он
Vanja-NOM NEG high-(LF)SG.M.NOM contrary he

низкого роста.
low-(LF)SG.M.GEN stature-GEN

'Vanja is not tall. On the contrary, he is short.'

(28) # Ваня невысокий. Напротив, он
Vanja-NOM not.high-(LF)SG.M.NOM contrary he

низкого роста.
low-(LF)SG.M.GEN stature-GEN

'Vanja is somewhat short. On the contrary he is short.'

The sentential negation in (27) evokes two mental spaces with two epistemic stances towards the proposition that Vanja is tall.[7] Conversely, (28) triggers only one mental space, the scale of height being reversed by the affixal negation. Shortness is contrary to tallness, but not to 'untallness', which renders (27) felicitous and (28) not.

Note that the predication of the property expressed by means of *nevysokij* 'not.high' and other adjectives with the prefix *ne-* can also be cancelled by a sentential negation, as in (29) and (30):

(29) У меня к сожелению рост **не**
at me-GEN towards pity-DAT stature-NOM NEG

невысокий – 170 см, и размер уже ближе
not.high-(LF)SG.M.NOM 170 cm and size-NOM already closer

к 46-му. (www.nn.ru/community/user/my_baby)
towards 46-DAT

[7] Importantly, Russian sentences such as (27) are in most cases used as a response to a positive counterpart of the proposition in an argument (e.g. A: *Vanja vysokij* 'Vanja is tall' – B: *Net, Vanja ne vysokij* 'No, Vanja is not tall.').

'Unfortunately, I am not that short – 170 cm, and my size is approaching 46.'

(30) 168 см это вам **не невысокая**. (www.pickupforum.ru)
168 cm this you-DAT NEG not.high-(LF)SG.F.NOM

'168 cm is not quite short, you know.'

Sentences (29) and (30), like the other examples of sentential negation considered in this section, invite the addressee to compare two epistemic stances and to abandon the idea that the referent possesses the property denoted by the adjective *nevysokij* 'not.high', i.e. the property of being somewhat short.

There is also a subtle phonological difference between the prefix *ne-* and the particle *ne*. As noticed, among others, by Ivanova (1982: 126) and Roždestvenskij (1960: 261), the particle *ne* usually receives a bit more emphasis than the prefix *ne-*. Thus, even in the present tense, where the copula *byt'* 'be' is normally omitted, it is possible to distinguish between the two constructions on the basis of the phonological clues. Note, however, that this difference is so subtle that, given the context, *ne-* in (28) is likely to be automatically interpreted as a particle rather than a prefix.

In the past tense, it is even easier to discern sentential negation from morphological negation, since in this case the negative particle can be placed not only before an adjective, but also before a copula verb, which is not omitted as in present tense sentences. Compare (31) and (32):

(31) Ваня **не** был высоким.
Vanja-NOM NEG was-M high-(LF)SG.M.INS

'Vanja was not tall.'

(32) Ваня был **не**высоким.
Vanja-NOM was-M not.high-(LF)SG.M.INS

'Vanja was somewhat short.'

(31) profiles the property Vanja does not have (tallness), whereas in (32) the property Vanja does have ('untallness') is put into focus. Consider also the following examples of sentential negation attested in the RNC.

(33) Нет, **не высокая**, – решительно заявил Федор, –
no NEG high-(LF)SG.F.NOM resolutely claimed-SG.M.PFV Fedor

гораздо ниже Алины. (RNC)
much lower Alina-GEN

'No, she is not tall, − Fedor said firmly, − much shorter than Alina.'

(34) Считается красиво, когда девушка
count-PRS.IMPERS.REFL beautiful-ADV when girl-NOM

высокая стройная блондинка с
high-(LF)SG.F.NOM slender-(LF)SG.F.NOM blonde-NOM with

удлиненным лицом и большими глазами. У
elongated-SG.N.INS face-INS and big-PL.INS eyes-INS at

Риты все было как раз наоборот: лицо
Rita-GEN all was-N as once contrary face-NOM

круглое, глаза маленькие, она была
round-SG.N.NOM eyes-NOM small-(LF)PL.NOM she was-F

не высокая, не стройная и не
NEG high-(LF)SG.F.NOM NEG slender-(LF)SG.F.NOM and NEG

блондинка. Но, несмотря на все "не", Рита
blonde-NOM but despite on all-PL.ACC nots Rita-NOM

всегда считала себя вполне красивой
always counted-SG.F.IPFV self-ACC quite beautiful-(LF)SG.F.INS

и держалась так, будто она красивая. (RNC)
and held-SG.F.IPFV.REFL so as.if she beautiful-(LF)SG.F.NOM

'By modern standards, a beautiful girl has to be tall, slender, blonde, with an oval face and big eyes. Rita was just the opposite: she had a round face and small eyes; she was not tall, not slender, and not blond. But in spite of all "nots", Rita considered herself quite beautiful and she behaved as if she was beautiful.'

(35) **Не высокий**, но и не низенький, не
NEG high-(LF)SG.M.NOM but and NEG low-DIM.SG.M.NOM NEG

толстый и не очень тощий, не слишком
thick-(LF)SG.M.NOM and NEG very gaunt-(LF)SG.M.NOM NEG too

густоволос, но и далеко не лыс. (RNC)
dense.haired-(SF)SG.M but and far NEG bold-(SF)SG.M

'He is neither tall, nor short, neither fat, nor particularly gaunt, not too thick-haired, but not at all bold.'

Sentences (33)-(35) show, in line with the other examples analysed above, that the sentential negation *ne vysokij* 'not high' profiles the upper subscale associated with the adjective *vysokij* 'high/tall' and the *absence* of tallness in the subject. Therefore, a person who is claimed to be not tall is not necessarily short; she can also be of medium height, which is, in fact, the case in (36) below:

(36) Так ты говоришь: какой человек
CONJ you-SG say-PRS.2.SG which-SG.M.NOM man-NOM

мельник? – Эге! – Так себе человек: **не**
miller-NOM aye so self-DAT man-NOM NEG

высокий, **не** **низкий** **из** **небольших**
high-(LF)SG.M.NOM NEG low-(LF)SG.M.NOM from not.big-PL.GEN

середний. (RNC)
medium-SG.M.NOM

'So you are asking what kind of person the miller is? – Aye. – He is a usual person – neither tall nor short … not a large type, medium.'

Conversely, a prefixed adjective, such as *nevysokij* 'not.high' profiles the lower subscale and emphasises the *presence* of shortness (or, rather, 'untallness', see Section 8.2.2.1 for details) in the referent. This property can be present in the referent to a greater or lesser degree. Therefore, adjectives with the prefix *ne-* can be used in comparative and superlative constructions (examples 37 and 38, respectively) and take degree modifiers, such as *očen'* 'very' in (39), *ves'ma* 'quite' in (40), and *sovsem* 'completely' in (41), cf. Ivanova (1982: 140ff.).

(37) Привставая на цыпочки, над ней
stand.up.a.little-ADPTCP.PRES on tiptoes-ACC above her-INS

нес зонт юноша – еще **более**
carried-SG.M.IPFV umbrella-ACC youth-NOM still more

невысокий, полный и рыжий, чем я
not.high-(LF)SG.M.NOM full-SG.M.NOM and red-SG.M.NOM than I

сам. (S. Lukjanenko, *Poslednij šans*)
self-SG.M.NOM

'A young man walking on tiptoes was carrying an umbrella above her. He was even shorter, plumper and more red-haired than me.'

(38) Сергей Блинов, один из **самых**
Sergej-NOM Blinov-NOM one-SG.M.NOM from most-PL.GEN

невысоких в колледжe юных
not.high-(LF)PL.GEN in college-LOC young-(LF)PL.GEN

милиционеров, честно признался, что к
militiamen-GEN honestly confessed-SG.M.PFV.REFL that towards

физкультуре готовился год. (RNC)
physical.culture-DAT prepared-SG.M.IPFV.REFL year-ACC

'Sergej Blinov, one of the shortest young militiamen in college, confessed that it had taken him a year to prepare for the exam in physical education.'

(39) Я слышал потом, что избаловал ее
I heard-SG.M.IPFV then that spoilt-SG.M.PFV her-ACC

всего более ее же собственный муж,
all-SG.GEN more her-POSS PCL own-SG.M.NOM husband-NOM

очень толстенький, **очень** **невысокий** и
very fattish-SG.M.NOM very not.high-(LF)SG.M.NOM and

очень красный человек, очень богатый
very red-(LF)SG.M.NOM man-NOM very rich-(LF)SG.M.NOM

и очень деловой, по крайней
and very businesslike-SG.M.NOM upon utter-SG.F.DAT

мере с виду: вертлявый, хлопотливый,
measure-DAT with sight-GEN fidgety-SG.M.NOM fussy-SG.M.NOM

он двух часов не мог прожить на
he two-GEN hours-GEN NEG may-PST.SG.M.IPFV live-INF.PFV on

одном месте. (RNC)
one-SG.N.LOC place-LOC

'I heard later that the person who spoilt her most was her own husband – a man who was quite fattish, very short and very red. He was very rich and very practical, at least in looks. Fidgety and fussy as he was, he could not spend two hours in one place.'

(40) Тут-то к нам, как бы невзначай,
here.PLC towards us-DAT as PCL by.chance

приблизился **весьма невысокий** гражданин
approached-SG.M.PFV quite not.high-(LF)SG.M.NOM citizen-NOM

индийской национальности, кругленький, с
Indian-SG.F.GEN nationality-GEN roundish-SG.M.NOM with

напомаженными усами, сам
pomaded-(LF)PL.INS moustaches-INS self-SG.M.NOM

намасленный, волосы набриолинены,
greased-(LF)SG.M.NOM hair-PL.NOM slicked.down-(SF)PL

воплощенное дружелюбие! (RNC)
embodied-SG.N.NOM friendliness-NOM

'At this very moment, a somewhat short, roundish person of Hindu origin came up to us, as if by chance. His moustache was pomaded, his skin greased, his hair slicked down. He was friendliness itself!'

(41) Тут из Питера к нам восковые
here from Peter-GEN towards us-DAT waxen-PL.ACC

фигуры привозили, так Пушкин у них
figures-ACC brought-INDF.IPFV so Pushkin-NOM at them-GEN

совсем невысокого роста. (RNC)
completely not.high-(LF)SG.M.GEN stature-GEN

'We have seen an exhibition of wax figures from St. Petersburg lately. I should say that their Pushkin was really short.'

The data considered above clearly indicate that the differences between sentential and morphological negation of Russian dimensional adjectives allow to treat linguistic strings *ne vysokij* 'not high' and *nevysokij* 'not.high' as two different constructions and not merely as a conventional spelling divergence of the same construction. This means that an adjective such as *vysokij* 'high/tall' indeed has two antonyms – a

morphologically simple adjective *nizkij* 'low/short' and an affixal opposite *nevysokij* 'not.high'. The fact that the morphological antonym is not blocked in Russian strongly suggests that it is semantically and/or otherwise different from the lexical antonym. The next section sets out to explore the relevant differences.

8.2.2. What is different?

8.2.2.1. Profiling. The *New Explanatory Dictionary of Russian Synonyms* (Apresjan 2004) defines the difference between *nevysokij* 'not.high' and *nizen'kij* 'low-DIM' in terms of degree of deviation from the cognitive zero.[8] The former is claimed to denote properties that only slightly deviate from the average value, whereas the latter is used to describe referents whose height considerably deviates from the cognitive zero in the direction of the absolute zero.

This claim is supported by the intuitions of my informants. All of the Russian speakers I checked with mentioned as the primary difference between *nevysokij* 'not.high' and *nizkij* 'low' the fact that the former denotes objectively bigger values than the latter. For example, the referent of *nevysokaja trava* 'not.high grass' was judged as having a greater vertical extent than the referent of *nizkaja trava* 'low grass'. One of the informants (a linguist) doubted whether a house can be dubbed *nizkij* 'low', since it is an "intrinsically" high object and should rather be called *nevysokij* 'not.high', when falling below the average standard.

In a similar vein, the following two examples from the RNC clearly demonstrate that a person called *nizkij* 'low/short' is smaller than one called *nevysokij* 'not.high'.

(42) Ну, ты уж только – никому! Он почему так
PCL you-SG PCL only nobody-DAT he why so

прямо держится, каблучки поларшинные,
straight-ADV holds-REFL heels-DIM.NOM half.arshin-ADJ.PL.NOM

нос вверх? – чтоб выше быть, вот почему. А
nose-NOM upwards so.that higher be-INF here why CONJ

[8] Note that *nevysokij* 'not.high' used with reference to human height is compared to the diminutive form of *nizkij* 'low/short'. This is motivated by the fact that *nizkij* 'low/short' used in the dimensional sense, though perfectly acceptable with the noun *rost* 'stature', exhibits restricted combinability with head-nouns denoting human beings. The AN-combination *nizkij čelovek* (lit: low person) is more likely to be understood metaphorically as 'mean person' (see Section 8.4). The diminutive form of *nizkij* 'low/short' is, however, felicitous with nouns denoting human beings.

сам-то	вовсе	невысок,		как	будет
self.PCL-SG.M.NOM	at.all	not.high-(SF)SG.M		as	be-FUT.3.SG
залой	проходить –		приглядись		
room-INS	go.through-INF.IPFV		scrutinise-IMP.SG.PFV.REFL		
внимательней.	**Невысок;**	**низок**	**даже**!	Пусть	
carefully-COMP	not.high-(SF)SG.M	low-(SF)SG.M	even	let	
нормальный,	не	в	том	суть. (RNC)	
normal-(LF)SG.M.NOM	NEG	in	this-LOC	essence-NOM	

'But you shouldn't tell anybody. Why do you think he holds himself so upright, wears 14-inch-high heels and always looks upwards? To look taller, that's it! He is actually not tall. Look carefully when he passes by. He is not tall, he is even short! May be of usual height, but it's not the point.'

(43)

Домна	Платоновна	росту	невысокого,			
Domna-NOM	Platonovna-NOM	stature-GEN	not.high-(LF)SG.M.GEN			
и даже	очень	невысокого,		а	скорее	
and even	very	not.high-(LF)SG.M.GEN		CONJ	sooner	
совсем	**низенькая**,	но	всем	она	показывается	
completely	low-DIM.SG.F.NOM	but	all-PL.DAT	she	seems-REFL	
человеком	крупным. (RNC)					
person-INS	big-SG.M.INS					

'Domna Platonovna is somewhat short, she is even very short, or rather really short, but it seems to everybody that she is a stout person.'

Examples (42) and (43) clearly show that the part of the lower subscale denoted by *nizkij* 'low/short' extends further in the direction of the absolute zero than the scale part profiled by *nevysokij* 'not.high'. Thus, the lower bounds of the two terms do not coincide. The next question that arises in this respect is whether the upper bounds of 'shortness' and 'untallness' are not coincident either. For instance, it could be the case that *nevysokij* 'not.high' being an explicit negation of *vysokij* 'high/tall' can profile not only the lower subscale, but also (part of) the cognitive zero area, i.e. the mid-zone of the scale where neither *vysokij* 'high/tall' nor *nizkij* 'low/short' can apply. The data available partly support this intuition. On the one hand, *nevysokij* 'not.high' can sometimes be semantically specified by *srednij* 'medium/average'; witness (44) and (45). Note in this respect also a similar example

with *nebol'šoj* 'not.big' in (46). On the other hand, examples such as (47) and (48) suggest that the realm of *nevysokij* 'not.high' does not fully coincide with the zone denoted by *srednij* 'medium/average'.

(44) Это молодой человек! У него
this young-(LF)SG.M.NOM person-NOM at him-GEN

светлые волосы и голубые глаза. Он
light-(LF)PL.NOM hair-PL.NOM and blue-PL.NOM eyes-NOM he

уважает мнения других, он **невысокого**
respects opinions-ACC others-GEN he not.high-(LF)SG.M.GEN

среднего роста! (http://offtop.ru/lovefabrika5)
medium-SG.M.GEN stature-GEN

'He is a young man. He is blond-haired and blue-eyed. He respects the opinions of other people. He is not tall, of medium height.'

(45) Но сразу хочу предупредить – модель
but immediately want-PRS.1.SG warn-INF.PFV model-NOM

хороша только для людей **невысокого**
good-(SF)SG.F only for people-GEN not.high-(LF)SG.M.GEN

(среднего) роста. (www.bask.ru/catalog/lma/bags)
medium-SG.M.GEN stature-GEN

'But I should immediately say that this style will only suit people who are not tall (of medium height).'

(46) Так себе человек: не высокий, не
so self-DAT man-NOM NEG high-(LF)SG.M.NOM NEG

низкий из **небольших** **середний**. (RNC)
low-(LF)SG.M.NOM from not.big-(LF)PL.GEN medium-SG.M.NOM

'He is a usual person – neither tall nor short … not a large type, medium.'

(47) Но вот приехал из Москвы и стоит
but PCL came-SG.M.PFV from Moscow-GEN and stands

передо мной человек **невысокого** **роста,**
before me-INS person-NOM not.high-(LF)SG.M.GEN stature-GEN

даже,	можно	сказать,	щуплый. <…>	А	что,	
even	may-IMPERS	say-INF.PFV	puny-(LF)SG.M.NOM	CONJ	what	

если	этот	“прежде всего	деспот,	а	потом	уж
if	this-M	before all-GEN	despot-NOM	CONJ	then	PCL

зоолог”	именно	таков:	**ниже**	**среднего**
zoologist-NOM	exactly	such-(SF)SG.M	lower	medium-SG.M.GEN

роста,	щуплый? (http://www.kulichki.com/vv/ovys/kino)
stature-GEN	puny-(LF)SG.M.NOM

‘But the person who has come from Moscow and is standing in front of me is somewhat short; you can even say he is puny. But what if this character who is “first of all, a despot and only then a zoologist” is exactly like him: of less than medium height, puny?’

(48)

Сказать,	что	она	была	**среднего**	**или**	**скорее**
say-INF.PFV	that	she	was-F	medium-SG.M.GEN	and	sooner

невысокого	**роста**,	примерно	такого	же,	
not.high-SG.M.GEN	stature-GEN	approximately	such-SG.M.GEN	PCL	

как	я,	в	меру	полная,	с	покатыми	
as	I	in	measure-ACC	full-SG.F.NOM	with	sloping-PL.INS	

плечами, –	значит	ничего	не	сказать:	память	
shoulders-INS	means	nothing	NEG	say-INF.PFV	memory-NOM	

хоть	и	способна	вопроизвести	конкретные	
though	and	able-(SF)F	reproduce-INF.PFV	concrete-PL.ACC	

реальные	черты,	но	они	ничего	не	добавят
real-PL.ACC	features-ACC	but	they	nothing	NEG	add-FUT.3.PL.PFV

к	ее	облику,	он	существует	весь
towards	her	look-DAT 3.SG.M	exists	whole-SG.M.NOM	

разом;	ее	облик –	это	она	сама. (RNC)
at.once	her-POSS	look-NOM	this	she	self-SG.F.NOM

‘To say that she was of medium height, or rather somewhat short, about as tall as me, moderately plump, with round shoulders is to say nothing. Although memory can reproduce her real features, those can add nothing to her image. It exists only as a whole, her image is she herself.’

The data presented above show very strongly that *nevysokij* 'not.high' and *nizkij* 'low/short' profile different, though overlapping, parts of the lower subscale.[9] As shown in Figure 8.1, *nevysokij* 'not.high' covers part of the cognitive zero area and partly extends into the domain of NIZKIJ. The realm of *nizkij* 'low/short' starts at the minimum point of standing out from the cognitive zero (see Section 7.2) and extends much further than the profile of *nevysokij* 'not.high' in the direction of the absolute zero.

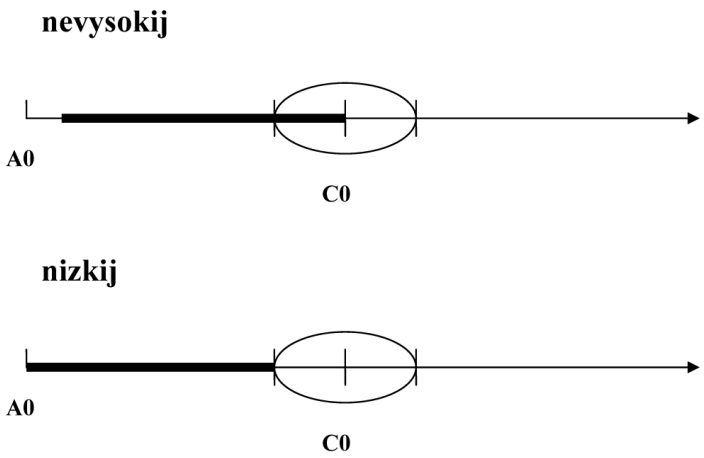

Figure 8.1. Scale parts profiled by *nevysokij* and *nizkij*

These results are in line with the observation often made in the relevant literature that adjectives with the negative prefix *ne-* 'not' may denote attenuated properties associated with the opposite subscale rather than the absolute opposite of the negated term (Apresjan 1974: 309-12; Červenkova 1974: 27; Gvozdev 1961: 260; Ivanova 1982: 129; Rakhilina 2000: 134-9; Švedova 1970: 212; Vinogradov 1960: 356; Vorotnokov 2000). So, *nevysokij* 'not.high' does not simply mean 'low'; rather, it is used to denote the attenuated property – 'somewhat low'. In a similar vein, Sharoff (2002) suggests that *nebol'šoj* 'not.big' denotes bigger sizes than *malen'kij* 'small', since the former is morphologically associated with *bol'šoj* 'big' and the latter is used with reference to intrinsically small objects. Thus, *nebol'šaja gora* 'not.big mountain' is felicitous and *malen'kaja gora* 'small mountain' is not. For this reason,

[9] This finding runs counter to Bierwisch's (1989: 211) claim that the semantic form of *long* is the realization of **unshort* and vice versa.

Apresjan (1974) treats words such as *nevysokij* 'not.high' and *nizkij* 'low/short' as quasisynonymous.

The question that arises with respect to Figure 8.1 is whether the differences in profiling are motivated by the reference-point status of EGO, which would support Rakhilina's (2000) hypothesis that EGO determines the distribution of *nizkij* 'low/short' and *nevysokij* 'not.high'. I will pursue this question in Section 8.2.2.3. But before doing that, it is necessary to introduce two further distinctions between the adjectives under study.

8.2.2.2. Evaluation. Vinogradov & Švedova (1964) point out that the adjectival prefix *ne-* 'not' originally meant that the subject did not possess a certain property. In this respect, *ne-* was different from the prefix *bez-* 'without' that was primarily used to emphasise that the entity was deprived of the property, rather than simply not having it. This semantic difference motivated the use of adjectives with the prefix *bez-* 'without' for the negative evaluation of the referent. In contrast, adjectives with the prefix *ne-* were used for neutral characterisation of the entity. A lot of *bez-* adjectives were replaced by their *ne-* counterparts in the 19th century. However, both the negative evaluation associated with the prefix *bez-* and the neutral description by means of *ne-*adjectives are still present in modern Russian.

This observation is in line with the proposals made, among others, in Apresjan (2004: 635), Ruzin (1994: 90-1), and Sharoff (2006) that *nevysokij* 'not.high' involves neither a positive nor a negative evaluation of the described object, whereas *nizkij* 'low/short' is often used to include a negative evaluation of the entity. Similarly, my Russian informants judged *nevysokij* 'not.high' neutral and *nizkij* 'low/short' negative. One of the informants, for instance, commented on the difference between *nizkij dom* 'low house' and *nevysokij dom* 'not.high house' by indicating that you would never use the former combination when you speak about your own house, unless you hate it. In a similar vein, another informant said that *nizkij dom* 'low house' is almost ruined, whereas *nevysokij dom* 'not.high house' simply does not have a second floor (cf. Section 7.5.4). Consider in this respect also the following examples from the RNC:

(49)

Подходим	к	заводу.	Это	ряд		
approach-PRS.1.PL	towards	factory-DAT	this	row-NOM		
обнесенных	забором	по	берегу	Волги,	как	
enclosed-PL.GEN	fence-INS	along	bank-DAT	Volga-GEN	as	

раз против пароходных пристаней, **невысоких**
once in.front steamship-ADJ.PL.GEN wharves-GEN not.high-(LF)PL.GEN

зданий. (RNC)
buildings-GEN

'We are approaching the factory. It is a row of fairly low buildings located behind the fence stretching along the bank of the Volga, right in front of the steamer wharfs.'

(50) Но нас, грязных, голодных, не
but us-ACC dirty-(LF)PL.ACC hungry-(LF)PL.ACC NEG

похожих на людей, все-таки высадили.
similar-(LF)PL.ACC on people-ACC all.PCL set.out-PST.INDEF.PFV

Приказали строиться, и под
ordered-INDEF.PFV build-INF.IPFV.REFL and under

усиленной охраной погнали вперед.
strengthened-SG.F.INS guard-INS drove-INDEF.PFV forward

Мы двигались, как сонные мухи, держась
we moved-PL.IPFV.REFL as sleepy-PL.NOM flies-NOM holding

друг за друга, чтобы не упасть.
friend-NOM behind friend-ACC so.that NEG fall-INF.PFV

После двухчасовой "разминки" мы увидели
after two.hour-ADJ.SG.F.GEN limbering.up-GEN we saw-PL.PFV

огороженный пустырь с какими-то
enclosed-(LF)SG.M.ACC waste.ground-ACC with some.PCL-PL.INS

невысокими **строениями**. (RNC)
not.high-(LF)PL.INS constructions-INS

'Dirty and hungry as we were, we did not look like people. They made us get off, ordered to align and drove on under strict supervision. We moved on like sleepy flies, holding each other in order not to fall down. After this two-hour-long "warming-up" we saw an enclosed vacant lot with some fairly low buildings on it.'

(51) Суть их сводится к следующему:
essence-NOM their comes.off-REFL towards following-DAT

пусть	в	Зарядье	вырастут	**невысокие**
let	in	Zaryadye-LOC	grow-FUT.3.PL.PFV	not.high-(LF)PL.NOM

домики	с	псевдоисторическими	детальками,
houses-DIM.NOM	with	pseudohistorical-PL.INS	details-DIM.INS

пара	снесенных	когда-то	церковок	и
pair-NOM	demolished-PL.GEN	when.PCL	churches-DIM.GEN	and

свеженький	кусок	китайгородской	стены. (RNC)
fresh-DIM.SG.M.NOM	piece-NOM	Kitaigorod-ADJ.SG.F.GEN	wall-GEN

'Their highlights could be formulated as follows: let us build Zaryadye up with small houses exhibiting pseudo-historical details, with a couple of small churches that were once demolished and with a brand-new piece of the Kitaigorod wall.'

Neither a positive nor a negative evaluation is involved in the construal of height in (49)-(51). By using the adjective *nevysokij* 'not.high', the writers conceptualise height in a quite objective, matter-of-fact way. Even the overall negative colouring of (50) is neutralised when it comes to the description of the buildings, whose height is presented as simply located below some expected value, but not as something displeasing in appearance. Now compare examples (49)-(51) with sentences in (52)-(54), where the same nouns – *zdanie* 'building', *stroenie* 'construction', and *domiki* 'houses-DIM' – are modified by the adjective *nizkij* 'low/short':

(52)

Нынешний	Александрийский			театр,	тогда
present-SG.M.NOM	Alexandrijskij-SG.M.NOM			theatre-NOM	then

называвшийся	Малым,	не	имел	никакой
call-PTCP.PST.ACT.SG.M.NOM	Malyj-INS	NEG	had-SG.M.IPFV	no-SG.F.GEN

внешней	архитектуры:	это	было	**низкое**
exterior-SG.F.GEN	architecture-GEN	this	was-N	low-(LF)SG.N.NOM

и	**безобразное**	**здание**,	род	сарая. (RNC)
and	ugly-(LF)SG.N.NOM	building-NOM	sort-NOM	shed-GEN

'The Alexandrijskij Theatre that used to be called Malyj Theatre, had no exterior architecture. It was a low ugly building, a sort of shed.'

(53)

Я	ходил,	задрав	голову	и
I	walked-SG.M.IPFV	tear-ADPTCP.PST	head-ACC	and

разглядывая величественные громады. Гёте
examine-ADPTCP.PRES grand-PL.ACC bulks-ACC Goethe

писал, что архитектура – это музыка в
wrote-SG.M.IPFV that architecture-NOM this music-NOM in

камне. Новейшая американская
stone-LOC newest-SG.F.NOM American-SG.F.NOM

архитектура своей мощностью и устремлённостью
architecture-NOM one's-SG.F.INS power-INS and aspiration-INS

ввысь лучше всего выражает самую
upwards better all-SG.N.GEN expresses most-SG.F.ACC

сущность теперешней Америки. И до чего
essence-ACC present-SG.F.GEN America-GEN and till what-GEN

же это всё ушло вперёд по сравнению с
PCL this all went.away-SG.N.PFV forward on comparison-DAT with

теми **низкими и безвкусными строениями**,
those-INS low-(LF)PL.INS and tasteless-(LF)PL.INS constructions-INS

которые окружали нас в России! (RNC)
which-PL.NOM surrounded-PL.IPFV us-ACC in Russia-LOC

'I was walking and craning my neck to watch the magnificent gigantic buildings. Goethe wrote that architecture is music in stone. Modern American architecture with its power and striving for the sky is the best expression of what America is now. And how far all this is from the low tasteless buildings surrounding us in Russia!'

(54) Помню просторный грязный двор
remember-PRS.1.SG spacious-(LF)SG.M.ACC dirty-(LF)SG.M.ACC yard-ACC

и **низкие домики**, обнесенные забором.
and low-(LF)PL.ACC houses-DIM.ACC enclosed-(LF)PL.ACC fence-INS
(RNC)

'I remember a large dirty yard and low houses behind the fences.'

In these examples, unlike in (49)-(51), the outlook of the buildings is conceptualised as something offensive to the eye. By choosing *nizkij* 'low/short' rather than *nevysokij* 'not.high', the speaker construes height not simply as being smaller than

average, but as *deficient* and therefore contributing to the negative evaluation of the referent. It is interesting to note that in (52) and (53) the negative inferences suggested by *nizkij* 'low/short' are confirmed by coordinating *nizkij* 'low' with the adjectives *bezobraznyj* 'ugly' and *bezvkusnyj* 'tasteless, vulgar', respectively. In (54), the negative inference triggered by *grjaznyj dvor* 'dirty yard' is confirmed by the AN-combination *nizkie domiki* 'low houses', also introduced by the discourse connector *i* 'and'. If the inferences suggested by *nizkij* 'low/short' were positive they would have been cancelled by the adversative conjunction *no* 'but', as shown in (55). However, the fact that (55) is incongruous strongly suggests that the evaluation of the entity called forth by *nizkij* 'low/short' is negative (cf. Hatzivassiloglou & McKeown 1997; Hatzivassiloglou & Wiebe 2000). Notice that (56) is also infelicitous, since it is impossible to confirm the inferences suggested by *nizkij* 'low/short' by coordinating it with the obviously positive evaluation expressed by means of *krasivyj* 'beautiful'.

(55) #Это было низкое, но безобразное
this was-N low-(LF)SG.N.NOM but ugly-(LF)SG.N.NOM

здание.
building-NOM

(56) #Это было низкое и красивое
this was-N low-(LF)SG.N.NOM and beautiful-(LF)SG.N.NOM

здание.
building-NOM

Note, however, that *nevysokij* 'not.high' is perfectly acceptable in both (57) and (58).

(57) Это было невысокое и красивое
this was-N not.high-(LF)SG.N.NOM and beautiful-(LF)SG.N.NOM

здание.
building-NOM

(58) Это было невысокое и безобразное
this was-N not.high-(LF)SG.N.NOM and ugly-(LF)SG.N.NOM

здание.
building-NOM

The observation that both (57) and (58) are felicitous strongly suggests that the adjective *nevysokij* 'not.high' as such is neutral. It should, however, be noted that there is a certain degree of asymmetry between sentences with the adversative conjunction *no* 'but'. As shown below, (60) is more acceptable than (59). This is probably motivated not by the semantics of the adjective as such, but by the application of THE-BIGGER-THE-BETTER cognitive model, where entities like human beings and buildings are considered more attractive when they are taller.

(59) ?Это было невысокое, но безобразное
this was-N not.high-(LF)SG.N.NOM but ugly-(LF)SG.N.NOM

здание.
building-NOM

(60) Это было невысокое, но красивое
this was-N not.high-(LF)SG.N.NOM but beautiful-(LF)SG.N.NOM

здание.
building-NOM

We may therefore conclude that *nizkij* 'low/short', even taken out of context, has a much stronger evaluative load than *nevysokij* 'not.high. This does not mean, however, that *nevysokij* 'not.high' can never be used to indicate a negative evaluation. As suggested by examples (59) and (60), context and the application of general image-schematic models can make *nevysokij* 'not.high' fulfil a function of negative evaluation.

Before closing this subsection, it is worth pointing out that negative evaluation associated with *nizkij* 'low/short' has implications for extended uses of this adjective. As noticed by Rakhilina (2000: 144-5), metaphorical uses of *nizkij* 'low' are usually negative (*nizkij čelovek* 'mean person', *nizkij postupok* 'shabby act', *nizkoj proby* 'of the worst kind'). In this respect, *nizkij* 'low/short' is different from the neutral terms *vysokij* 'high/tall' and *nevysokij* 'not.high'.

8.2.2.3. Comparative and superlative forms. Another important difference between *nizkij* 'low/short' and *nevysokij* 'not.high' is that the former has both synthetic (morphological) and analytic (syntactic) comparative forms (examples 61 and 62, respectively), whereas the latter can be used only in analytic comparative construc-

tions comprised of *bolee* 'more' – the comparative form of *mnogo* 'much' – and the bare form of the adjective (examples 63 and 64) (Apresjan 1974: 311, 2004: 636).[10]

(61) Думаю, дома будут постепенно
think-PRS.1.SG houses-NOM be-FUT.3.PL gradually

становиться **ниже**. (RNC)
become-INF.IPFV lower

'I think the houses will gradually become lower.'

(62) На **более** **низких** шинах действительно
on more low-(LF)PL.LOC tyres-LOC really

неудобно ездить, и их можно порекомендовать
inconveniently drive-INF.IPFV and them-ACC may recommend-INF.PFV

отъявленным спортсменам. (RNC)
notorious-PL.DAT sportsmen-DAT

'It is really difficult to drive on even lower tyres; these can be recommended to out-and-out sportsmen.'

(63) Привставая на цыпочки, над ней
stand.up.a.little-ADPTCP.PRES on tiptoes-ACC above her-INS

нес зонт юноша – еще **более**
carried-SG.M.IPFV umbrella-ACC youth-NOM still more

невысокий, полный и рыжий, чем я
not.high-(LF)SG.M.NOM full-SG.M.NOM and red-SG.M.NOM than I

сам. (S. Lukjanenko, *Poslednij šans*)
self-SG.M.NOM

'A young man walking on tiptoes was carrying an umbrella above her. He was even shorter, plumper and more red-haired than me.'

[10] When used metaphorically, both adjectives have only syntactic comparatives. I thank Egbert Fortuin for this observation.

(64) Между собственно Альпами и Роной расположены
between actually Alps-INS and Rhone-INS located-(SF)PL

их предгорья – Малые Альпы, высоты
their foothills-NOM little-PL.NOM Alps-NOM heights-NOM

которых едва достигают половины роста
which-PL.GEN barely reach-PRS.3.PL half-GEN stature-GEN

Монблана. На юге идет цепь
Mont.Blanc-GEN on South-LOC goes chain-NOM

гор Прованса, также оголенных, их
mountains-GEN Provence-GEN also bold-(LF)PL.GEN their

наивысшая точка не превосходит 1700 м,
highest-SG.F.NOM point-NOM NEG exceeds 1700 m

между ними и берегом Средиземного моря
between them-INS and shore-INS Mediterranean-SG.N.GEN sea-GEN

идет еще **более** **невысокая** цепь
goes still more not.high-(LF)SG.F.NOM chain-NOM

Мавританских гор, покрытых густыми
Mauritanian-PL.GEN mountains-GEN covered-(LF)PL.GEN dense-PL.INS

лесами каштанов, сосен и пробковых
forests-INS chestnuts-GEN pines-GEN and cork-ADJ.PL.GEN

дубов. (www.wikiznanie.ru)
oaks-GEN

'Between the Alps and the Rhone there are foothills of the Alps – the *Alpilles* – that are barely half as high as Mont Blanc. In the South there is the Provence mountain chain. These mountains are also bold, their highest point does not exceed 1,700 m. Between these mountains and the Mediterranean shore, there are even lower Mauritanian mountains covered with dense forests of chestnuts, pine-trees, and cork oaks.'

As explained in Section 6.4.6, there is an important semantic difference between syntactic and morphological comparatives in Russian. The former are usually committed, and the latter are impartial. Thus, if House A is claimed to be *niže* 'lower' than House B, it does not mean that the two houses are *per se* low: they may

both be high, or one of them can be high, or both can be low. In contrast, if House A is called *bolee nizkij* 'more low' than House B, both houses are, in fact, claimed to be low. This difference has implications for the distribution of positive *vs.* comparative forms of *nevysokij* 'not.high' and *nizkij* 'low'. Since only *nizkij* 'low/short' can be used in both impartial (synthetic) and committed (analytic) comparatives, it takes the task over from *nevysokij* 'not.high' when it comes to the expression of non-committed comparative relations. For instance, if in the positive form we would normally call a mountain *nevysokaja* 'not.high-SG.F' rather than *nizkaja* 'low-SG.F', in comparative constructions we would have to resort to *niže* 'lower' if we want to claim that one mountain is lower than the other, but not that both of them are low.[11]

Note, however, that both *nevysokij* 'not.high' and *nizkij* 'low/short' have only committed syntactic superlatives, exemplified by (65) and (66), and no impartial morphological superlative forms.

(65) Он будет появляться в простом
he be-FUT.3.SG appear-INF.IPFV in simple-(LF)SG.M.LOC

мундире, **самый** **невысокий** среди
uniform-LOC most-SG.M.NOM not.high-(LF)SG.M.NOM amidst

высокорослых, сверкающих золотом адъютантов.
high.statured-PL.GEN sparkling-PL.GEN gold-INS adjutants-GEN
(RNC)

'He will appear in a simple uniform, the shortest among the tall adjutants whose uniforms sparkle with gold.'

(66) Там, на Алтае, кажется жил бы
there on Altai-LOC seems-IMPERS.REFL lived-SG.M.IPFV PCL.COND

в **самой** **низкой** и темной
in most-SG.F.LOC low-(LF)SG.F.LOC and dark-(LF)SG.F.LOC

избушке на краю деревни, подле леса. (RNC)
hut-DIM.LOC on edge-LOC village-GEN nearby forest-GEN

[11] The fact that *nevysokij* 'not.high' has only a periphrastic comparative, which is committed, is counter to the prediction made by Croft & Cruse (2004: 178) that an adjective having only a periphrastic and no inflectional comparative, will have an impartial reading in the periphrastic comparative construction.

> 'I think I would like to live there in the Altai, in the lowest and darkest hut located on the outskirts of the village, by the forest.'

Vysokij 'high/tall' is different from *nizkij* 'low/short' and *nevysokij* 'not.high' in that it has both committed and impartial comparative *and* superlative forms. Given these differences, only positive uses of the three adjectives will be compared in the rest of this chapter.

8.2.2.4. Combinatorial restrictions. Rakhilina (2000: 135) suggests that there are two important semantic differences between *nevysokij* 'not.high' and *nizkij* 'low/short' that have implications for their combinability with nouns. Firstly, *nevysokij* 'not.high' is claimed to inherit from its source-word *vysokij* 'high/tall' the ability to profile vertical extent. *Nizkij* 'low/short', it is argued, focuses on the position of the top vis-à-vis the ground level rather than on the vertical extent of the object.[12] For this reason, so the argument goes, nouns denoting pieces of furniture having functional tops, such as tables and chairs, are good candidates for modification by *nizkij* 'low/short'. The second crucial difference between *nevysokij* 'not.high' and *nizkij* 'low/short', according to Rakhilina, is that the former adjective is used to describe entities that are as tall as or taller than humans; and the latter is used for shorter-than-human referents (cf. Sharoff 2006).[13]

As for the first of Rakhilina's claims, it is partly supported by the corpus data in the sense that the most frequent referent category of *nizkij* 'low/short' in the RNC are pieces of furniture (e.g. *stol* 'table' – 72 occurrences, *kreslo* 'armchair' – 27, *divan* 'sofa' – 23, *skamejka* 'bench' - 20, *taburetka* 'stool' -15, *krovat'* 'bed' – 13).[14] However, it does not mean that *nizkij* 'low/short' cannot be used with reference to objects lacking functional tops (e.g. *lob* 'forehead' – 59 occurrences in the RNC, *dver'* 'door' – 31, *dom* 'house' – 26, *ograda* 'hedge' – 18, *izba* 'hut' – 17, *zabor* 'fence' – 16, *okno* 'window' – 13, *stena* 'wall' – 11). In such cases, *nizkij* 'low/short', just as *nevysokij* 'not.high', profiles the vertical extent, rather than the vertical position.

In the context of the present discussion, we are more interested in the second claim made by Rakhilina with respect to the combinatorial differences between

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[12] In a similar vein, Durrell (1988), H. Clark (1973: 38), Clark et al. (1973: 353), and Maratsos (1974) suggest that the English *tall* : *short* denote the vertical extent of an object, whereas *high* : *low* denote the vertical position of the top.

[13] Apresjan (2000: 237) comments that entities, whose vertical size exceeds the height of a human being, are said to have height (buildings, rocks). If their vertical extent is smaller than human, all other dimensions being equal, they may also be said to have thickness.

[14] Note also that only *nizkij* 'low/short', but not *nevysokij* 'not.high' can be used with reference to water level, which is evidence that the former adjective is more likely to profile the vertical position, and the latter primarily profiles the vertical extent. I owe this observation to Tijmen Pronk.

nevysokij 'not.high' and *nizkij* 'low/short'. In the rest of this chapter, I will test Rakhilina's hypothesis that *nevysokij* 'not.high' and *nizkij* 'low/short' display complementary distribution, which is determined by the reference-point status of EGO.

To begin with, no single informant I consulted with could explicitly support this claim. On the one hand, this is evidence that the distinction between *nevysokij* 'not.high' and *nizkij* 'low/short' vis-à-vis EGO is, at least, not as straightforward as presented by Rakhilina (2000). On the other hand, it is also possible that the distinction between *nevysokij* 'not.high' and *nizkij* 'low/short' with respect to EGO, though essential and psychologically real, is subconscious and therefore cannot be elicited in response to a metalinguistic question. Clearly then, other methods are needed to test the hypothesis. I chose two methods that could shed light on the distribution of *nevysokij* 'not.high' and *nizkij* 'low/short' vis-à-vis human height – a corpus study and a survey (see Sections 1.3.2 and 1.3.3).

The first thing that catches the eye in the corpus data is a great number of counterexamples to Rakhilina's claim. For instance, objects that are intrinsically taller than human beings are frequently dubbed *nizkij* 'low/short' (e.g. *dom* 'house' – 26 instances, *svod* 'vault' – 17, *izba* 'hut' – 16, *gora* 'mountain' − 8), and objects that are much shorter than people are often called *nevysokij* 'not.high' in the corpus (e.g. *trava* 'grass' – 15 instances, *lob* 'forehead' – 11, *stol* 'table' – 7, *kabluk* 'heel' – 5). Note also that in 56 cases *nizkij* 'low/short' is used with reference to human beings. Similarly, *Learner's Dictionary of Russian Collocations* (Denisov & Morkovkin 1978) gives nouns denoting entities that are a lot taller than humans (*dom* 'house' and *gora* 'mountain') as the best candidates for modification by *nizkij* 'low/short'. We can therefore conclude that Rakhilina's claim does not receive support in the absolute sense. It could, however, be the case that statistical analyses yield tendencies that are in line with the hypothesis in question.

To check whether such tendencies are at work, I classified all instances of *nevysokij* 'not.high' and *nizkij* 'low/short' in the RNC into two groups – reference values below the human height and reference values as tall as or taller than humans. For some head-nouns, such as *gora* 'mountain' or *sapogi* 'jackboots', the decision was quite straightforward, since mountains are never lower than humans and jackboots are never taller. However, in case the adjectives were used with respect to entities such as fences, bushes, or boxes that can be either taller or shorter than humans, broader contexts providing the necessary clues were analysed. Several cases were eliminated from consideration (3 occurrences of *nizkij* 'low/short' and 9 instances of *nevysokij* 'not.high'), since it was unclear whether the referents were taller or shorter than humans. This was either for technical reasons (broader contexts for some cases were not provided) or for ontological reasons. In the latter case, the

adjectives modified nouns such as *zabor* 'fence', *postament* 'pedestal', *rastenie* 'plant', and the broader context did not provide enough clues as to whether the referents of these nouns were taller or shorter than humans. It should also be mentioned that only positive forms of the adjectives were analysed for the reasons indicated in Section 8.2.2.3. The distribution of referents of *nevysokij* 'not.high' and *nizkij* 'low/short' in the corpus vis-à-vis EGO is presented in Table 8.1 (frequencies are percentages).

Adjectives	As tall as or taller than EGO	Shorter than EGO
nevysokij 'not.high'	87.8	12.2
nizkij 'low/short'	37.5	62.5

Table 8.1. Distribution of *nevysokij* and *nizkij* in the RNC vis-à-vis EGO

Adjectives	As tall as or taller than EGO	Shorter than EGO
nevysokij 'not.high'	62.2	37.8
nizkij 'low/short'	23.2	76.8

Table 8.2. Distribution of *nevysokij* and *nizkij* in the Survey vis-à-vis EGO (Task 2)

Table 8.1 shows that there is a clear tendency for *nevysokij* 'not.high' to be used for referents which are as tall as or taller than human beings (including referents that *are* human beings). *Nizkij* 'low/short', in its turn, is much more often employed to describe the height of entities that are shorter than people, the difference being highly significant: $\chi^2(1) = 698.9$, $p < .001$. Now let us compare these results with the findings from the Survey.

Task 2 of the Survey was designed to investigate whether naïve speakers of Russian show a tendency to choose *nevysokij* 'not.high' when it comes to referents that are as tall as or taller than people, and to select *nizkij* 'low/short' with respect to objects that are shorter than human beings. On this task, the subjects were offered nine short contexts that clearly indicated whether the entity was shorter, as tall as, or taller than EGO (see Table 8.3 below). Three referents were taller than humans (house, mountain, and tree); one was approximately as tall as humans (sideboard); and in five cases the adjectives referred to nouns denoting shorter-than-human objects (fence, grass, flower-pot, bath-house door, and tree-stump). The respondents could construe the height of the referents vis-à-vis EGO either due to intrinsic dimensions of the entity (e.g. mountains are never lower than people) or due to the clues provided by the context (e.g. the fence was so low that we could

easily see the neighbours). The subjects were asked to choose which of the two adjectives fits best in each context and to underline it. The distribution of the two adjectives with respect to EGO is shown in Table 8.2 (figures indicate percentages).

The results suggest, in line with the findings from the corpus study, that there is a clear tendency to choose *nizkij* 'low/short' when the described entity is shorter than human beings, and to use *nevysokij* 'not.high' for referents that are as tall as or taller than human beings. The difference was again highly significant: $\chi^2(1) = 239.2$, $p < .001$. It could also be rewarding to look at the choices for each sentence, translated here for convenience (for original sentences see Appendix 2). See Table 8.3; frequencies are percentages.

Sentences	**nevysokij**	**nizkij**
Our house is not.high/low. It is only two-storied.	89.1	10.9
The fence at our dacha is not.high/low. We can see the neighbours well.	29.9	70.1
The Ural Mountains are not.high/low, you will hardly notice passing them.	80.5	19.5
The grass in our garden is not.high/low, it is about 10-15 cm high.	62.1	37.9
It was a most usual room: a not.high/low sideboard, a newspaper table in the middle, a TV-set in the corner.	60.9	39.1
We did not call the emergency service, because the tree which the kitten had climbed was not.high/low. Dad could take Murzik down himself.	74.7	25.3
You should better plant azaleas in a not.high/low pot, because their roots are shallow.	38.5	61.5
The door of the bath-house is not.high/low, you have to stoop to enter.	16.7	83.3
Mašen'ka sat down on a not.high/low stump of a tree and started eating her patty.	38.5	61.5

Table 8.3. Task 2 of the Survey: results per sentence

Table 8.3 suggests that for all, but one, referent the prediction that entities that are as tall as or taller than humans tend to be described by *nevysokij* 'not.high' and shorter-than-human referents by *nizkij* 'low/short' holds. The only counterexample is the sentence 'The grass in our garden is not.high/low, it is about 10-15 cm high'. On the one hand, the fact that the majority of subjects opted for *nevysokaja trava* 'not.high grass' is surprising, since grass is the shortest of all the referents used in this task. What is more, as suggested by the results of Tasks 1 and 3 of the Survey, grass is the prototype of lowness in Russian (see Chapter 9). But, on the other hand, the length of grass – 10-15 centimetres – was explicitly mentioned in the sentence. Probably, the respondents found 15 cm high grass not low, and therefore chose the

adjective *nevysokij* 'not.high' which, as shown in Section 8.2.2.1, can denote objectively higher values than *nizkij* 'low/short'. One of the respondents even exclaimed during the procedure: *10-15 santimetrov, ničego sebe nizkaja*! *Èto očen' daže priličnaja trava!* '10-15 cm, you don't mean it's low! It is quite decent grass!'

Thus, the analysis of the corpus data and the results of the Survey provide converging evidence that there is a strong tendency to use *nevysokij* 'not.high' to denote vertical extent that is equal to or bigger than EGO, and to employ *nizkij* 'low/short' to describe vertical extent of shorter-than-human referents. I would like to emphasise, counter to Rakhilina (2000), that it is a *tendency*, rather than an absolute distinction. This combinatorial difference is also related to the fact that *nevysokij* 'not.high' can denote objectively greater reference values than *nizkij* 'low/short' (see Section 8.2.2.1). For this reason, it is more likely that *nevysokij* 'not.high' will be used when it comes to the description of very high objects; and, to the human eye, very high objects should, at least, be equal to human height. Similarly, objects that are much smaller than humans are considered to be intrinsically low from the viewpoint of a human conceptualiser. Thus, the adjective *nizkij* 'low/short', whose realm comes closer to the absolute zero on the scale of height, is more likely to be used in such cases.

An interesting question that arises in this respect is how we can define the type of semantic relations between the near-synonymous adjectives *nevysokij* 'not.high' and *nizkij* 'low/short'. In this section, I have shown that they are not in complementary distribution to each other. Rather, they seem to provide two different construals of height originating from two different vantage points. The semantic areas of the two terms overlap considerably. However, each term seems to have its "prototypical" uses, and the two prototypes do not coincide. These characteristics are symptomatic of *co-extension*, a type of semantic relations first described by MacLaury (1997a) within the framework of *vantage theory*. Let us now briefly look at the main findings of vantage theory and its application to dimensional adjectives.

8.3. Co-extension in the domain of dimensional adjectives

8.3.1. Vantage theory

Vantage theory is about "the method by which people construct, maintain, and change categories <…> by coordinating inherently fixed images (or ideas) with inherently mobile (or changeable) recognitions of similarity and difference of perceived experience to the images" (MacLaury 2003: 285). On this view, categorisation operates by analogy to spatial cognition, which is based on the coordination of

fixed landmarks (up-down, left-right, front-back) and mobile coordinates (relative motion). In categorisation, a fixed image functions as a reference point of a category. The perceiver assesses every new experience in terms of similarity to or difference from the fixed reference point. Attention to similarity leads to category expansion; attention to difference, on the contrary, sets boundaries to the category. Attention to similarity and difference are mobile coordinates.

The combination of fixed and mobile coordinates is known as a *vantage*. Each vantage is constructed at least in two steps. Let us take the category RED as an example. At Level 1, focal red serves as a fixed coordinate and attention to similarity with focal red makes the category expand to include a number of similar shades and hues. At level 2, similarity recedes into the background in favour of the new mobile coordinate – attention to difference. Once a new experience is judged as different from the fixed reference point, category expansion stops and category boundaries are set (see Figure 8.2).

Levels	Fixed Coordinates	Mobile Coordinates	Entailments
1	R	S	focus, range
2	S	D	breadth, margin

Figure 8.2. Vantage on the category RED (MacLaury, 2002, p. 496)

MacLaury arrived at the conclusions that led to the emergence of vantage theory by studying colour categorisation in Mesoamerican languages (MacLaury 1997a). He used three main procedures: naming, mapping, and focus selection. On the first task, subjects were asked to name colour chips in the Munsell chart. On the mapping task, they were asked to put a grain of rice on every colour chip that they thought could be described by a particular colour term. Once the subjects were ready with the task, they were asked to look at the colour chart again and point out any additional colour samples that could eventually be labelled by the colour word. The procedure was repeated until the colour term was mapped on all possible colours. On the third task, the subjects were asked to pick out the best example of the category named by a particular colour term.

By means of the above procedures, MacLaury (1997a) singled out three kinds of semantic relations between colour terms – complementation, inclusion, and co-extension.[15] Complementation is a relation characterised by mutual exclusion of

[15] MacLaury has also shown that these relations are points on a path of semantic change from near-synonymy through co-extension and inclusion to complementation.

two categories (e.g. what is RED is not BLUE). Inclusion brings about lexical hyponymy: the scarlet colour can also be dubbed *red*, but not everything that is red can be called *scarlet*. And, finally, co-extension is a relation between two (or more) colour terms that are available for the same part of the spectrum. These terms are near-synonymous, but there are also profound differences between them. According to MacLaury (1995, 1997a), co-extensive terms provide different views on the same category. In other words, a co-extensive category is argued to be an arrangement of two types of vantage. One of them is termed *dominant vantage*, the other *recessive vantage*. A word naming the dominant vantage is called *dominant term*; a label for the recessive vantage is then termed *recessive term*.

For example, Zulu has two colour terms naming the category COOL – *hlaza* and *kosazaka*. The former is a dominant term; the latter names a recessive vantage. *Hlaza* is more frequent and easily maps on to the entire category. Conversely, *kosazaka* is less frequent and applies only to a very restricted range of the category. On repeated mapping tasks, subjects, however, agree to gradually extend the recessive range to other category members so that it eventually comes to cover a good deal of the dominant vantage. What is also very interesting is that the two terms have different foci: the focus of *hlaza* is unique blue located near the centre of the category, whereas the focus of *kosazaka* is a very light sort of green located on the periphery. Furthermore, the dominant range is more or less evenly distributed, and the recessive range has a restricted distribution skewed towards the margin. The major difference between the two vantages is the relative salience of one mobile coordinate over the other. *Hlaza* is associated with emphasis on similarity, due to which it easily covers the whole category. *Kosazaka*, on the contrary, is associated with emphasis on difference and therefore includes only a limited range of colours. People are very flexible in adopting one or another vantage point on the category. Sometimes they focus on similarity with the dominant focus, and on other occasions the same stimuli are estimated in terms of difference from the dominant reference point. This precludes the two terms from complementary distribution (MacLaury 1995, 2002).

It should also be noted that MacLaury attested considerable differences in the dominant-recessive patterns not only between linguistic communities, but also within one language community. For instance, some individuals were reported to construct the colour category WARM with red as a dominant, and yellow as a recessive focus, whereas their neighbours could have the opposite view on the same category with 'yellow' as a dominant term, and 'red' as a recessive term. From this, MacLaury concludes that there is nothing inherent in the foci as such that would motivate their becoming a dominant item. Rather, the "dominant-recessive pattern

results from the method by which each person privately constructs a category" (MacLaury 1995: 242).

Although vantage theory was brought into existence by studies in the domain of colour categorisation, in the past few years it has received a number of applications in other areas of linguistic research.[16] For instance, Taylor (2003) applied the findings reported in MacLaury (1995, 1997a, 2002) to the analysis of near-synonymous English dimensional adjectives *high* and *tall*. I will consider this study in the following section.

8.3.2. Application to dimensional adjectives: the case of *tall* vs. *high*

It has been suggested on numerous occasions that *tall* and *high* are in complementary distribution, i.e. *tall* combines with nouns that are incompatible with *high*. To be more exact, *tall* is claimed to be felicitous with nouns denoting human referents, whereas *high*, it is argued, cannot be used with reference to human beings at all (e.g. Dirven & Taylor 1988; Durrell 1988; Sharoff 2006). However, a very simple corpus search immediately provides a lot of counterexamples. To begin with, *tall* appears to be frequently used for non-human referents, as shown in Table 7.3, repeated here as Table 8.4.

Referent categories	**Examples**	**Tokens**	**%**
Human beings	girl, man, woman	3,096	62.66
Vegetation	bush, flowers, grass, plant, trees	569	11.52
Constructions	bell-tower, building, dome, house	477	9.65
Containers	bottle, box, glass, jug	103	2.08
Animals	bird, bull, dog, horse, rhinoceros	97	1.96
Furniture and appliances	bookcase, chair, refrigerator, stool	90	1.82
Openings	door, entrance, portal, window	83	1.68
Vehicles	car, caravan, mast, ship	63	1.28
Eminences	cliff, hill, mountain, pinnacle	55	1.11
Supports	base, buttress, leg, stem	47	0.95
Enclosures	fence, gates, hedge, partitions	43	0.87
Clothing	hat, helmet, collar	38	0.77
Monuments	obelisk, sculpture, statue	26	0.53
Interior	apartment, gallery, room	22	0.45
Body parts	head, limb, thigh	10	0.2
Other	book, candle, cane	122	2.47

Table 8.4. Referent categories of *tall* in the BNC

[16] For references see the VT website: <http://klio.umcs.lublin.pl/~adglaz/vt.html>.

High, in its turn, is sometimes used with reference to human beings. Witness (67)-(72):

(67) She stood – hung – five feet four inches high. Too short to have killed herself. (BNC)

(68) Five feet high and weighing one hundred and seventy pounds, a veritable Humpty Dumpty of a woman, Mrs Stych had no hope of ever being able to wear pants gracefully. (BNC)

(69) The Shah asked Mrs Carter and King Hussein, each of them only about five feet high, shuffled around like two little mechanical dolls, staring distractedly over each others tiny shoulders. (BNC)

(70) And, since sensible humans know that there are no such things as people four inches high, a nome who doesn't want to be seen probably won't be seen. (BNC)

(71) But today, fortified by her experiences, feeling six feet high and a tower of strength, Miss Fogerty led the entire school into morning assembly and faced a host of questioning eyes with unaccustomed composure and authority. (BNC)

(72) Mm. and she rang up and said that she wanted to go and would I go with her? And I said yes, you see. Of course, the woman said why do you come? So I says, well I've come for Chris really. So she said, oh they all say that! And she made me feel about two inches high. (BNC)

Notice that the human referents in the above examples are often conceptualised as non-living and/or non-human objects – a corpse in (67), Humpty-Dumpty in (68), mechanical dolls in (69), gnomes in (70), a tower in (71), and a humiliated person in (72). Taylor (2003) argues that *high* is used with reference to human stature when humans view their own height in objective terms, just as they would describe the height of a hill or a wardrobe. Thus, using *high* instead of *tall* is a special case of objectification (Langacker 1985, 1987: 128-32, 1990: 315-33). See in this respect also the following examples from the BNC:

(73) His rangy, graceless figure, over six feet high, still looked as incongruous in a formal suit as it always had. (BNC)

(74) Pennant's descriptions went as far into detail as Pennant wanted them to, and therefore they should be seen for what they are, not what they might

have been: 'Here is a man six feet high and you are angry because he is not seven.' (BNC)

(75) There is an expression, 'the unassailable complacency of the mother of eight', and with Wilson I had the unassailable confidence of someone five feet eight inches high in the presence of a man she knows instinctively to admire tall women. (BNC)

Indeed, in examples (73)-(74), humans are conceptualised as objects whose height is being objectively measured (note also the use of measure phrases in the above examples). It is then not surprising that *high* is only in rare cases used with respect to human height, for the "anthropocentrism of our perceptions makes us reluctant to see ourselves merely as objects in the landscape" (Dirven & Taylor 1988: 393).

Tall, so the argument goes, is employed when the entities are not necessarily high in objective terms. Rather, they are *seen as being* tall. In answering the question what it means to see something as tall, Taylor (2003) uses the results of the study reported in Dirven & Taylor (1988). They investigated the distribution of referent categories for *tall* in the Birmingham University Corpus (7.3 million words) and used a questionnaire eliciting acceptability judgments of *tall* with 67 different head-nouns. The results from both sets of data – the corpus and the Survey – were fairly uniform. By far, the most frequent and perfectly acceptable referents of *tall* were human beings, followed by trees, plants, buildings, and a few other minor categories. These results were replicated in Taylor (2003), where humans followed by vegetation and buildings were shown to be the most frequent referents of *tall* in the LOB (Lancaster-Oslo/Bergen) corpus. The results from Dirven & Taylor (1988) and Taylor (2003) are fully consonant with the data from the BNC presented in Table 8.4.

Dirven & Taylor (1988) interpret these results in the following way. Non-human objects can be dubbed *tall* if they possess the following crucial human-like properties:

a) prominence of the vertical dimension;
b) dynamic conceptualisation of the vertical extent;
c) standing out from the background.

Indeed, these properties can very well explain why *tall* is perfectly felicitous with nouns denoting buildings and vegetation. Just like human beings, these objects are individuated as gestalts discontinuous from the background; they grow upwards either by natural growth (vegetation) or through human activity (buildings); and their vertical dimension is the maximal one (cf. Vogel 2004). Notice that these properties are not necessary-and-sufficient spatial features constituting an object

schema in the sense of Bierwisch (1967) and Bierwisch & Lang (1989). Rather, objects that are dubbed *tall* are "thought of as tall" (Taylor 2003: 271). Thus, *tall* and *high* present alternative construals of vertical extent.

Taylor (2003) builds on the findings reported in Dirven & Taylor (1988) and reconsiders them in light of vantage theory. He claims that *tall* and *high* provide two views on the category VERTICAL EXTENT (see also MacLaury 2003). *High* presents the dominant vantage, which can be formalised as VE SS D, where VE is vertical extent (reference-point of the category), S is similarity, and D is difference. Since this vantage is characterised by emphasis on similarity, *high* is more frequent, it applies to a wide range of entities (including human beings), and is more or less evenly distributed over different referent categories. What is more, focus on similarity results in a broad network of senses, not only dimensional, but also positional and metaphorical ones.

Tall, in its turn, names the recessive vantage that can be represented by the formula VE DD S, indicating emphasis on difference from the fixed landmark. *Tall* offers a very specific view on the category VERTICAL EXTENT. It is less frequent and exhibits a skewed distribution of referents, "with pronounced emphasis on humans and preference for the animate" (MacLaury 2003: 287). Human height (i.e. a very specific kind of verticality) is a fixed reference point of this vantage. For this reason, *tall* is also frequently used with reference to vegetation and buildings, i.e. entities that share a number of relevant spatial properties with EGO. It is noteworthy that on repeated mapping tasks, the subjects of the experiment reported in Taylor (2003) agreed to extend the category boundaries, so that *tall* came to cover a good deal of the dominant vantage. Because of the orientation to a very specific (human-like) kind of verticality, *tall* has no positional uses and very few metaphorical extensions.

To summarise, by this view, *tall* and *high* name two vantages on the same category. They have different fixed reference points (vertical extent *vs.* human height) and different mobile reference points (difference *vs.* similarity). The dominant status of *high* renders it applicable to a greater range of referents, including human beings. In contrast, the recessive vantage labelled by *tall* is centred around a very specific kind of verticality, the one associated with human bodies. Entities dubbed *tall* are therefore seen as displaying some features intrinsic to the verticality of EGO.

8.4. *Nizkij* and *nevysokij* revisited

8.4.1. Introductory remarks

In light of the findings reported in Taylor (2003) and Dirven & Taylor (1988), it would be interesting to look at the distribution of *nevysokij* 'not.high' and *nizkij* 'low/short' in the corpus and in the Survey once again. As indicated in Section 8.2.2.4, *nevysokij* 'not.high' and *nizkij* 'low/short', like *high* and *tall*, are co-extensive, since their realms on the scale of height considerably overlap and, what is more, they can be used with reference to the same types of entities. To estimate the degree of overlap, I categorised the referents of *nevysokij* 'not.high' and *nizkij* 'low/short' in the RNC, the way Dirven & Taylor (1988), Taylor (2003) and myself (Table 8.4) did it for *tall*. After that, I compared the results of the corpus study with the findings from Task 1 of the Survey. On this task, the subjects were asked to give three nouns that combine particularly well with a number of adjectives, including *vysokij* 'high/tall', and either *nevysokij* 'not.high' or *nizkij* 'low/short'. As indicated in Section 1.3.3, two versions of the Survey were made – one with *nevysokij* 'not.high' in Task 1 and one with *nizkij* 'low/short' to avoid priming. The task also contained nine distracters (see Appendix 2). The results of these two studies – analysis of referent categories in the RNC and Task 1 of the Survey – will be discussed in the rest of this chapter.

8.4.2. *Vysokij* in the corpus and in the Survey

Since *nevysokij* 'not.high' is a derived term, morphologically related to its positive counterpart *vysokij* 'high/tall', it could be rewarding to start by looking at the referents of *vysokij* 'high/tall' in the corpus and in the Survey. The distribution of referent categories of *vysokij* 'high/tall' in the RNC is presented in Table 8.5.[17] Referent categories elicited in the Survey are given in Table 8.6 below (for the full list of elicited nouns see Table 9.4). Note that the figures provided in this section cover only dimensional uses of the adjectives. For the purposes of the present study, I excluded all non-dimensional (i.e. positional and metaphorical) uses of the adjectives from consideration (these can be found in Appendix 3).

As suggested by Tables 8.5 and 8.6, humans are by far the most frequent referent category in the corpus (37.2%) and one of the two most frequent categories

[17] Only positive forms of *vysokij* 'high/tall' were counted in this study. This was done to allow comparison with *nevysokij* 'not.high' and *nizkij* 'high/low', since *nizkij* 'low/short' lacks impartial forms of morphological superlative, and *nevysokij* 'not.high' lacks both synthetic comparatives and superlatives.

elicited by means of the Survey (28.6%). The findings from the two sets of data also suggest that EGO is relevant to the distribution of *vysokij* 'high/tall' in two different ways. Firstly, the most frequent referent categories besides human beings – vegetation and constructions – share relevant features of human verticality, including salience of the vertical dimension, dynamic growth, and standing out from the background (Dirven & Taylor 1988; Taylor 2003). Secondly, the majority of referents are as tall as or taller than human beings (93% in the survey and 74% in the corpus[18]).

Referent categories	**Examples**	**Tokens**	**%**
Human beings	čelovek 'human', devuška 'girl', figura 'figure', paren' 'lad', rost 'stature'	2,093	37.2
Vegetation	bereza 'birch', cvety 'flowers', derevo 'tree', kust 'shrub', trava 'grass'	645	11.5
Constructions	bašnja 'tower', dom 'house', kryl'co 'porch', zdanie 'building'	641	11.4
Clothing	kabluk 'heel', sapogi 'jackboots', šapka 'cap', šljapa 'hat', vorotnik 'collar'	481	8.5
Eminences	bugor 'hillock', gora 'mountain', skala 'rock', xolm 'hill'	416	7.4
Furniture and appliances	kreslo 'armchair', krovat' 'bed', spinka 'back (of a chair, bed)'	287	5.1
Enclosures	bort 'sides', častokol 'paling', ograda 'hedge', plotina 'dyke', zabor 'fence'	266	4.7
Body parts	grud' 'breast', lob 'forehead', pričeska 'haircut', šeja 'neck'	221	3.9
Openings	dver' 'door', okno 'window', rasselina 'fissure', vxod 'entrance'	96	1.7
Containers	bokal 'goblet', korzina 'basket', kružka 'mug' stakan 'glass', sunduk 'trunk'	94	1.67
Supports	fundament 'foundation', nožka 'leg', podsvečnik 'candlestick', stolb 'post'	92	1.63
Vehicles	avtomobil' 'automobile', kolesa 'wheels', telega 'cart', traktor 'tractor'	82	1.5
Interior	kabinet 'office', komnata 'room', palaty 'chambers', zal 'sitting-room'	66	1.2
Monuments	pamjatnik 'monument', p'jedestal 'pedestal', postament 'pedestal'	19	0.34
Animals	lošad' 'horse', ptica 'bird', sobaka 'dog', žiraf 'giraffe'	18	0.32
Other	bukva 'letter', fonar' 'lamp-post', kamen' 'stone', šest 'pole', stopka 'pile'	116	2.1

Table 8.5. Referents of *vysokij* in the RNC

[18] 14 cases out of 5,633 relevant uses were eliminated from consideration in this analysis, since for technical or ontological reasons it was impossible to determine whether the referents in these cases were taller or shorter than human beings.

Referent categories	Examples	Tokens	%
Constructions	bašnja 'tower', dom 'house', lestnica 'staircase', most 'bridge', stena 'wall'	123	30.1
Human beings	čelovek 'human', devuška 'girl', paren' 'lad', rost 'stature'	117	28.6
Vegetation	bereza 'birch', derevo 'tree', dub 'oak-tree', kiparis 'cypress', trava 'grass'	90	22
Eminences	gora 'mountain', pik 'peak', skala 'rock', vodopad 'waterfall', xolm 'hill'	36	8.8
Supports	pen' 'stump', stolb 'post'	16	3.9
Enclosures	ograda 'hedge', ograždenie 'fencing', zabor 'fence'	12	2.9
Furniture and appliances	mebel' 'furniture', stenka 'wall-unit', stol 'table', stul 'chair'	5	1.2
Animals	slon 'elephant', životnoe 'animal'	3	0.7
Body parts	lob 'forehead', noga 'leg'	2	0.5
Vehicles	mačta 'mast'	2	0.5
Clothing	kabluk 'heel'	1	0.2
Openings	---	0	0
Containers	---	0	0
Monuments	---	0	0
Interior	---	0	0
Other	bukva 'letter', svetofor 'traffic lights'	2	0.5

Table 8.6. Referents of *vysokij* in the Survey

These findings are in line with the *New Explanatory Dictionary of Russian Synonyms* (Apresjan 2004: 210), according to which the standard (CRP in my terminology) for the adjective *vysokij* 'high/tall' is the average height of an adult human. For this reason, it is argued, this adjective is rarely used with reference to children, who are usually much shorter than an average adult. In a similar fashion, Rakhilina (2000: 134) suggests that prototypical uses of *vysokij* 'high/tall' are uses with reference to taller-than-human objects. Similar results were reported for the Italian *alto* 'high' (Goy 2002, quoted in Vogel 2004) and for the Swedish *hög* 'high/tall' (Vogel 2004).

8.4.3. *Nevysokij* and *nizkij* in the corpus and in the Survey

Now, let us consider the results for *nevysokij* 'not.high' and *nizkij* 'low/short' provided by the corpus study and elicited by means of the Survey. I will consider the findings regarding these two adjectives in separate subsections.

8.4.3.1. *Nevysokij.* The distribution of referent categories of *nevysokij* 'not.high' in the RNC is presented in Table 8.7. It is noteworthy that *nevysokij* 'not.high' is simi-

lar to its source word *vysokij* 'high/tall' in that its by far most frequent referent category in the corpus are human beings (54.6%). What is more, three of the four most frequent referent categories after human beings are also the same for *nevysokij* 'not.high' and *vysokij* 'high/tall' (vegetation, constructions, eminences), though represented in a slightly different order.

Referent categories	**Examples**	**Tokens**	**%**
Human beings	devuška 'girl', krepyš 'brawny fellow', mužčina 'man', rebenok 'child'	814	54.6
Eminences	gora 'mountain', skala 'rock', sklon 'slope', xolm 'hill', xrebet 'ridge'	176	11.8
Constructions	banja 'bath-house', cerkov' 'church', dom 'house', stena 'wall'	140	9.4
Vegetation	derevo 'tree', kust 'bush', kustarnik 'shrubbery', trava 'grass'	119	8.0
Enclosures	ograda 'hedge', pleten' 'hurdle', štaketnik 'fencing', zabor 'fence'	99	6.6
Supports	cokol' 'socle', nožki 'legs', stolb 'post'	33	2.2
Furniture and appliances	divan 'sofa', prilavok 'counter', stol 'table', taburet 'stool'	28	1.9
Interior	komnata 'room', pomeščenie 'premises', zal 'sitting-room'	19	1.3
Clothing	botinki 'boots', sapogi 'jackboots'	18	1.2
Body parts	lico 'face', lob 'forehead'	12	0.8
Monuments	obelisk 'obelisk', pamjatnik 'monument', postament 'pedestal'	11	0.7
Containers	bidon 'can', bočka 'barrel', kotelok 'pot', vanna 'bath'	9	0.6
Animals	kon' 'horse', kulik 'stint', lošad' 'horse'	7	0.5
Opening	vxod 'entrance'	1	0.1
Vehicles	mačta 'mast'	1	0.1
Other	svečka 'candle', vors 'nap'	3	0.2

Table 8.7. Referents of *nevysokij* in the RNC

At the same time, there are two obvious differences between the distribution of referent categories of *vysokij* high/tall' and *nevysokij* 'not.high' in the corpus. Firstly, humans are even more frequent referents of *nevysokij* 'not.high' as compared to *vysokij* 'high/tall'.[19] This can be explained by the fact that *vysokij* 'high/tall' is the only adjective denoting bigger-than-average vertical extent, whereas the smaller subscale can be named by two co-extensive terms. One of these sub terms – *nevysokij*

[19] This finding is counter to the claim made in the *New Explanatory Dictionary of Russian Synonyms* (Apresjan 2004: 636) that the central uses of *nevysokij* 'not.high' are descriptions of inanimate objects such as fences and trees.

'not.high' – obviously has human referents as its "specialty". *Nizkij* 'low/short', in its turn, seems to take over some other referent categories, such as pieces of furniture. The proportion of human referents for *vysokij* 'high/tall' is smaller, since when it comes to the designation of the upper subscale, *vysokij* 'high/tall' covers referents of both *nevysokij* 'not.high' and *nizkij* 'low/short' (note, for instance, the higher percentages for *vysokij* 'high/tall' as compared to *nevysokij* 'not.high' with regard to the category FURNITURE AND APPLIANCES).

Secondly, eminences (mountains, hills, waterfalls) are the second most frequent group for *nevysokij* 'not.high', and only the fifth for *vysokij* 'high/tall'. This difference can be accounted for by the fact that natural elevations are prototypically high entities. Therefore, modification by *vysokij* 'high/tall' is, in a sense, redundant for this category. Conversely, it is not redundant to use *nevysokij* 'not.high' with reference to these prototypically high entities, if their height incidentally falls short of some expected standard. Note also that on the elicitation test, the frequency of this referent category for *vysokij* 'high/tall' was somewhat higher than in the corpus (8.8% *vs.* 7.4%). Similar results were reported by Vogel (2004). She noticed that entities known as prototypes of tallness were more frequently elicited by means of the questionnaire than attested in the corpus. This is evidence that objects considered to be prototypically high/tall are less likely to be dubbed 'high' due to the redundancy of this modification.[20]

Now, we can compare the results of the corpus study with the referents elicited by means of the Survey. Table 8.8 shows that the four most frequent referent categories elicited for *nevysokij* 'not.high' (humans, eminences, constructions, and vegetation) are the same as the referent categories of this adjective attested in the RNC, though ordered in a slightly different way. And, what is even more interesting, the same four types of referents were elicited for *vysokij* 'high/tall' (constructions, humans, vegetation, and eminences). These findings clearly indicate that *nevysokij* 'not.high' inherits its "best" referents from *vysokij* 'high/tall'. Furthermore, given the overall frequency of human referents, *nevysokij* 'not.high' probably also inherits the orientation of *vysokij* 'high/tall' to EGO. One manifestation of orientation to human(-like) verticality is that more than a half of all uses of *nevysokij* 'not.high' in the corpus and 28.6% of the referents elicited by the Survey are descriptions of human height (in 68% of these cases human referents were given as a first choice, i.e. elicited under *a*). Secondly, category expansion proceeds along the

[20] Similarly, other prototypically high objects, such skyscrapers and giraffes, are rare head-nouns of *vysokij* 'high/tall' in the RNC. There are only two combinations of this adjective with the noun *neboskreb* 'skyscraper' and one instance with *žiraf* 'giraffe'.

lines indicated by Dirven & Taylor (1988) for *tall*, in the sense that the most frequent referent categories after human beings – vegetation and buildings – possess the basic properties of human-like verticality, namely dynamic growth, prominence of the vertical dimension, and standing out from the background. Thirdly, there is a considerable homogeneity among the most prominent referent types of *nevysokij* 'not.high' both in the corpus and in the Survey as to the height vis-à-vis EGO. In other words, the four most frequent referent categories of *nevysokij* 'not.high' are predominantly constituted by referents that are as tall as or taller than human beings. Table 8.9 presents the frequencies of referents that are as tall as or taller than human beings for the four most frequent referent categories in the corpus and in the Survey (frequencies are percentages).

Referent categories	**Examples**	**Tokens**	**%**
Human beings	čelovek 'human', devuška 'girl', mužčina 'man', paren' 'lad'	67	33.5
Constructions	bašnja 'tower', dom 'house', zdanie 'building'	52	26
Vegetation	bereza 'birch', derevo 'tree', dub 'oak-tree', kust 'bush', trava 'grass'	42	21
Eminences	gora 'mountain', xolm 'hill'	12	6
Enclosures	ograda 'hedge', pregrada 'bar', zabor 'fence'	9	4.5
Furniture and appliances	skamejka 'bench', stul 'chair', tumbočka 'bedside table'	6	3
Supports	stolb 'post'	3	1.5
Animals	kon' 'horse', žiraf 'giraffe'	2	1
Clothing	kabluk 'heel'	2	1
Openings	dver' 'door'	2	1
Body parts	lob 'forehead'	1	0.5
Monuments	skul'ptura 'sculpture'	1	0.5
Interior	---	0	0
Vehicles	---	0	0
Containers	---	0	0
Other	ob"ekt 'object'	1	0.5

Table 8.8. Referents of *nevysokij* in the Survey

Categories	**Corpus**	**Survey**
Human beings	100	100
Eminences	91	100
Constructions	91	100
Vegetation	63	76

Table 8.9. Referents of *nevysokij* as tall as or taller than EGO

As shown in Table 8.9, the vast majority of the entities constituting the four prominent referent categories of *nevysokij* 'not.high' in the corpus and in the Survey are as tall as or taller than human beings. In the next subsection, I will show that this homogeneity exhibited by the referents of *nevysokij* 'not.high' vis-à-vis human height is crucial to the distinction between *nevysokij* 'not.high' and its near-synonym *nizkij* 'low/short'.

8.4.3.2. *Nizkij.* The distribution of referent categories of *nizkij* 'low/short' in the corpus is presented in Table 8.10.

Referent categories	**Examples**	**Tokens**	**%**
Furniture and appliances	divan 'sofa', kreslo 'armchair', krovat' 'bed', skamejka 'bench', stol 'table'	262	25.1
Constructions	dom 'house', fligel' 'outbuilding', izba 'peasant's hut', svod 'vault'	198	18.9
Vegetation	derevo 'tree', kust 'bush', kustarnik 'shrubbery', rastenie 'plant', trava 'grass'	110	10.5
Enclosures	bordjur 'kerb', ograda 'hedge', štaketnik 'fencing', zabor 'fence'	93	8.9
Interior	komnata 'room', koridor 'corridor', pomeščenie 'premises', zal 'sitting-room'	85	8.1
Body parts	lico 'face', lob 'forehead', šeja 'neck', zatylok 'back of the head'	64	6.1
Human beings	čelovek 'human', rost 'stature', staruška 'old woman'	56	5.4
Openings	dver' 'door', okno 'window', projem 'opening', vxod 'entrance'	55	5.3
Eminences	gora 'mountain', mys 'cape', pereval 'pass', xolm 'hill'	32	3.1
Clothing	kabluk 'heel', sapogi 'jackboots', šljapa 'hat', tufli 'shoes'	27	2.6
Vehicles	barža 'barge', mašina 'car', sudno 'vessel', tank 'tank', telega 'cart'	22	2.1
Containers	cvetočnica 'flower-pot', jaščik 'box', kadka 'tub', tarelka 'plate'	17	1.6
Supports	nožki 'legs', opora 'support', platforma 'platform'	13	1.2
Animals	kljača 'jade', lisica 'fox	2	0.2
Monuments	---	0	0
Other	bukva 'letter', krest 'cross', pružina 'spring'	9	0.9

Table 8.10. Referents of *nizkij* in the RNC

Notice that the most frequently occurring referents of *nizkij* 'low/short' in the RNC are pieces of furniture and appliances. This category is at the same time one of the infrequent groups for both *vysokij* 'high/tall' and *nevysokij* 'not.high'. This finding is in line with Rakhilina's (2000) claim that *nizkij* 'low/short' is more likely than the other adjectives to profile vertical position of the functional top, rather than the vertical extent as such. It is also remarkable that only in 5.4% of the cases *nizkij* 'low/short' is used with reference to human beings, this category being one of the minor groups along with openings, eminences, clothing, vehicles, containers, and supports. Now compare these results with the referents elicited by means of the Survey; see Table 8.11.

Referent categories	**Examples**	**Tokens**	**%**
Human beings	devuška 'girl', mal'čik 'boy', rost 'stature'	50	33.5
Vegetation	derevo 'tree', kust 'bush', trava 'grass'	30	20.1
Furniture and appliances	krovat' 'bed', skamejka 'bench', stol 'table', taburet 'stool'	27	18.1
Constructions	dom 'house', lestnica 'staircase', most 'bridge'	22	14.8
Enclosures	zabor 'fence'	8	5.4
Supports	penek 'stump', stolb 'post'	3	2
Openings	dver' 'door', proxod 'passage'	3	2
Eminences	ovrag 'ravine', xolm 'hill'	2	1.3
Clothing	kabluk 'heel'	1	0.7
Animals	koška 'cat'	1	0.7
Interior	podval 'cellar'	1	0.7
Vehicles	avtomobil' 'automobile'	1	0.7
Containers	---	0	0
Monuments	---	0	0
Body parts	---	0	0

Table 8.11. Referents of *nizkij* in the Survey

In light of the corpus data, the finding that strikes us most in the Survey is that by far the most frequent referent category of *nizkij* 'low/short' elicited by means of Task 1 are human beings, the category that was one of the most infrequent in the corpus. On closer scrutiny, we notice that in almost a half of the cases the elicited noun in this category was *čelovek* 'man'. See Table 8.12; frequencies are absolute numbers.

Nouns	Frequency
čelovek 'man/human being'	23
rost 'stature'	22
devuška 'girl'	1
karlik 'dwarf'	1
mal'čik 'boy'	1
rebenok 'child'	1
tetja 'aunt, woman'	1

Table 8.12. Head-nouns of *nizkij* denoting human beings (Survey, Task 1)

The problem with the AN-combination *nizkij čelovek* 'low man' is that it can refer both to height and, metaphorically, to indecency. It is, then, difficult to interpret the results as to whether the subjects meant the dimensional or the metaphorical sense of this phrase. My own intuition was that *nizkij čelovek* 'low man' is more likely to be used metaphorically than to describe the vertical dimension of a human being. In the latter case, you are more likely to use the combination *čelovek nizkogo rosta* 'man of low stature' or the diminutive form of *nizkij – nizen'kij*.

A pilot study with Russian speaking informants did not really clarify the results. About half of the informants said that *nizkij čelovek* 'low person' can mean only that a person is indecent; others insisted that the expression denoted the small height of a person and that the metaphorical reading was more likely to come about in combination with the noun *postupok* 'deed'. To get more precise results, I conducted a small follow-up study examining the distribution of interpretations of the phrase *nizkij čelovek* 'low person'. The subjects – 48 undergraduates of the Department of Romance and Germanic Linguistics at Kemerovo State University (42 females and 6 males) – were asked to define in writing the meaning of the phrase *nizkij čelovek* 'low person', mentioning the most prominent reading, if there were more than one, in the first place. The results of this study are presented in Table 8.13; frequencies are percentages.

Meanings	Frequency
metaphorical	52.1
dimensional	18.8
1. dimensional; 2. metaphorical	18.8
1. metaphorical; 2. dimensional	10.4

Table 8.13. Interpretations of *nizkij čelovek*

Table 8.13 clearly shows that more than a half of the respondents came up solely with the metaphorical interpretation of the phrase. In addition, another 10.4% of the subjects indicated that the metaphorical interpretation, though not the only one, is more salient than the dimensional reading. Although a number of subjects understood the expression exclusively or primarily in the dimensional sense, these responses were by far less frequent than the metaphorical interpretations elicited from the subjects. Thus, the experimental hypothesis that the AN-combination *nizkij čelovek* 'low man' is more likely to be used metaphorically than literally received strong support.

Therefore, it is very plausible to think that the high frequency of human referents elicited on Task 1 of the Survey was due to the mixture of metaphorical and dimensional uses.[21] Thus, when it comes to dimensional uses only, we can probably reduce the frequency of the human referents provided by the respondents of the Survey, at least, by half. This finding is consistent with the results of the corpus study. Observe that the low frequency of human referents in the corpus was primarily motivated by the fact that for the purposes of the present study all metaphorical uses of *nizkij* 'low/short' were excluded from consideration.

Another important finding is the relative heterogeneity of the referents of *nizkij* 'low/short' as compared to *nevysokij* 'not.high'. For instance, both in the corpus and in the Survey, *nizkij* 'low/short' exhibits a more even distribution of referent categories (note the greater number of groups with similar percentages). This is different from *nevysokij* 'not.high' where humans constitute more than a half of the referents in the corpus and are also the most frequent group elicited in the Survey. For *nizkij* 'low/short', we do not see such an obviously predominant group, after the high frequency of human referents in the Survey was discarded as a combination of different readings. There is also less uniformity, as compared to *nevysokij* 'not.high', with respect to the distribution of reference values vis-à-vis EGO. As explained in Section 8.4.3.1, the most prominent referent categories of *nevysokij* 'not.high' are almost exclusively as tall as or taller than human beings (see Table 8.9). The most frequent referents of *nizkij* 'low/short' in the corpus and in the Survey are a lot more versatile in this respect. See Table 8.14; frequencies are percentages of referents that are shorter than EGO.

[21] Another factor could be that on tasks of this sort subjects are *a priori* prone to mention human beings, due to anthropocentricity of our cognition.

Categories	Corpus	Survey
Furniture and appliances	100	100
Constructions	4	9
Vegetation	83	53

Table 8.14. Referents of *nizkij* shorter than EGO

Table 8.14 shows that in the case of *nizkij* 'low/short', there is greater variation between the three most prominent referent categories as to whether the referents constituting these categories are taller or shorter than EGO. So, the pieces of furniture dubbed *nizkij* 'low/short' in the RNC and in the Survey are all shorter than humans. The vast majority of constructions are taller than EGO. And the referents constituting the category VEGETATION display even within-category variation as to the height vis-à-vis EGO, in the sense that the majority of referents in the corpus are shorter than humans, whereas in the Survey, it is only a half of all elicited referents. Thus, *nevysokij* 'not.high' is more uniform in its combinability with nouns denoting entities co-extensive with or taller than human beings, whereas *nizkij* 'low/short' displays more variation in this respect.

8.4.4. Conclusion: vantage configurations

In light of the present data and inspired by the results reported in Taylor (2003), I would like to suggest that *nevysokij* 'not.high' and *nizkij* 'low/short' present two views on the lower subscale of height. *Nizkij* 'low/short' names the dominant vantage. It has a higher overall frequency (see Table 1.2), including numerous positional uses and metaphorical extensions (cf. *high*). It does not seem to profile any specific kind of verticality and is therefore applicable to a broad range of referents, including human beings and very high entities (e.g. constructions are the second most frequent referent category in the corpus and the fourth in the Survey).

In contrast, *nevysokij* 'not.high' names the recessive vantage having human verticality as a fixed reference point. Thus, by far the largest group of its referents in the RNC and in the Survey are human beings. Entities that share relevant spatial properties (salience of the vertical dimension, dynamic growth, and standing out from the background) with human beings and entities co-extensive with or taller than human beings are much more likely to be dubbed *nevysokij* 'not.high' than other topological types of referents. Due to emphasis on difference typical of recessive vantages, this adjective has a much lower overall frequency than *nizkij* 'low/short' (see Table 1.2). Positional uses and metaphorical extensions are also

less frequent (cf. *tall*).[22] The cognitive constitution of the two coextensive vantages is graphically represented in Figure 8.3.

NIZKIJ	**Dominant vantage**			**Recessive vantage**		**NEVYSOKIJ**
Entailments	Fixed	Mobile	L	Fixed	Mobile	Entailments
VE, range	VE	S	1	HV	D	HV, margin
broad, even	S	HV	2	D	VE	narrow, skewed
many extensions, margin	HV	D	3	VE	S	few extensions, range

Figure 8.3. Vantages on the LOW subscale, VE – vertical extent, HV – human verticality

In view of the remarkable overlap between the prominent referent categories of *vysokij* 'high/tall' and *nevysokij* 'not.high' and given the orientation of both adjectives to EGO (see Section 8.4.2), it is plausible to think that *nevysokij* 'not.high' inherits its orientation to human height from *vysokij* 'high/tall', the term it is morphologically derived from. Put another way, the results strongly suggest that nouns denoting entities that we normally think of as being intrinsically tall, such as human beings, trees, and buildings, are the best candidates for modification by *nevysokij* 'not.high', in case their actual height incidentally falls below the expected value. Conversely, entities that are usually lower than human height are less likely to be called *vysokij* 'high/tall', and, as a consequence, also less likely to be dubbed *nevysokij* 'not.high'. The entities of the latter kind are, as it were, intrinsically low and are therefore much more felicitous with *nizkij* 'low/short'.[23]

In more general terms, it can be concluded that morphologically related opposites, though reversing the scale associated with their source-term, are very likely to borrow its salient reference-points and restrictions on combinability. Conversely, lexical opposites have their own salient reference points (bottom/ground for *nizkij* 'low/short'[24]) and construe the property on the lower subscale as intrinsic to the referent of their head-noun. It is for this reason that Lyons (1977, II: 277) treats

[22] For instance, positional uses of *nizkij* 'low/short' in the Survey constituted 13% of all the answers; extended uses were elicited in 34% of cases. Note that for *nevysokij* 'not.high', the figures are 4% and 18%, respectively. This difference was also attested in the RNC.

[23] Notice a similar phenomenon with regard to another Russian triplet: *glubokij – neglubokij – melkij* 'deep – not.deep – shallow'. Only the sub term *neglubokij* 'not.deep' (cf. Du. *ondiep*) is likely to be employed to describe referents that belong to the category of intrinsically deep entities, but for some reason fall below the expected standard of depth. For instance, a precipice can be dubbed *neglubokij* 'not.deep', but not *melkij* 'shallow', since precipices are normally very deep entities (cf. Rakhilina 2000: 136).

[24] As mentioned in Chapter 7, the adjective *nizkij* 'low/short' is morphologically derived from the noun *niz* 'bottom'.

only morphologically unrelated antonyms as full lexicalisations of polarised contrasts.

The findings reported above also suggest that the vertical dimension, by virtue of being primary and canonical for human beings, receives overall primacy even if the described entities are non-human (Clark 1973; Kravchenko 1993, cf. "verticality schema" in Johnson 1987). This prediction receives psycholinguistic support from the study reported in Moreno et al. (1999), which has shown that the vertical dimension usually dominates over other extensions in adult language. It is always named first and adults make significantly fewer mistakes on this dimension than on LENGTH, WIDTH, THICKNESS and DEPTH. Likewise, Sena & Smith (1990) found that when adults need to express marked contrast, they much more often use *tall* than any other spatial adjective.

Similarly, Carroll & Becker (1993) found that in second language acquisition spatial terms naming the vertical dimension appear before terms for lateral and transversal axes (but cf. Schenning & Van Hout 1994). In the same vein, Cox & Ryder Richardson (1985) demonstrated that spatial prepositions for the vertical dimension appear in child language before the terms for the horizontal-frontal and horizontal-lateral axes.

Further, numerous developmental studies suggest that children between 3 and 5 years of age use the adjectives *big* and *little* for objects with the greatest vertical extent, i.e. they interpret *big* as 'tall' and *little* as 'short' (Coley & Gelman 1989; Goede 1989; Harris & Folsch 1985; Harris et al. 1986; Lumsden & Poteat 1968; Maratsos 1973, 1974; Ravn & Gelman 1984; Sena & Smith 1990, cf. Šlenkina 2000). For example, Lumsden & Poteat (1968) found that five- and six-year-old children tend to choose the taller object as the "bigger" one, even if the surface area of the shorter object is noticeably larger.[25]

In a similar fashion, in the experiment reported in Ravn & Gelman (1984), the subjects eagerly labelled objects having different height and equal width as *big* and *little*, but refused to do so when the direction of difference was horizontal rather than vertical. Put another way, children are reluctant to call two objects *big* and *little*, respectively, when they have equal height and only differ in width or some other non-vertical dimension.

Harris & Folsch (1985) replicated these results for English and Spanish, even though Spanish does not distinguish between 'high' and 'tall' and uses *alto* for both.

[25] As shown by Maratsos (1973) and Sena & Smith (1990), this result is not due to an inability to judge area, since children consistently use an object with the largest area when asked to choose the *heavy* one.

Harris & Folsch conclude that this error is related to the increasing cognitive salience of the vertical dimension.

In the same vein, Harris et al. (1986) showed that those English children who understood the meaning of *tall* were particularly likely to use *big* for objects with the biggest vertical extent. And, what is even more interesting, they found that even Dutch children make the same error, even though Dutch does not have a word like *tall* and uses the adjective *lang* 'long' to describe vertical size of human beings. Harris and colleagues suggest that the reason for this error could be the fact that people would often describe the height of tall people using either *lang* 'long' or *groot* 'big', from which children conclude that both adjectives denote the extent from top to bottom. The same goes for the English *tall* and *big*.

Sena & Smith (1990) report that when extreme differences in size are used, the curvilinear trend disappears. Put another way, both younger children and even adults interpret *big* as 'tall' when test objects display *considerable* differences in size. This result shows that verticality-based interpretation of *big* is not restricted to a single developmental moment.

Coley & Gelman (1989) found that two factors – object orientation and object type – have clear effects on the consistency of making judgments about 'bigness' on the basis of the vertical extent. So, the subjects were more likely to rely on height when the objects were positioned vertically, than when they were lying. And, what is more interesting for the present discussion, three-year-olds relied on the vertical extent more often when judging the size of people than of brownies and rectangles. This result suggests that the primacy of the vertical extent in our spatial cognition is likely to be motivated by the fact that human beings are canonically vertical entities (cf. H. Clark 1973). Put another way, we probably associate canonical verticality primarily with the architecture of the human body.

What is more, in child-directed speech maturation is often presented as "getting big", so that growing tall and becoming mature (=big) are closely related concepts (Maratsos 1973). This renders non-human (but human-like!) dynamically growing entities, such as trees and buildings, good candidates for modification by adjectives such as *tall*, *vysokij* 'high/tall', and *nevysokij* 'not.high' (by virtue of CRP projection from *vysokij* 'high/tall').

8.5. Summary

This chapter has explored the role of EGO as a CRP for producing and interpreting utterances with dimensional adjectives. Two case studies reported here have shown that EGO is crucial to explaining the differences between the near-synonymous ad-

jectives *tall* and *high* in English, and *nevysokij* 'not.high' and *nizkij* 'low/short' in Russian. Following Taylor (2003) and MacLaury (2003), I have suggested that the two pairs are co-extensive rather than complementary (counter, for instance, to Durrell 1988; Rakhilina 2000; Sharoff 2006). One of the terms in these pairs – *high* and *nizkij* 'low/short' – names the dominant vantage. The dominant terms construe vertical extent in objective terms as intrinsic 'highness' and 'lowness', respectively. They are more frequent and quite equally distributed across different referent categories (including human beings) due to emphasis on similarity characteristic of the dominant vantage. Emphasis on similarity also gives rise to a lot of positional and metaphorical uses of these words.

The terms naming the recessive vantage – *tall* and *nevysokij* 'not.high' – construe verticality in a very specific, human-like way. In other words, the fixed reference-point of this vantage is the vertical extent of the kind exhibited in human beings. These terms are less frequent; they are quite resistant to extended uses, and have either no (in the case of *tall*) or very few (in the case of *nevysokij* 'not.high') positional uses. The recessive vantage has a skewed distribution, in the sense that the vast majority of referents of *tall* and *nevysokij* 'not.high' are human-beings. Vantage expansion proceeds along the lines of spatial similarity with EGO, i.e. nouns denoting entities that, like humans, grow upwards, have support on the ground, and stand out from the background by virtue of their vertical dimension are good candidates for modification by *tall* and *nevysokij* 'not.high'.

The difference between the two recessive terms considered here is that *tall* is morphologically simple and *nevysokij* 'not.high' is morphologically related to its supra counterpart *vysokij* 'high/tall'. The corpus data and the results of the Survey suggest that *nevysokij* 'not.high' inherits its orientation to EGO from *vysokij* 'high/tall'. These findings offer a strong support to the hypothesis developed in the field of language acquisition that people associate the vertical dimension primarily with the architecture of their bodies, which renders verticality a primary spatial dimension in our anthropocentric worldview.

Chapter 9. Prototypicality of dimensional adjectives

Hanuman is one of the greatest embodiments of strength, speed, agility, learning and selfless service to Lord Rama. He could fly at the speed of wind, uproot mountains and trees assume any size and shape at will and make himself invisible. In battlefield he was a terrifying figure, as colossus as a mountain, as tall as a tower and ever invincible. His face is red like ruby, his yellow skin and coat shines like molten gold and his mighty tail is of immense length.

Manpreet

9.1. Introduction

As a starting point for discussion, I will use Kamp & Partee's (1995) claim that the only substantial difference between colour terms such as *red* and dimensional adjectives such as *tall* is prototypicality of the former and non-prototypicality of the latter. In Kamp & Partee's words:

> As an example of a prototype-free vague concept we have given *tall*. Over *tall*'s vagueness there can hardly be any argument. We also think it is quite clear that *tall* has no prototype. This has to do with the fact that it can be applied to an indefinite variety of things and with the circumstance that there is in general no natural upper bound to how tall things can be. Other unbounded scalar concepts, such as *heavy, big, wide*, etc. also belong to this type (Kamp & Partee 1995: 176).

I argue that the semantic analysis of *tall* along the lines suggested in Kamp & Partee (1995) is grossly inadequate. Firstly, as shown in Chapter 7, the assumption that dimensional adjectives are unbounded terms is not as uncontroversial as it is often presented. Adjectival meanings interact with the meanings of their head-nouns; and this interaction results in the establishment of categorical boundaries. Secondly, as demonstrated in Chapter 8, *tall* cannot be "applied to an indefinite variety of things", since it has as its salient reference point a very specific kind of verticality, the one exhibited by human beings.

In this chapter, I will critically assess the third and central part of the above claim that dimensional adjectives such as *tall, big*, and *wide* are prototype-free. I will suggest that prototypicality is not a matter of yes-or-no distinction. Rather, it is a matter of degree. Geeraerts et al. (1994) term this phenomenon *prototypicality of "prototypicality"*, thereby emphasising that "some concepts are more typically prototypical than others, in the sense that they exhibit more of the 'prototypical' characteristics" (Geeraerts et al. 1994: 54). Dimensional adjectives are to a lesser degree ori-

ented to prototypes than, for example, colour terms.[1] Furthermore, as noticed by Taylor (2003), prototypical redness can be represented without reference to entities displaying this colour, whereas we cannot "conceptualise 'prototypical tallness', or 'focal tallness', without at the same time picturing a tall kind of entity" (Taylor 2003: 279). However, the fact that prototypical TALLNESS does not exist by itself and is always contingent on the entity exhibiting this property does not mean that prototypes of TALLNESS do not exist. This entity-dependence simply shows that dimensional adjectives display greater relativity than colour terms (see Section 5.4.1).

A number of studies of dimensional adjectives have demonstrated that there *are* prototypical instantiations of TALLNESS. For instance, towers, trees, and houses were shown to be prototypically tall entities (i.e. best exemplars of TALLNESS), just like blood was shown to be a prototypical instantiation of REDNESS. What is even more interesting, some of these prototypes were shown to be largely uniform across different languages (Dirven & Taylor 1988; Goy 2002; Rakhilina 2000; Taylor 2003; Tribushinina 2006a; Vogel 2004; Weydt & Schlieben-Lange 1998).

I hypothesise that if, counter to Kamp & Partee (1995), dimensional adjectives are prototype-oriented terms, then we should be able to find prototypicality effects, first of all, in the acquisition of these words by children (Rosch 1971). Furthermore, the same prototypes should constitute the semantic core of dimensional adjectives in adult language use.

With these considerations in mind, this chapter sets out to more systematically examine the role of prototypes in the semantics and acquisition of dimensional adjectives. In Section 9.2, I deal with developmental data revealing prototype effects in the domain of dimensional adjectives. In Section 9.3, I analyse instances of prototype-related uses in the adult corpora. After that, I compare the findings from the corpus study with the results of the Survey (Section 9.4). In Section 9.5, I briefly consider dimensional adjectives containing explicit reference to prototypes. In Section 9.6, I summarise the results and present conclusions from this study.

9.2. Acquisition of dimensional adjectives

9.2.1. Categorical learning

It has been shown on several occasions that young children use dimensional adjectives categorically, in the sense that they apply these terms to label a restricted subset within a series. Put another way, objects are divided into two categories – 'big'

[1] Colour terms, in their turn, were shown to be less prototypical than the concepts BIRD and FRUIT (Geeraerts et al. 1994).

and 'little'. Younger children usually define disjoint categories, i.e. only extremely big objects (prototypes of BIGNESS), such as elephants, are labelled *big*, and only extremely small entities (prototypes of SMALLNESS), such as mice, are dubbed *little*. Objects between the two extremes are said to be neither big, nor little (Clark 1970b, 1973; Ryalls 2000; Ryalls & Smith 2000; Sera & Smith 1987; Smith et al. 1986; Smith et al. 1988).

Older children – around the age of four – extend the categories to include less extreme sizes and define them on the either-or basis: all sizes up to a certain medium point are big; all sizes that fall below that point are little.[2] Therefore, if an object belongs to the category 'big', it cannot be called *little*. Furthermore, the nature of the object is not taken into account. Thus, an elephant will always be big, and a duck, even if it is much bigger than an average duck will not be called 'big', since it belongs to the category of small animals. In this way, it is argued, categorical uses of dimensional adjectives (also known as *nominal*) are different from relativistic uses in adult speech, where an object can be dubbed *big* with respect to one comparison class and *little* with respect to another comparison class.

It is important to mention that the difficulties children experience with extending dimensional categories from prototypically big (or small) entities to whole subscales and, later, to whole dimensions is not something we find only in child language. As explained in Chapter 7, adults make comparative judgements involving scalar adjectives more rapidly if both entities under comparison are on the same subscale vis-à-vis the cognitive zero. What is more, the closer the objects are to the pole specified by the adjective (i.e. the greater their prototypicality), the easier it is to make comparative judgments. For example, it takes people significantly less time to answer which of the two big animals (e.g. an elephant or a hippopotamus) is bigger, than to decide which of the two small animals (e.g. a cat or a rabbit) is bigger. As has been experimentally shown on numerous occasions, we tend to compare the objects to the polar anchor specified by the comparative adjective (MAX for *higher* and MIN for *lower*) rather than to compare the objects with each other. This phenomenon, known as the *semantic congruity effect*, was reported with respect to numerous quantitative dimensions, both perceptual and non-perceptual (Audley & Wallis 1964; Banks & Root 1979; Holyoak 1978; Holyoak & Mah 1982; Jamieson & Petrusic 1975; Šetić & Domijan 2007; Shipley et al. 1945; Woocher et al. 1978).

[2] Young children also find it difficult to understand that terms like *higher* and *lower* may be used not only for high and low objects, respectively. This has to do with the disjoint categorical treatment of dimensional categories early in cognitive development. Thus, children cannot judge which of the two low objects is higher for the same reason adults cannot judge "which of two different red objects is *greener*" (Smith et al. 1988: 350-1).

Thus, as suggested by Smith et al. (1988), "children's initial treatment of opposing terms as separate may reflect some fundamental fact about human cognition since such treatment appears both developmentally primitive and, in adults, computationally simple" (Smith et al. 1988: 356).

It is noteworthy that adults also use dimensional adjectives "nominally", though not as frequently as children. Sera & Smith (1987) notice, for instance, that people could refuse to call a Great Dane *little* (even if that particular dog was smaller than an average Great Dane) because these dogs are big in categorical terms. Similarly, as noticed by Yoneoka (1992), giraffes are often called *tall* not because they are taller than their average conspecifics, but by virtue of being a prototypically tall animal.

Ryalls & Smith (2000) provide experimental evidence suggesting that categorisation in the domain of scalar adjectives is not restricted to child language. They report that 84% of their adult subjects who learnt novel dimensional adjectives also formed categories. More precisely, the categories were formed either just before or concurrently with learning the adjectives. Categorisation was a natural consequence of learning dimensional terms, regardless of how they were learnt: *if* they were learnt, categories were also formed. Ryalls & Smith also found that the ease of acquisition of relative adjectives depends on the relative frequency with which a particular adjective is used with reference to a particular noun (e.g. mountains are more often called 'high' than 'low'). Thus, endpoints are most often labelled by one term and because of this "become the 'best exemplar' for a term, and thus a 'reference point' of sorts" (Ryalls & Smith 2000: 284).

In a similar vein, Carey (1978) claims that children first learn particular objects to which a spatial adjective can apply. For example, they may know that *tall* is used to describe buildings and people. By this view, piecemeal learning of specific exemplars could "provide the basis for abstraction of common features within the uses of a word as well as for the contrasts with other words in the domain" (Carey 1978: 287).

Carey's claim is counter to the famous Semantic Feature Hypothesis (E. Clark 1973; H. Clark 1973), which suggests that children learn dimensional adjectives by addition of specific semantic features, such as [-Pol], [+Dimension(3)], [+Vertical Extent], etc. Following Postal (1966) and Bierwisch (1967), The Semantic Feature Hypothesis assumes that there is a universal set of semantic primitives, and that languages differ primarily in the rules for combining semantic features into lexical entries. E. Clark (1973) and H. Clark (1973) argue that the universal semantic features derive from the universal perceptual experiences, so that the earliest semantic features stem from the earliest perceptual features. Cognitive and linguistic devel-

opment, it is argued, proceed by attaching more specific features to more general ones. So, children begin by using dimensional adjectives *big* and *little* (*wee*), since these are the most general dimensional terms that do not yet require discrimination of various dimensional axes (cf. Goede 1989). And only later, when more specific features are added, they will acquire more specialised dimensional adjectives, such as *tall*, *long, fat*, etc.

An important prediction of the Semantic Feature Hypothesis is that once the specific features constituting the lexical entry *tall* are acquired, the child will correctly use the adjective with respect to *all* referents that meet the relevant spatial requirements. However, as shown by Carey (1978), children's performance on AN-combinations is dominated by lexically specific patterns, in the sense that children can apply the adjective correctly speaking about towers, and switch to another, more general term, when it comes to another referent.[3]

A compelling piece of evidence in favour of Carey's approach is provided by Keil & Carroll (1980). In an experimental study, they showed children aged three to six years old pictures of three objects that were identical except for differences in size and asked them which of the objects was the *tallest*. The subjects consistently gave correct answers for some particular referents and erred on other objects. What is even more interesting, their decision changed if the same objects received new names. For instance, many children made correct responses if the objects were labelled *houses*, but made mistakes if *the same objects* got a new label, such as *arrow*. These findings convincingly demonstrate that children learn dimensional adjectives *not* by adding semantic features to the lexical entry, but by a "progression from idiosyncratic, object-bound attribution to an eventually universalized class-bound attribution" (Keil & Carroll 1980: 21).

In a similar vein, Harris et al. (1986) argue that early acquisition of spatial adjectives consists in learning haphazard exemplars of AN-combinations, in the sense that "children keep track of the range of objects to which an adjective such as *big* or *tall* has been applied" (Harris et al. 1986: 349).

The results reported in Carey (1978), Keil & Carroll (1980) and Harris et al. (1986) are largely consonant with the more recent view on language acquisition, according to which children start by rote-learning and later make generalisations over a number of prefab units they have stored, so that more abstract schemas emerge (Dąbrowska 2004; Dąbrowska & Lieven 2005; Lieven et al. 2003; Tomasello 2000, 2003). On this view, lexically specific units are "a ubiquitous fea-

[3] For other pitfalls of the Semantic Feature Hypothesis see Bartlett (1975), Bird (1984), Brewer & Stone (1975), Friedman & Seely (1976), McDonald (1976), Townsend (1976), and Weil & Altom (1978).

ture of early production, which strongly suggests that young children's knowledge may be described in lexically specific terms" (Dąbrowska 2004: 168).

It might be rewarding to compare the experimental results reported in Carey (1978) and Keil & Carroll (1980) with recordings of spontaneous speech available from the CHILDES database. If children indeed learn AN-combinations as ready-made units, then we should be able to trace the particular adjectival modifications employed by children in the parental input. Furthermore, if this hypothesis is right, the earliest uses of dimensional adjectives should apply only to a restricted number of head-nouns (thus, counter to the Semantic Feature Hypothesis). I am also hypothesising that the head-nouns which children acquire first are names of prototypical possessors of the property in question. I will test this hypothesis in the following subsection by analysing the use of *tall* in the child speech and in the adult input.

9.2.2. A case study: *tall* in child speech and child-directed speech

In this study, I used the data from two corpora in the CHILDES database − the Manchester Corpus (Theakston et al. 2001) and the Brown Corpus (Brown 1973). The Manchester Corpus comprises transcripts of audio recordings of twelve English speaking children – six boys and six girls (see Table 9.1). The recordings were made at home, for an hour twice in every three-week period for one year. At the beginning of the study the children's age range was 1;8-2;0.

Corpus	Children	Age range
Brown	Adam	2;3-5;2
	Eve	1;6-2;3
	Sarah	2;3-5;1
Manchester	Anne	1;10-2;9
	Aran	1;10-2;10
	Becky	2;0-2;11
	Carl	1;8-2;8
	Dominic	1;10-2;10
	Gail	1;11-2;11
	Joel	1;11-2;10
	John	1;11-2;10
	Liz	1;11-2;10
	Nicole	2;0-3;0
	Ruth	1;11-2;11
	Warren	1;10-2;9

Table 9.1. The CHILDES corpora

The Brown corpus consists of transcripts made in the course of a longitudinal study of three children learning American English (see Table 9.1). Adam was studied from 2;3 to 4;10, Eve from 1;6 to 2;3, and Sarah from 2;3 to 5;1. Eve left the study after 20 sessions because her parents moved from the Cambridge area.

Table 9.2 shows frequencies of *tall* in the child speech (CS) and in the child-directed speech (CDS). The Eve corpus does not contain any instances of *tall*, which could be accounted for by the fact that Eve left the study before the time children normally start using *tall* (2;6 on average in the present study) and by the absence of this word in the adult input (at least, in the recorded input). Further, no instances of *tall* were attested for three children in the Manchester Corpus (Joel, Nicole, and Ruth), although the word was attested in the speech of their adult caretakers.

Corpus	**Tokens in CS**	**Tokens in CDS**
Adam	22	12
Eve	0	0
Sarah	7	23
Anne	4	24
Aran	2	21
Becky	8	23
Carl	1	6
Dominic	1	9
Gail	6	14
Joel	0	2
John	1	7
Liz	4	10
Nicole	0	10
Ruth	0	16
Warren	12	46

Table 9.2. Frequencies of *tall* in the corpora

It is not surprising that *tall* is more frequent in the adult input than in the child speech, since most children were recorded at the time that they only start using *tall*. The only exception is Adam in whose speech the adjective is twice as frequent as in the speech of his parents (and other caretakers[4]). It should be noted, however, that Adam started producing *tall* only at the age of 3;0, i.e. the age that is not covered in the Manchester Corpus at all. Furthermore, as is evident from the figures in Appendix 4, he is the only child who repeatedly applied *tall* to entities that are not

[4] Investigators were also involved in conversations with the child.

dubbed *tall* in the available adult input.[5] This could be taken as evidence that Adam has already stored a critical mass of prefab units with *tall* and on their basis extracted a general schema with the applicability conditions of the adjective. Another reason could be, of course, that some relevant adult input was left out as a result of the discontinuous recordings.

All the attested head-nouns are listed per child in Appendix 4. What is especially interesting in these data is the striking uniformity of referent categories across the corpora. In other words, both adults and (therefore) children repeatedly apply *tall* to describe a fairly restricted set of entities, including people (in 10 out of 15 datasets), towers (10 out of 15), and giraffes (7 out of 15).[6] In most cases, if a child uses *tall* with regard to a particular entity more than thrice, then this entity is either a tower (Anne, Becky, Gail, Warren), or a person including the self (Adam, Sarah).[7] Table 9.3 shows cumulative frequencies of referents in the child speech and the child-directed speech. Only the referents that had non-zero frequency *in the child speech* are presented in the table. For the whole list of referents, including those present only in the adult input, see Appendix 4.

As is evident from Table 9.3, by far the most frequent referent categories of *tall* both in the child speech and in the child-directed speech are people and towers, followed by giraffes. Buildings, though as frequent as giraffes, were attested only in one corpus (Adam). Notice that the most frequently attested referents of *tall* display prototypicality effects in two different ways.

Towers and giraffes are prototypes of TALLNESS due to being extremely high (Dirven & Taylor 1988; Goy 2002; Vogel 2004; Weydt & Schlieben-Lange 1998, cf.

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[5] Note that Aran, Carl, John, Liz, and Warren also apply *tall* to referents missing in the available adult input, but it happens for each of them only once in the corpus, which could probably be ascribed to the discontinuous recording of the data. In contrast, Adam repeatedly applies *tall* to new entities, and even makes a mistake naming an arrow *tall*, rather than *long*. The ungrammatical AN-combination *tall arrow* was probably produced by Adam (4;10) himself, rather than picked up from the caretakers' input.

[6] Another relatively frequent referent category – bridge – was attested in 6 datasets. At first sight, this result is somewhat puzzling, since bridges are not usually thought of as extremely tall entities, i.e. bridges, unlike towers and giraffes can also be low. For instance, the subjects in the experiment reported in Dirven & Taylor (1988) found bridges a doubtful example of prototypical TALLNESS. Moreover, the subjects of another experiment reported in Dirven & Taylor (1988) found the AN-combination *tall bridge* unacceptable. In a similar vein, there is no single modification of *bridge* by *tall* in the BNC. The relative frequency of this referent in the CHILDES data could be ascribed to the fact that half of each session all children in the Manchester Corpus were playing with the experimenter's toys, including a train that had to go through a tunnel and under a bridge. The high salience of this referent could therefore be caused by its actual presence in the setting. For this reason, the children in the Brown Corpus who did not play with a toy train during the sessions applied *tall* to towers and giraffes, but not to bridges.

[7] Adam also uses *tall* four times to describe buildings. This referent was not attested in the other corpora.

Section 9.3.1.1). Put another way, even if a giraffe is shorter than its conspecifics, it is still very tall from the point of view of the human conceptualiser. I will term this phenomenon *prototypicality qua best exemplars*. The finding that towers and giraffes belong to the most frequent referent categories of *tall* early in development is in line with the results reported with regard to disjoint categorical learning of dimensional adjectives outlined in the previous subsection (Ryalls 2000; Ryalls & Smith 2000; Sera & Smith 1987; Smith et al. 1986; Smith et al. 1988).

Referents	**Tokens in CS**	**Tokens in CDS**
people	19	43
tower	18	65
giraffe	4	13
building	4	0
bridge	3	20
camel	2	1
castle	2	7
house	2	6
plant	2	1
tunnel	2	6
arrow	1	0
candlestick	1	0
car	1	0
elephant	1	1
gate	1	0
hat	1	1
Humpty-Dumpty	1	0
ladder	1	3
neck	1	2
shadow	1	3

Table 9.3. Referents of *tall* in the CHILDES corpora

Relatedly, Dirven & Taylor (1988) report results of an experimental study, in which English-speaking adults rated towers as prototypical instantiations of tallness. This finding offers evidence of prototypicality effects in the domain of dimensional adjectives, for, as predicted by prototype theory, prototypes are first acquired by children and *constitute the semantic core of a word in adults* (Rosch 1971).

It is also important to observe that towers are very rarely described by means of *tall* in adult speech that is not directed to children. For example, only in 66 cases out of 4,941 occurrences (i.e. 1.3%) in the British National Corpus *tall* is used to describe towers. This is probably related to the fact that towers are prototypically tall entities in the English worldview; thus tallness is an integral part of the concept 'tower'. In this sense, it is fairly redundant to describe towers by means of *tall* (cf.

Vogel 2004). However, when it comes to communication with children, speakers of English frequently use *tall* to describe towers. Tower-related uses constitute 65 out of 223 occurrences (35%) of *tall* in the CDS. This finding fosters the conclusion that parents (having the shared cultural knowledge of prototypically tall entities) purposefully use towers to explain the meaning of *tall* to their children.[8]

Now let us turn to another prominent referent category of *tall* in the child speech – human beings. The high frequency of human referents in the child corpora is not related to best exemplars, since people, unlike towers, are not extremely tall. However, as shown in Section 8.3.2, human beings are the most frequent referents of *tall* in the BNC. Likewise, the subjects of the experiment reported in Dirven & Taylor (1988) judged nouns denoting humans to be the most prototypical head-nouns of *tall*. This kind of prototypicality can therefore be termed *prototypicality qua head-nouns*.

Another factor motivating the frequent use of *tall* with reference to human beings (usually to parents, siblings, and the child herself), is that children usually dream of becoming adults, which is closely related to growing tall (=big).[9] Witness in this respect examples (1) and (2) from the CHILDES corpora and a similar example in (3) attested in the RNC:

(1) Child: I'm up to you # almost # look.
Mother: almost # yeah.
Child: because I'm gettin(g) tall as you.
Mother: mmhm. (sarah97.cha)

(2) Child: I getting bigger.
Ursula: you're really getting very tall # Adam.
Ursula: like you.
Ursula: like me # yes. (adam3389.cha)

(3) "Высо-окий!" – подумал Митя. – **Выше папы**!
high-(LF)SG.M.NOM thought-SG.M.PFV Mitja-NOM higher dad-GEN
(RNC)

'He is ta-a-ll!, Mitja thought. 'Taller than dad.'

It is important to note again that the high frequencies of prototypically tall entities in the child speech are directly related to their high frequencies in the adult input.

[8] These results were also replicated for the Dutch adjectives *groot* 'large', *hoog* 'high', and *lang* 'long' (Tribushinina 2008b).
[9] It is interesting to note that even the adult subjects of my Survey mentioned their elder brothers as models of TALLNESS.

In other words, adults explicitly teach the adjective *tall* to their children by applying it in the first place to extremely high objects and objects displaying human-like verticality, i.e. to prototypes of TALLNESS.

Note that the same strategy is often used in books for children, in the sense that these books present pictures of prototypical instantiations of the property to explain the meaning of dimensional adjectives to children. For instance, Nieker (2006) uses houses, trees, giraffes, buildings, skyscrapers, and people to illustrate the meaning of *tall*. Similarly, Nilsen (2002) teaches the meaning of *tall* through the pictures of a tower, a crane, and a giraffe. A giraffe is also used as a prototypical entity described by *vysokij* 'high/tall' (see, for instance, Krasnobaeva 2004). In a similar vein, 'big' is often illustrated by elephants (Krasnobaeva 2004; Nilsen 2002), 'small' by mice (Krasnobaeva 2004; Nilsen 2002), and 'fat' by a hippopotamus (Krasnobaeva 2004; Nilsen 2002).

Thus, the analysis presented above suggests that early in development children use the adjective *tall* either with respect to human beings (prototypical head-nouns) or with reference to extremely tall objects (best exemplars). Importantly, the same prototypes constitute the semantic core of *tall* in adult language (Dirven & Taylor 1988).

It is worth pointing out again that children use dimensional adjectives only with reference to a very restricted number of prototypical cases, *because they are explicitly or implicitly taught to do so*. The hypothesis that children learn their first AN-combinations simply as ready-made units, and not by decomposing the meaning of adjectives and nouns into semantic features, provides a plausible explanation of the fact that young language users often use dimensional adjectives correctly only when applied to several specific referents, but resort to the use of more general dimensional terms, such as *big* and *little*, when it comes to new entities (new in the sense of combinability with spatial adjectives). On this view, children need "time and/or a 'critical mass' of exemplars before they extract a general rule" (Dąbrowska 2004: 171).[10] This view can also explain why adults may fail to "discover all the regulari-

[10] A very interesting and convincing piece of evidence in favour of piecemeal learning of AN-combinations is the use of *tall* with respect to a neck in the Warren corpus. Warren produces the adjectival modification *tall neck* at the age of 2;8 (*Then I put a tall neck on*). This use is surprising, for necks are usually dubbed *long*, not *tall* (for example, there are no uses of *tall* with respect to necks in the BNC). At first glance, this can be taken as a case of over-extension in the sense that Warren has failed to extract the right schema yet. However, upon closer inspection, we notice that Warren did not devise this modification himself; rather he picked it up from the mother's input. The first instance of such input (followed by a self-correction) can be found at the time when Warren was 2;3 (Mother: *Let's make it an even taller necked Jolly. Longer necked Jolly I mean*). The other example of *tall neck* in the parental input immediately follows Warren's production of the

ties in the domain, never fully representing, for example, how *fat, wide,* and *thick* differ, although they know very well some paradigm cases of things that can be described by each of these terms" (Carey 1978: 288, cf. Rakhilina 2000: 128-34). Witness in this respect the following conversation between Brian MacWhinney, his wife, and their son Ross (6;10) extracted from the MacWhinney corpus in the CHILDES database:

(4)
Child: my teacher yesterday # she said that the snow might be two inches tall today.
Father: if you come here I'll tie your shoes Ross.
Mother: also notice he says tall instead of high.
Child: what?
Father: yeah tall right.
Father: two inches high or two inches tall?
Child: two inches high [!].
Father: or two inches deep.
Child: yeah.
Father: which one deep tall or high?
Child: high [!] I should of said.
Father: snow might be two inches high?
Child: mhm [= yes].
Father: okay.
Father: you know the right way to say it?
Child: what?
Father: deep.
Child: she said it high.
Father: well # you can say high sometimes but you never say tall.
Child: why not?
Father: because only a person is tall.
Father: or a building.
Father: something that is very thin.
Father: something that lays flat [!] # like grass [!].
Father: you can say grass is getting tall.
Father: or you can say [//] yeah you can say the grass is getting tall.
Child: I'm not flat.
Father: you could also say the grass is get / I mean.
Child: I'm not flat.
Father: you could say the grass is getting high you can't say the grass is tall!
Father: unless it's really [!] thin grass

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phrase, i.e. instead of correcting the child, Warren's mother encourages him by stating *Now that's a very tall neck, isn't it?*

Mother: yes you do!
Father: you really [//] it's really [!] thin grass.
Father: then it's tall.
Father: like you hafta thin tall grass?
Mother: you do [!] say the tall grass.
Mother: you do [!] say the tall grass.
Father: you do / you can say tall grass if it's like a foot tall.
Mother: yeah right.

This example is very illustrative for two reasons. Firstly, it shows that the child does not apply any rules (as the Semantic Feature Hypothesis would predict) and simply repeats the combination that his teacher used. Although at the beginning he confuses two terms denoting the vertical extent – *tall* and *high* – later he corrects himself by saying that snow might be *two inches high*. In reaction to his father's comment that *deep* should be used instead of *high*, Ross refuses to use a new label, for he simply repeats what he heard in the teacher's input.

Secondly, this example shows that even adults do not have ready-made "rules" for *all* applicability conditions of *all* spatial adjectives (again, counter to the Semantic Feature Hypothesis). Notice that the parents arrive at the "rule" for *tall* by going through particular AN-combinations with *tall* and checking their acceptability. For instance, the father rejects the acceptability of *The grass is getting tall* and concludes that grass can only be called *high*, not *tall*. The mother's comment that grass can be described by *tall* makes him reconsider his verdict. MacWhinney acknowledges that the combination *thin tall grass* is acceptable and from that he deduces that grass can be dubbed *tall* only if it is very thin. This example shows that neither children, nor adults have at their disposal a complete inventory of rules or semantic features governing the application of dimensional adjectives to different head-nouns. Although they *do* extract abstract schemas (for instance, MacWhinney immediately knew that *tall* is used for people and buildings because they are thin), these schemas do not have to be exhaustive. A lot of "rules" are lexically-specific and local, in the sense that we have simply learnt that a particular adjective can be felicitously combined with particular noun-heads. And the more prototypical these modifications are, the earlier they are learned and the more entrenched they remain.

Thus, the hypothesis based on the experimental results reported in Carey (1978) and Keil & Carroll (1980) received strong support from the extensive corpus data. Children, indeed, acquire dimensional adjectives through rote-learning of specific AN-combinations. What is more, this study has shown that early in development *tall* is overwhelmingly combined with its prototypical head-nouns and with nouns denoting best exemplars of tallness. It would be interesting to find out if nouns

denoting these prototypical referents from the child language (e.g. towers, giraffes, people) have some specific properties when combined with *tall* in non-elicited adult language. I will pursue this issue in the following section, where I will consider the data from the adult corpora.

9.3. Dimensional prototypes in the corpora

9.3.1. British National Corpus

9.3.1.1. *Tall.* The most conspicuous characteristics of nouns denoting prototypically tall objects is that they can be used in comparative constructions of the type *as tall as X*, some of which have become (nearly) idiomatic. Example (5) illustrates the point quite well:

(5) And even if I did have and had a mustard seed here, you still wouldn't be able to see it for a mustard seed is no bigger than a pin head. It's not quite the smallest of all the seeds, but nevertheless it's small enough to make a proverbial point like **tall as a house**, or **small as a mouse**, small as a grain of mustard seed. (BNC)

A house is, indeed, a very conspicuous prototype of TALLNESS attested in the BNC. Consider also the following examples:

(6) 'I shall be **as tall as a house** in a minute,' she said. She tried to look down at her feet, and could only just see them. 'Goodbye, feet!' she called. 'Who will put on your shoes now? Oh dear! What nonsense I'm talking!' Just then her head hit the ceiling of the room. She was now about three metres high. (BNC)

(7) 'It's difficult to describe,' Alice replied politely.' 'One minute I'm very small, the next minute I'm **as tall as a house**, then I'm small again. Usually, I stay the same all day, and changing so often feels very strange to me.' (BNC)

(8) Scott walked outside and looked up at the rocket. The rocket was **as tall as seven houses**. It was **as tall as seven houses**. This rocket was, this Scott said that that would take him to the moon. (BNC)

(9) For one inclusive price you can enjoy the thrills of the Astroglide (a six-lane slide that's **as tall as a house**), roller-coaster, Western train ride, adventure play area plus roundabouts specially for the very young. (BNC)

Another salient best exemplar of *tall* is a tower (cf. the developmental data in the preceding section). This prototype can be referred to by means of the verb *tower*, as in (10) and (11), the adverb *toweringly*, as in (12), or the participle *towering*, as in (13) and (14).

(10) Aplin's class was living proof of this. Three groups of 10-to-11 year olds sat at tables round the room, heads bent over balsawood boats, a paper merry-go-round, and magnetised bits of metal. A rather **taller head towered above the others** at each table, usually bent in equal concentration. (BNC)

(11) A short, wiry Lebanese in his fifties, Talar lived aboard a partially finished 81-foot yacht, King Edmondo, with a **tall**, blonde Danish **woman who towered over him** and was known locally as 'Foofoo', as she was thought to be somewhat strange. (BNC)

(12) Self was a career civil servant who, after a wartime spell in Washington, had returned as Permanent Secretary of the Ministry of Civil Aviation. A **toweringly tall** man, he echoed Citrine's sparse, puritanical personality and they shared common ideals of public service. (BNC)

(13) The river dream came to him again, he was wading deep into the current, its coldness griped him by the crutch, shocking him, he must reach that bluish hovering light on the far bank; trees towering above; a house, a **tall bulky building towering above him**. (BNC)

(14) She is best known for her rings with **tall bezels towering above slender hoops**. (BNC)

Other prototypes intensifying the meaning of *tall* attested in the corpus are giants[11] (examples 15 and 16), trees (example 17), mountains (example 18)[12], and steeples (example 19):

(15) Sometimes I get a little dizzy and that and I sort of feel **real tall** – you know, **like a giant**. When I look down at my feet they look miles away. (BNC)

(16) He rose to his feet, **tall as a giant** in the small room. (BNC)

[11] Of the prototypes attested in the BNC, on a Google search (*as tall as*, April 2007), a giant is the most frequent standard of comparison (ca. 27,300 hits), followed by a house (ca. 21,200 hits), a mountain (ca. 18,900 hits), a tower (ca. 1,970 hits), a giraffe (ca. 1,550 hits), and a tree (ca. 734 hits).

[12] Note also the expression *mountainous waves* meaning 'very high waves'.

(17) If madame was like her son then she would be **as tall as a tree**. (BNC)

(18) Just as I was trying to find a hole in the hedge, so that I could get into the next field, I saw another giant coming towards me. He seemed **as tall as a mountain**, and every one of his steps measured about ten metres. (BNC)

(19) Something stirred by the window. Something **as tall as a steeple**, in a trailing black dress, fair hair cascading; a face turned, looking down at Ruth, with long mocking green eyes that glimmered like the sea. (BNC)

The question that arises with respect to the above examples is in what way equatives with *prototypes* of TALLNESS differ from equative constructions with normal, *non-prototypical* standards of comparison exemplified by (20) and (21):

(20) Now behind the little man stood a great grey dog, **as tall as he was**, with red eyes and hot breath. (BNC)

(21) Some 230 million years ago a new archosaur, Ornithosuchus, was alive. Three metres long and heavy, almost **as tall as a horse**, it had a menacing array of sharp teeth. (BNC)

Notice that the dog in (20) is claimed to be about as high as the man it was going to attack. Likewise, the height of the archosaur in (21) is actually compared to the height of a horse. In contrast, the author of (17) does not mean to say that the woman was, in point of fact, as tall as a tree. Rather, comparison to the prototypically tall entity emphasises that she was *very* tall, but *for her own comparison class* (cf. Bierwisch 1989: 150). Similarly in (7), Alice is not saying that she is approximately as high as a house. She only intensifies the attribution *tall* by comparing herself to a prototypically tall entity – a house. This sort of linguistic behaviour is typical of terms naming prototypical instantiations of the property. Remember the discussion of colour prototypes in Section 4.2.3. Not everything that is said to be *as red as a tomato* is necessarily attributed the blood-red colour of ripe tomatoes. It could simply mean that the entity is *very* red, for its own kind of entities. See, for instance, (22)-(25):

(22) Billy looked terrible. His face was yellow, and in contrast his eyes were **as red as rubies**. (BNC)

(23) Ralph Maltote proved to be a stout young man who looked rather ridiculous in his boiled leather jerkin, military leggings and boots. His face was **as round and as red as an autumn apple**. (BNC)

(24) Ординарец был **красен**, **как маков**
orderly-NOM was-M red-(SF)SG.M like poppy-POSS.SG.M.NOM

цвет, и прятал глаза. (RNC)
blossom-NOM and hid-SG.M.IPFV eyes-ACC

'The orderly was as red as a poppy and cast down his eyes.'

(25) Он смутился и стал
he got.embarassed-SG.M.PFV.REFL and became-SG.M.PFV

красный, **как свекла**. (RNC)
red-(LF)SG.M.NOM like beetroot-NOM

'He got embarrassed and became as red as a beetroot.'

Notice that the colour of Billy's eyes in (22) is not literally compared to the colour of rubies. Rather, comparison to the prototypical instantiation of REDNESS intensifies the property REDNESS, the way it is represented in the compound prototype RED EYES. Likewise, the facial colour in (23)-(25) is not claimed to be identical to the colour of apples, poppies, and beetroots, respectively; the equatives in bold is an expressive way of saying that one's face was very red, or rather very pink (since the prototypical colour of red face is pink, and not bright-red).

It should be noted, however, that it is not impossible to use nouns denoting prototypically tall entities for a straightforward comparison rather than expressive intensification. Witness, for example, (26) and (27), where the subjects are, in fact, claimed to be of the same height as a tower. In (26), this is the case because the tower is a LEGO toy (note also the use of the definite article suggesting comparison to a particular tower). In (27), it is possible, because the subject himself is a giant.

(26) Lengths of wool or strips of paper are sometimes used to emphasise that the mark represents a height from the floor. 'I'm **as tall as the tower**.' Children for whom this activity may have little meaning can compare their own height with towers of blocks, tops of cupboards and so on. For them the comparison must be immediate. (BNC)

(27) There is a prince named Galifron, whose suit I have refused. He is a giant **as tall as a tower**, who eats a man as a monkey eats a nut: he puts cannons into his pockets instead of pistols; and when he speaks, his voice is so loud that every one near him becomes deaf. Go and fight him, and bring me his head. (D.M.M. Craik, *The Fairy Book*)

Until now, I have only given examples of extremely high entities used as prototypes of TALLNESS. This, however, is only part of the story. As indicated earlier, adult humans are also good examples of prototypical TALLNESS. Moreover, as shown in Chapter 8, EGO is a very salient reference point shaping the semantic make-up and combinatorial peculiarities of *tall*. If this line of reasoning is correct, then humans should often be employed as standards of TALLNESS in comparatives. A corpus study has shown that this is indeed the case. The height of non-human entities is often compared to the height of people. Witness examples (28)-(31).

(28) A grey stone wall, **taller than a man**, surrounded everything. (BNC)

(29) Fortunately, the alley's rubbish skips were like twin goldmines. They were huge wheeled galvanised cylinders, each **taller than a man** and of the kind that could be chained to a garbage wagon and then hoisted and inverted in one great burst of hydraulic power. (BNC)

(30) Corbett estimated the dogs were **taller than any man**. He smelt their fetid breath and tried to control the shuddering of his body. (BNC)

(31) How much **taller** was this polar bear **than an average man**? (BNC)

The frequent use of human beings as landmarks in the comparative constructions with *tall* could be explained by two factors. Firstly, the self and conspecifics of the self are very salient standards of measurement in our anthropocentric worldview. Therefore, we are usually more inclined to compare the height of, for instance, a car with our own height than with the height of, say, an oak-tree. Secondly, as shown in Chapter 8, human verticality is a fixed reference point of the category TALL in English. Comparison of non-human entities with human beings in terms of tallness is then a natural consequence of the reference-point status of EGO.

There is one further point to be made. Although houses, trees, and giants are not that frequent in the CHILDES corpora considered in the preceding section, they are still present in the list of referents in Table 9.3. In other words, although the repertoire of referents of *tall* in the child speech and in the child-directed speech is not that large, the majority of the prototypes attested in the BNC (humans, towers, houses, trees, and giants) were also attested in the Manchester and/or Brown Corpus.

9.3.1.2. *Short.* As for *short*, no reference to prototypes was attested in the BNC. A Google search has shown that the noun *dwarf* is quite frequently used in the construction *as short as X* (ca. 2,310 hits, April 2007). See example (32):

(32) My name is Angel and I am going to talk to you about my Nana. My Nana is **as short as a dwarf** and she is as thin as a toothpick. (http://www.orakei.school.nz/Expectations/Expectations.htm)

The fact that people are more likely to think of TALLNESS in terms of its prototypical instantiations, and are somehow reluctant to do the same for SHORTNESS is instructive. This could be another manifestation of THE-BIGGER-THE-BETTER cultural model, which renders the bigger subscale (i.e. everything that is large, tall, long, etc.) more cognitively salient and more relevant to human conceptualisers than the smaller values on the corresponding dimension. For the same reason, the supra subscale is usually more elaborated and more easily finds access to lexical semantics than the subscale of a sub counterpart (see Section 5.2.2).

9.3.2. Russian National Corpus

9.3.2.1. *Vysokij* 'high/tall'. The corpus study yielded three most prominent prototypes of VYSOKOST' 'highness/tallness' – mountains (examples 33 and 34), towers (examples 35 and 36), and "Kolomenskaja versta" (examples 37 and 38). The "Kolomenskaja versta" was originally a post used for distance measurement along the road to the village of Kolomenskoe, where the residence of the Russian tsars was located in the XV-XVII centuries (Ruff 2003). These poles were very famous due to being much higher than Russia had known before. The expression *kolomenskaja versta* 'verst of Kolomenskoe' is now used with reference to very tall people (Apresjan 2004: 209-10).

(33)

Пользуясь	случаем,	хочу	пожелать,	чтобы	
use-ADPTCP.PRES	occasion-INS	want-PRS.1.SG	wish-INF.PFV	so.that	
эта	дружба	оставалась	вечной,	как	
this-F	friendship-NOM	stay-SBJV.F.IPFV.REFL	eternal-(LF)SG.F.INS	like	
вечнозеленая	сосна,	**такой**	**же**	**высокой,**	
evergreen-SG.F.NOM	pine-NOM	such-SG.F.INS	PCL	high-(LF)SG.F.INS	
как	**горы,**	подобной	реке,		
like	mountains-NOM	similar-SG.F.INS	river-DAT		

текущей далеко за горизонт. (RNC)
flowing-SG.F.INS far behind horizon-ACC

'I would like to seize the opportunity and wish this friendship to live forever like evergreen pines, to stay as high as mountains, and to be like a river flowing far beyond the horizon.'

(34) Небось с меня всю жизнь налоги
sure from me-GEN all-F.ACC life-ACC taxes-ACC

брали. Я этой пшеницы
took-INDEF.IPFV I this-F.GEN wheat-GEN

поотвозил в город и днем и
took.away-SG.M.PFV.ITER in town-ACC and day-INS and

ночей. Кабы ссыпать все в кучу,
nights-GEN if pour-INF.PFV all-SG.N.ACC in heap-ACC

выше горы **Арарат** **будет**. (RNC)
higher mountain-GEN Ararat-NOM be-FUT.3.SG

'I dare say, I paid taxes to them all my life. Day and night, I had to bring wheat to town. If you put it all together, the heap will be higher than Ararat mountain.'

(35) Проплывают **высокие,** **как** **башни,** прически
float-PRS.3.PL high-(LF)PL.NOM like towers-NOM coiffures-NOM

дам. (RNC)
ladies-GEN

'Lady hairdos as high as towers are floating by my side.'

(36) Что удивительного теряться в кокосовых
what wonderful-SG.N.GEN get.lost-INF.IPFV in coconut-ADJ.PL.LOC

неизмеримых лесах, путаться
immesurable-PL.LOC forests-LOC become.entangled-INF.IPFV.REFL

ногами в ползучих лианах, между
feet-INS in creeping-PL.LOC lianas-LOC between

высоких **как башни**, деревьев, встречаться
high-(LF)PL.GEN like towers-NOM trees-GEN meet-INF.IPFV.REFL

с	этими	цветными	странными	нашими
with	these-INS	colourful-PL.INS	strange-PL.INS	our-PL.INS

братьями? (RNC)
brothers-INS

'I don't understand what is so wonderful about losing your way in immense forests, getting entangled in creeping lianas between the trees that are as high as towers, meeting those colourful strange brothers of ours.'

(37)

Какое	там	лешего	про	купца?–	
which-SG.N.NOM	there	goblin-GEN	about	merchant-ACC	
сердился	дед	и	тыкал	пальцем	на
was.angry-M	old.man-NOM	and	poked-SG.M.IPFV	finger-INS	on
шоссе;	а	там	шагал	какой- то	
highway-ACC	CONJ	there	stepped-SG.M.IPFV	some.PCL-SG.M.NOM	
высокий	**с**	**коломенскую**		**версту**,	
high-(LF)SG.M.NOM	with	Kolomenskoe-POSS.F.ACC		verst-ACC	
рыжий		человек. (RNC)			
red.haired-SG.M.NOM		man-NOM			

'What on earth does it have to do with the merchant? – the old man was saying angrily and pointing to the road, where a red-haired man as tall as a beanpole was walking.'

(38)

На	одной	из	остановок	в	автобус
on	one-SG.F.LOC	from	stops-GEN	in	bus-ACC
вошел	солдат –	**высокий,**		**как верста**	
came.in-SG.M.PFV	soldier-NOM	high-(LF)SG.M.NOM		like verst-NOM	
, с	большими	руками	и	ногами. (RNC)	
with	big-PL.INS	hands-INS	and	feet-INS	

'At one of the stops, a soldier as tall as a beanpole, with big hands and feet got on the bus.'

Yet again, comparison to the prototypically high objects in (33)-(38) does not imply that the referents were as high as mountains, towers, and versts. It is merely an emphatic way of putting that they were very high for their own comparison class.

9.3.2.2. *Nizkij* 'low/short'. The Russian sub term on the scale of vertical extent seems to have more clear-cut prototypes than the English sub term *short*.[13] The corpus data indicate that grass and dwarfs are prototypically short entities in the Russian worldview. Examples (39) and (40) illustrate the prototypicality of dwarfs in the domain of human height (cf. Apresjan 2004: 209-10).

(39)

Отчасти	под	заданные	параметры	подходит
partly	under	given-PL.ACC	parameters-ACC	fits

Путин:	**невысок**	**ростом**	(**хотя**	**явно**	
Putin-NOM	not.high-(SF)SG.M	stature-GEN	though	obviously	

не	**карлик**),	правит	после	"царя	Бориса". (RNC)	
NEG	dwarf-NOM	rules	after	tsar-GEN	Boris-GEN	

'Putin partly fits that definition. He is fairly short (though he is obviously not a dwarf), and he rules after "tsar Boris".'

(40)

Что	до	преемников	Романовых	из	
what	till	successors-GEN	Romanovs-GEN	from	

большевиков,	то	Хрущев	был	**почти**
Bolsheviks-GEN	then	Khrushchev-NOM	was-M	almost

карлик,	Сталин	немногим	выше,	Ленин,	
dwarf-NOM	Stalin-NOM	bit-INS	higher	Lenin-NOM	

когда	сидел,	не	всегда	доставал	ногами	до	
when	sat-SG.M.IPFV	NEG	always	reached-SG.M.IPFV	feet-INS	till	

пола;	из	этого	феномена	мы	извлекаем
floor-GEN	from	this-SG.M.GEN	phenomenon-GEN	we	extract-PRS.1.PL

такой	урок:	необходимо	ввести
such-SG.M.ACC	lesson-ACC	necessary	introduce-INF.PFV

дополнительный	ценз	для	претендентов	на
additional-SG.M.ACC	qualification-ACC	for	candidates-GEN	on

[13] At the same time, prototypicality of *nizkij* 'low/short' is more restricted than the prototype-orientedness of its supra partner *vysokij* 'high/tall'.

высшую	государственную	должность–	если	кто	
highest-SG.F.ACC	state-ADJ.SG.F.ACC	post-ACC	if	who	
ростом	**ниже**	**метра**	**семидесяти**	**пяти**	
stature-INS	lower	metre-GEN	seventy-GEN	five-GEN	
сантиметров,	такого	на	всякий	случай	
centimeters-GEN	such-SG.M.ACC	on	sundry-SG.M.ACC	case-ACC	
из	списков	вон. (RNC)			
from	lists-GEN	out			

'As for the successors of the Romanovs, Khrushchev was almost a dwarf, Stalin was not much taller than him, and Lenin when seated sometimes failed to reach the floor with his feet. This phenomenon can teach us the following lesson. We need to introduce an additional qualification for the candidates for presidency. If someone is shorter than one metre seventy-five centimetres he should be eliminated from the list of candidates, to be on the safe side.'

These examples are interesting in the sense that they show gradations of shortness with dwarf-like height as the maximum on the lower subscale (cf. discussion of boundedness in Chapter 7). For instance, in (39) Putin's height is described by *nevysokij* 'not.high'. This indicates that he falls short of the average male height, but does not reach the absolute maximum of shortness. This maximum can be labelled either by means of the adjectival phrase comprising a maximizer and the sub term *nizkij* 'low/short'[14] (e.g. *sovsem nizken'kij* 'completely low-DIM') or by means of the prototype-denoting nouns, such as *karlik* 'dwarf' in (39) and (40). Note also the use of the approximator *počti* 'almost' in (40) manifesting the proximity to the upper bound of shortness associated with the height of a dwarf.

The prototype status of grass in the domain of LOWNESS has become the basis of the idiomatic expression *tiše vody niže travy* (lit. quieter than water, lower than grass) 'meek as a lamb' (see example 41). This idiom is motivated by the idea that one cannot be quieter than the prototypically quiet entity – water; nor can one be lower than the prototypically low entity – grass.[15]

[14] Note that *nizkij* 'low/short' is more appropriate in this case, since, as shown in Chapter 8, its realm on the scale of height extends further in the direction of the absolute zero than the realm dubbed *nevysokij* 'not.high'.

[15] One could argue that the noun *trava* 'grass' is mentioned in this idiom only by virtue of rhyming with the genitive form of *voda* 'water'. However, to anticipate the results of the Survey, grass was the most frequently elicited standard of comparison in the construction *nizkij kak* 'as low as'. Notice that in the latter construction the noun *trava* 'grass' does not rhyme with any other ele-

(41) Вечно сидевший в правительстве **тише**
eternally sit-PTCP.PST.ACT.SG.M.NOM in government-LOC quieter

воды **ниже** **травы** глава Госстроя
water-GEN lower grass-GEN head-NOM state.building-GEN

Анвар Шамузафаров вдруг удостоился
Anvar-NOM Shamuzafarov-NOM suddenly was.worthy-M.PFV

чести быть раскритикованным лично
honour-GEN be-INF criticised.completely-SG.M.INS personally

президентом. (RNC)
president-INS

'Anvar Shamuzafarov, the head of the State Department of Buildings and Facilities, who had always been as meek as a lamb was honoured with the criticism directly from the president.'

The same idea facilitates the use of the comparative *niže travy* 'lower than grass' in (42), where it is suggested that a good smile can make you feel very tall (taller than the Admiralty spire, the symbol of St. Petersburg), whereas a bad smile, on the contrary, can make you feel very low – lower even than the prototypically low entity – grass.

(42) Здесь вы встретите улыбку единственную,
here you-PL meet-FUT.2.PL.PFV smile-ACC only-SG.F.ACC

улыбку верх искусства, иногда такую, что
smile-ACC top-NOM art-GEN sometimes such-SG.F.ACC that

можно растаять от удовольствия, иногда
may-IMPERS melt-INF.PFV from pleasure-GEN sometimes

такую, что увидите себя вдруг **ниже**
such-SG.F.ACC that see-FUT.2.PL self suddenly lower

травы и потупите голову, иногда
grass-GEN and cast.down-FUT.2.PL.PFV head-ACC sometimes

---

ment. Yet, a lot of subjects of the Survey mentioned grass (rather than any other object) as a best exemplar of LOWNESS (see Section 9.4.3).

такую, что почувствуете себя выше
such-SG.F.ACC that feel-FUT.2.PL.PFV self higher

адмиралтейского шпица и поднимете
Admiralty-ADJ.POSS.SG.M.GEN spire-GEN and raise-FUT.2.PL.PFV

ее вверх. (RNC)
3.SG.F.ACC upwards

'Here you will meet the smile which is the acme of art. Sometimes the one that will make you melt with pleasure, sometimes the one that will make you feel humble and look down, sometimes the one that will make you feel taller than the Admiralty spire and raise your head.'

At this point, it would be interesting to compare the prototypes attested in the RNC with best exemplars elicited by means of the Survey. I will do that in the following section.

9.4. Results of the Survey

9.4.1. Types of prototypicality

Geeraerts (1986) notes that prototypicality covers a number of phenomena, such as categorisation on the basis of similarity, differences in degrees of membership, clustering around a central conceptual specification, etc. These phenomena often co-occur but prove to be distinct on closer scrutiny (Geeraerts 1986: 288). As has been explained above, prototypicality in the domain of dimensional adjectives has two major realisations. Firstly, there are certain (types of) objects that are prototypically described by means of particular adjectives (cf. Hatzivassiloglou & McKeown 1993). For instance, houses are prototypically thought of in terms of height, by virtue of their prominent vertical dimension, canonical vertical orientation, and a point of attachment at the ground level (Apresjan 2000; Vogel 2004). For this reason, the word 'house' is frequently combined with adjectives denoting vertical extent. What is more, one of the dimensional adjectives is often more applicable to a particular noun than its antonym. For instance, houses are more likely to be called 'high' than 'low' (e.g. frequencies in the RNC: *vysokij dom* 'high house' − 94 tokens; *nevysokij dom* 'not.high house' – 24 tokens, and *nizkij dom* 'low house' – 26 tokens).

Secondly, entities whose dimensions are associated with the maximum on the relevant scale may function as best exemplars of the property. In this sense, towers and giraffes, but not people, are prototypically tall. The two sorts of prototypes

may, but do not have to coincide. For instance, elephants may be considered as prototypically big objects, but exactly for this reason the noun *elephant* is rarely modified by the adjective *big*. The combination *big elephant* is redundant, unless we compare a particular elephant with its average conspecifics. Two different tasks (1 and 3, respectively) were used in the Survey to elicit these two kinds of prototypes. These will be discussed in turn.

9.4.2. Prototypicality qua head-nouns

Task 1 was designed in order to elicit the prototypical entities described by means of *vysokij* 'high/tall', *nizkij* 'low/short', and *nevysokij* 'not.high'. The subjects were asked to give three nouns that go particularly well with 11 adjectives, including *vysokij* 'high/tall' and either *nizkij* 'low/short' (Version 1) or *nevysokij* 'not.high' (Version 2). The results of this part of the Survey have been already discussed in Section 8.7 with respect to prominent referent categories of *nevysokij* 'not.high', *nizkij* 'low/short', and *vysokij* 'high/tall'. In this section, I will focus on individual nouns (thus, not on semantic categories, as in Chapter 8).

There are three questions that have to be answered. Firstly, are there any nouns whose frequency exceeds *by far* the frequency of other elicited noun-heads? If all the elicited nouns have equally small frequencies in the Survey, it would indicate that there are no entities that are thought of as objects *prototypically* described by means of the above adjectives. If, on the other hand, the respondents consistently used the same nouns that, in their opinion, go particularly well with these adjectives, it would be evidence of prototypicality effects in the combinability of adjectives with a few prominent noun-heads.

Secondly, it is interesting to compare the findings from my Survey with the results of similar surveys conducted for other languages. The question is: Are there any prototypical referents systematically elicited across different languages?

Thirdly, it is necessary to compare the proportion of nouns frequently elicited for dimensional adjectives with the salience of frequent head-nouns elicited for the colour term *krasnyj* 'red', since colour terms are usually cited as typical examples of prototypicality.

At the preparatory stage, all the elicited nouns were divided into three categories – dimensional uses, positional uses, and extended uses. Since this study is confined to dimensional uses only, I will not consider any positional and metaphorical uses here. Nouns elicited for these two senses can be found in Appendix 3.

Tables 9.4-9.6 show frequencies of head-nouns elicited for *vysokij* 'high/tall', *nevysokij* 'not.high', and *nizkij* 'low/short'.[16] It is clear from the figures in the tables that there are a few head-nouns that were *with high frequency* elicited for each of the three adjectives. For *vysokij* 'high/tall' and *nevysokij* 'not.high', the three highly prominent head-nouns are *čelovek* 'man/human being', *dom* 'house', and *derevo* 'tree'. This result suggests, in line with the findings reported in Section 8.7, that *nevysokij* 'not.high' inherits its salient reference points from its source word *vysokij* 'high/tall'.

Word	**Frequency**	**Word**	**Frequency**
čelovek 'man/human being'	75	devočka 'girl'	1
dom 'house'	69	djadja 'uncle/man'	1
derevo 'tree'	51	ėtaž 'storey'	1
gora 'mountain'	27	kabluk 'heel'	1
trava 'grass'	20	kiparis 'cypress'	1
zdanie 'building'	20	kryl'co 'porch'	1
bašnja 'tower'	18	kust 'bush'	1
rost 'stature'	18	les 'forest'	1
stolb 'post'	15	lob 'forehead'	1
devuška 'girl'	11	mebel' 'furniture'	1
dub 'oak-tree'	8	noga 'leg'	1
zabor 'fence'	8	ograždenie 'fencing'	1
stena 'wall'	5	ovrag 'ravine'	1
lestnica 'ladder/stairs'	4	pen' 'tree-stump'	1
mužčina 'man'	4	pik 'peak'	1
el' 'spruce'	3	rastitel'nost' 'vegetation'	1
ograda 'hedge'	3	škaf 'closet'	1
paren' 'lad'	3	slon 'elephant'	1
skala 'rock'	3	stenka 'wall-unit'	1
xolm 'hill'	3	stol 'table'	1
bereza 'birch-tree'	2	stul 'chair'	1
mačta 'mast'	2	suščestvo 'creature'	1
most 'bridge'	2	svetofor 'traffic lights'	1
neboskreb 'skyscraper'	2	tetja 'aunt/woman'	1
sosna 'pine-tree'	2	vodopad 'waterfall'	1
ženščina 'woman'	2	vyška 'watchtower'	1
blondinka 'blonde'	1	životnoe 'animal'	1
bukva 'letter'	1		

Table 9.4. Dimensional uses of *vysokij* (Survey, Task 1)

[16] In Section 8.7.3.2, I have reported the results of the follow-up study suggesting that the phrase *nizkij čelovek* 'low person' can denote both height and indecency. Since the proportion of the two readings in Task 1 is unknown, the number of dimensional responses was for analytic purposes reduced by half.

Word	Frequency	Word	Frequency
čelovek 'man/human being'	40	ograda 'hedge'	2
dom 'house'	32	stol 'table'	2
derevo 'tree'	25	stul 'chair'	2
rost 'stature'	15	teremok 'tower-chamber'	2
zdanie 'building'	12	bereza 'birch-tree'	1
gora 'mountain'	9	dub 'oak-tree'	1
trava 'grass'	9	karlik 'dwarf'	1
zabor 'fence'	6	kon' 'horse'	1
devuška 'girl'	5	les 'forest'	1
kust 'bush'	4	lob 'forehead'	1
paren' 'lad'	4	ob"ekt 'object'	1
bašnja 'tower'	3	pregrada 'obstacle'	1
stolb 'post'	3	rastenie 'plant'	1
xolm 'hill'	3	skam'ja 'bench'	1
dver' 'door'	2	skul'ptura 'sculpture'	1
kabluk 'heel'	2	stena 'wall'	1
lestnica 'ladder/stairs'	2	tumbočka 'bedside-table'	1
mužčina 'man'	2	žiraf 'giraffe'	1

Table 9.5. Dimensional uses of *nevysokij* (Survey, Task 1)

Word	Frequency	Word	Frequency
rost 'stature'	22	kryša 'roof'	1
dom 'house'	15	kust 'bush'	1
trava 'grass'	15	laz 'trapdoor'	1
čelovek 'man/human being'	12	les 'forest'	1
stol 'table'	11	lestnica 'ladder/stairs'	1
derevo 'tree'	10	mal'čík 'boy'	1
stul 'chair'	10	most 'bridge'	1
zabor 'fence'	8	ovrag 'ravine'	1
krovat' 'bed'	3	penek 'tree-stump'	1
skamejka 'bench'	2	podval 'cellar'	1
stolb 'post'	2	porog 'threshold'	1
zdanie 'building'	2	proxod 'passage'	1
avtomobil' 'automobile'	1	rebenok 'child'	1
devuška 'girl'	1	sort 'species'	1
dver' 'door'	1	sosna 'pine-tree'	1
el' 'spruce'	1	stupen'ka 'footstep'	1
kabluk 'heel'	1	taburet 'stool'	1
karlik 'dwarf'	1	tetja 'aunt/woman'	1
koška 'puss'	1	xolm 'hill'	1

Table 9.6. Dimensional uses of *nizkij* (Survey, Task 1)

For *nizkij* 'low/short', the prototypical status of the most frequently elicited head-nouns – *rost* 'stature', *trava* 'grass', and *dom* 'house' – is somewhat less clear-cut, in the sense that, in terms of frequencies, there is no pronounced difference between these nouns and the items following them (see Figure 9.1; only the first 10 elicitations are included in the graph). Put another way, *nizkij* 'low/short' has a more even distribution of head-nouns than both *vysokij* 'high/tall' and *nevysokij* 'not.high'. This finding strongly supports the claim made in the preceding chapter that *nizkij* 'low/short' names the dominant vantage: its fixed reference point is vertical extent in the most general sense; its mobile reference point is emphasis on similarity. *Vysokij* 'tall/high' and *nevysokij* 'not.high', on the other hand, primarily focus on a specific kind of verticality, the one associated with human bodies. Notice also that the three most frequent nouns elicited for *vysokij* 'high/tall' and *nevysokij* 'not.high' are all as tall as or taller than EGO. In contrast, nouns elicited for *nizkij* 'low/short' cover both types of entities – the ones that are as tall as or taller than EGO (*rost* 'stature' and *dom* 'house') and the ones that are shorter than human beings (*trava* 'grass').

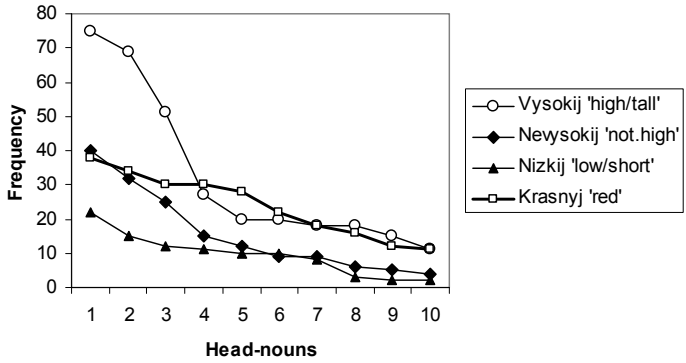

Figure 9.1. Frequency of prototypical head-nouns

To return to the first question I asked at the beginning of this section: are there any nouns whose frequency exceeds *by far* the frequency of other elicited noun-heads? The answer is a qualified *yes*. The results indicate that prototypicality effects with regard to head-nouns are much stronger for *vysokij* 'high/tall' and its morphologically related sub term *nevysokij* 'not.high' than for the sub term denoting intrinsically low entities – *nizkij* 'low/short' (see Figure 9.1). This finding is consistent with the

results of the corpus study suggesting that the prototypicality of the minor pole is less prominent than the prototypicality of the subscale labelled by the supra term.

We are now in position to compare these results with the results of similar studies reported for German (Weydt & Schlieben-Lange 1998), Swedish (Vogel 2004), and Italian (Goy 2002, quoted in Vogel 2004). The method I used in this task was originally designed by Weydt & Schlieben-Lange (1998) for German, although I modified the task in two ways (see Section 1.3.3). Despite minor methodological differences, the results of the two studies are quite uniform. So, in the German study, the following nouns were elicited as the best noun-heads of *hoch* 'high': *Turm* 'tower', *Berg* 'mountain', *Haus* 'house', *Hochhaus* 'high-rise building', *Baum* 'tree', and *Wolkenkratzer* 'skyscraper'. Note that four of these entities (tower, mountain, house, and tree) are also prominent in the Russian data. As for *niedrig* 'low', the following nouns were most frequently provided by the German respondents: *Tisch* 'table', *Decke* 'ceiling', *Haus* 'house', *Stuhl* 'chair', and *Tür* 'door'. Four of these nouns ('table', 'ceiling', 'house', and 'chair') were also elicited in my Survey. Note again that all prototypical head-nouns of *hoch* 'high' denote entities that are much taller than humans, whereas for *niedrig* 'low' we see greater variation of referents vis-à-vis EGO.

It is also remarkable that 'house' was elicited as one of the best head-nouns of both *niedrig* 'low' and *nizkij* 'low/short'. This is consistent with my claim that there are two kinds of prototypes applicable to dimensional adjectives – extremely high/low objects (towers and grass, respectively) and prototypical topological types with a prominent vertical extent (e.g. houses, people). Note also that with reference to 'house' the percentages are slightly higher for 'high' than for 'low' (16.9% *vs.* 10.9% in my study, and 33 *vs.* 11 cases in the Weydt & Schlieben-Lange study), since a house is not only a prototypical possessor of HEIGHT (which could then be either high or low), but also a conspicuously high entity (i.e. the prototype of HIGHNESS).[17]

Vogel (2004) used the same procedure as Weydt & Schlieben-Lange (1998) and elicited head-nouns for fourteen dimensional adjectives in Swedish. No distracters were used in this study. The subjects repeatedly responded that *hög* 'high' most felicitously describes houses, mountains, masts, buildings, towers, piles, and ladders. Yet again, we see considerable similarities to the Russian data presented in Table

[17] Prototypicality of houses in the domain of height also manifests itself in the frequent use of the word *dom* 'house' in the construction *vysotoj s X* 'height-INS with X' denoting rough estimations of height. So, in 63% of the occurrences of the construction in the RNC, position *X* was occupied by the noun *dom* 'house', often modified by an adjective denoting a number of storeys (e.g. *vysotoj s desjatiėtažnyj dom* 'about as high as a ten-storied building').

9.4. For *låg* 'low', this elicitation test did not yield any head-nouns that would stand out from the rest, this probably because of the relatively small number of subjects participating in the study (17 undergraduates).

Similar results were reported by Goy (2002, quoted in Vogel 2004) with respect to the Italian adjectives *alto* 'high' and *basso* 'low'. According to Goy, the former adjective is prototypically used to describe such entities as a tower, a pyramid, a wall, a house, and a glass. The latter adjective combines best of all with nouns *automobile* 'car' and *divano* 'couch'. Notice that the results reported in Weydt & Schlieben-Lange (1998), Vogel (2004), and Goy (2002) for 'low' confirm Rakhilina's (2000) claim that 'low' is more likely to profile vertical position than vertical extent, and is therefore prototypically used to describe pieces of furniture (see Section 8.5.2.4).

A major difference between the Russian data presented above and the results from German, Italian, and Swedish is that only in Russian human beings were elicited as prototypical referents of 'high' and 'low'.

Now let us turn to the third question: Are prototypicality effects qua head-nouns less clear-cut for dimensional adjectives than for colour terms? To answer this question, compare the proportion of the most frequently elicited head-nouns to the total number of nouns elicited for the relevant uses (dimensional and colour) and for all uses of these adjectives (thus, dimensional, positional, and metaphorical). As is evident from Table 9.7, the nouns naming the prototypical referents of *krasnyj* 'red' were less frequently elicited than the prototypical head-nouns of the dimensional adjectives, which is also evidenced by the smoothly declining 'red' line in Figure 9.1 above, as compared to steeper slopes of the dimensional adjectives. The reason is probably that almost all physical entities can have colour, but only a specific topological type of entities may be said to have height. Prototypical head-nouns of adjectives such as *vysokij* 'high/tall' and *nizkij* 'low/short' denote objects made of rigid material, having a canonical vertical orientation[18], a profound vertical extension, and a point of attachment at the bottom (Apresjan 2000; Vogel 2004). For instance, all 55 nouns (type frequency) elicited as the best referents of *vysokij* 'high/tall' (in the dimensional sense) in Task 1 of my Survey denote entities with a canonical vertical orientation. Likewise, 97% of the referents of *vysokij* 'high/tall' (token frequency) in the RNC and 99% of the referents of *tall* in the BNC are enti-

[18] For example, *tall* is incompatible with the noun *baby*, since babies are canonically horizontal beings (Dirven & Taylor 1988; H. Clark 1973). Even if a baby is held in a vertical position, it does not have the support on the ground level necessary to qualify for tallness.

ties with canonical vertical orientation.[19] The more of these properties the entity possesses, the more likely it is to be dubbed *vysokij* 'high/tall' or *nizkij* 'low/short'. And, conversely, if an object lacks the relevant properties, it is only marginally suitable for descriptions in terms of height.

Adjectives	**Nouns**	**Proportion with respect to relevant instances (%)**	**Proportion with respect to all elicited instances (%)**
Vysokij 'high/tall'	*čelovek* 'man'	18.3	14.6
	dom 'house'	16.9	13.5
	derevo 'tree'	12.5	10
Nevysokij 'not.high'	*čelovek* 'man'	20	15.6
	dom 'house'	16	12.5
	derevo 'tree'	12.5	9.8
Nizkij 'low/short'	*rost* 'stature'	15.9	8.5
	trava 'grass'	10.9	5.8
	dom 'house'	10.9	5.8
Krasnyj 'red'	*pomidor* 'tomato'	8.2	7.4
	cvet 'colour'	7.3	6.6
	jabloko 'apple'	6.4	5.8
	solnce 'sun'	6.4	5.8

Table 9.7. Proportion of prototypical nouns

Consider in this respect the following example:

(43) Они трясли в руках **высокие** **палки**
they shook-PL.IPFV in hands-LOC high-(LF)PL.ACC sticks-ACC

с плакатами, на которых были намалеваны
with placards-INS on which-PL.LOC were daubed-(SF)PL

скелеты рыб. (RNC)
skeletons-ACC fish-PL.GEN

'They were waving banners on high sticks, with fish skeletons daubed on them.'

Sticks are objects lacking canonical vertical orientation. For this reason, they are usually dubbed 'long' (cf. Bierwisch 1967: 14; Moreno et al. 1999: 41). However,

[19] In a similar vein, Vogel (2004) reports that all nouns except two elicited as the best referents of the Swedish *hög* 'high/tall' in her study refer to entities with the canonical vertical orientation; and 99% of the referents of *hög* in her corpus are canonically vertical objects.

the speaker in (43) chooses to construe sticks as vertical entities making the banners wave high off the ground. Hence, prototypically long entities are dubbed 'high'. Note that this is a marginal use of *vysokij* 'high/tall' that has only a slight resemblance to the prototypical core.

In summary: Task 1 of the Survey was used to elicit the "best" head-nouns of the adjectives under study. The results largely support the hypothesis presented in Chapter 8 that *nevysokij* 'not.high' inherits its salient reference points from *vysokij* 'high/tall'. Therefore, the same prominent prototypes were elicited for both adjectives. Both *vysokij* 'high/tall' and *nevysokij* 'not.high' are primarily felicitous with nouns denoting taller-than-human entities. In contrast, *nizkij* 'low/short' is different from both *vysokij* 'high/tall' and *nevysokij* 'not.high' in that it is equally felicitous with nouns denoting shorter-than-human objects and with nouns naming entities that are as tall as or taller than EGO. At the same time, there is a great deal of similarity between the results for *vysokij* 'high/tall' and *nevysokij* 'not.high', on the one hand, and *nizkij* 'low/short', on the other hand. This similarity has to do with the fact that the method chosen in Task 1 is more likely to elicit nouns denoting objects, whose topological characteristics make these nouns good candidates for modification by either 'high' or 'low', rather than "intrinsically" high or low entities, i.e. the best exemplars of HIGHNESS or LOWNESS. The results also indicate that dimensional adjectives reveal more prototypicality effects qua head-nouns as compared to colour adjectives. This finding bolsters the claim that the distinction between colour terms and dimensional adjectives based on the prototypicality of the former and non-prototypicality of the latter maintained by Kamp & Partee (1995) collapses in the face of the data.

9.4.3. Prototypicality qua best exemplars

As indicated above, a second aspect of prototypicality applicable to adjectives is that some entities are given a status of the best exemplars of the property in question. For instance, as explained in Chapter 3, blood is often treated as the best exemplar of the focal red colour. Fire, ripe tomatoes, and fire-engines are sometimes also conceptualised as best exemplars of REDNESS. In order to find out whether dimensional adjectives display a similar kind of prototypicality, I asked the respondents (Task 3) to continue three expressions: *krasnyj kak* … 'as red as …', *vysokij kak* … 'as high as …', and *nizkij kak* … 'as low as …'. This construction was chosen, because it is strongly associated with the prototype-oriented meaning, i.e. the noun usually names an entity which is considered to be the best exemplar of the property denoted by the adjective (see Section 3.6.2.3). The results with respect to

krasnyj 'red' have been discussed in detail in Chapter 3, and will only be used here for comparison with the dimensional adjectives.

Tables 9.8 and 9.9 show the frequencies of nouns elicited on this task for the adjectives *vysokij* 'high/tall' and *nizkij* 'low/short'. All elicited nouns are given in these tables, thus including the nouns suggesting positional and metaphorical readings of the adjectives (though these were extremely rare). Perhaps the most remarkable observation to be made here is that in this type of prototypicality, *nizkij* 'low/short' has a more clear-cut set of prototypes than *vysokij* 'high/tall'. So, in the construction *nizkij kak X* 'as low as X', the noun *trava* was elicited in 29% of cases. The second most frequent prototype of LOWNESS yielded by this task was a tree-stump (26%), followed by a dwarf (11%). These three prototypical entities together constitute 60% of the nouns elicited on this task. These results are consonant with the findings from the corpus study, in the sense that the two prototypes of LOWNESS attested in the RNC were grass and a dwarf.

Word	**Frequency**	**Word**	**Frequency**
stolb 'post/pole'	22	stena 'wall'	2
bašnja 'tower'	15	velikan 'giant'	2
gora 'mountain'	14	antenna 'antenna'	1
neboskreb 'skyscraper'	14	basketbolist 'basketball player'	1
dub 'oak-tree'	12	Gulliver 'Gulliver'	1
žiraf 'giraffe'	12	ja 'I'	1
derevo 'tree'	11	karagač 'elm-tree'	1
djadja Stepa 'uncle Stepa'	10	kedr 'cedar'	1
kalanča 'watchtower'	8	kran 'crane'	1
dom 'house'	7	Kuliškin 'Kuliškin'	1
skala 'rock'	5	osina 'asp'	1
nebo 'sky'	4	pod"emnyj kran 'lifting crane'	1
papa 'dad'	3	slon 'elephant'	1
škaf 'closet'	3	stremjanka 'step-ladder'	1
telebašnja 'TV-tower'	3	stropilo 'rafter'	1
zabor 'fence'	3	topol' 'poplar'	1
brat 'brother'	2	trostnik 'reed'	1
kiparis 'cypress'	2	Ėjfeleva bašnja 'Eiffel Tower'	1
sosna 'pine-tree'	2	Ėverest 'Everest'	1

Table 9.8. 'As high as X' (Survey, Task 3)

Word	Frequency	Word	Frequency
trava 'grass'	50	korotyška 'dumpling'	1
pen' 'stump'	44	metr s kepkoj 'a metre tall measured together with the cap'	1
karlik 'dwarf'	20		
gnom 'gnome'	9	mysli 'thoughts'	1
grib 'mushroom'	8	petux 'cock'	1
plintus 'plinth'	7	porog 'threshold'	1
stol 'table'	6	postupok 'deed'	1
lilliput 'Lilliputian'	5	rebenok 'child'	1
gazon 'lawn'	2	siren' 'lilac'	1
kust 'bush'	2	smorčok 'morel'	1
pol 'floor'	2	staruška 'old woman'	1
stul 'chair'	2	stolb 'post/pole'	1
gorizont 'horizon'	1	taburetka 'stool'	1
goršok 'pot'	1	zabor na mojej dače 'my dača fence'	1

Table 9.9. 'As low as X' (Survey, Task 3)

The figures for *vysokij* 'high/tall' are not as pronounced as the results for *nizkij* 'low/short', since in this case we are confronted with a whole series of prototypically relevant objects. This could be related to the fact that the greater salience of bigger sizes leads to a more elaborated series of prototypes (remember also the greater number of adjectives for the bigger subscale discussed in Section 5.2.2). If we count different tree sorts and different instances of towers together, the percentages of the most prominent prototypes of *vysokij* 'high/tall' take the following picture: trees – 17.9%, posts – 12.7%, towers – 11%, mountains – 8.7%, skyscrapers – 8%, giraffes – 6.9%, and uncle Stepa[20] – 5.8%. Notice that two of these best exemplars – towers and mountains – were also attested in the RNC.

The different results yielded by Tasks 1 and 3 with respect to *vysokij* 'high/tall' and *nizkij* 'low/short' can also be accounted for by the different types of prototypicality elicited in these two procedures. Task 3 provided only one specific kind of prototypes – intrinsically high or low objects (e.g. dwarfs are intrinsically low). In contrast, Task 1 yielded both kinds of prototype-phenomena – intrinsically high or low objects (e.g. towers are intrinsically high) and objects with the prominent vertical extent that are prototypically described by both *vysokij* 'high/tall' and *nizkij* 'low/short' (people, houses, trees).

[20] Uncle Stepa is a personage of a series of poems by Sergey Mikhalkov. Uncle Stepa was an extremely tall man who always helped people. For instance, he could fix traffic lights without a ladder, or save a kitten from a high tree.

It is again interesting to compare the results for the two dimensional adjectives with the figures for the colour term *krasnyj* 'red'. On this task, *krasnyj* 'red' yielded a more clear-cut set of prototypes than in Task 1 and more prominent prototypes than those elicited for *vysokij* 'high/tall' and *nizkij* 'low/short'. This effect is clear from the sharp slope representing the transition from the most salient best exemplars of redness to less salient standards of comparison in Figure 9.2 (cf. smoothly declining lines for *vysokij* and *nizkij*). Namely, in 38.5% of cases the elicited noun was *pomidor* 'tomato', followed by *rak* 'crayfish' (18.4%) and *mak* 'poppies' (11.5%).

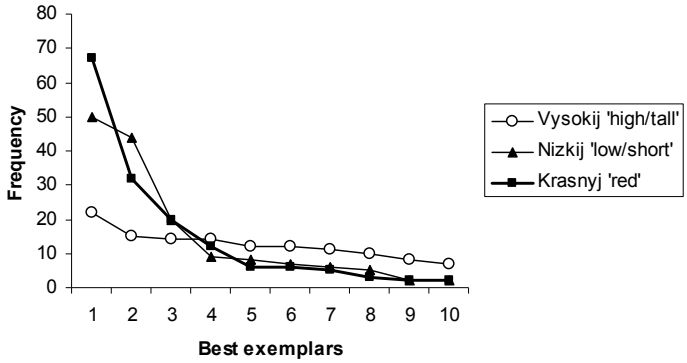

Figure 9.2. Frequencies of best exemplars

The fact that there is more uniformity among subjects as to which objects count as prototypically red than as to which entities are prototypically high or low confirms the prediction that dimensional adjectives display a lesser degree of orientation to best exemplars than colour terms. At the same time, these results strongly suggest that the other extreme view positing that dimensional adjectives have zero prototypicality does not withstand criticism in the face of the above data. To be more precise, tomatoes were elicited as prototypes of REDNESS in 36.7% of cases, and grass was yielded as a prototype of LOWNESS by 29% of the subjects. This difference, though significant, is not big enough to draw the fundamental conclusions along the lines of Kamp & Partee (1995). It is not the case that there are no prominent prototypes of TALLNESS at all. Simply, those prototypes are less salient than best exemplars of colour. In addition, there could be a broader range of prototypically high objects (i.e. the number of conspicuous entities with an extremely profound vertical extent), which could also reduce the overall frequency of each of them.

In summary: although there *is* a difference between colour adjectives and dimensional adjectives as to the prominence of best exemplars, this difference is not as big as predicted by Kamp & Partee (1995). Rather, the results strongly suggest, in line with Geeraerts et al. (1994), that prototypicality is a matter of degree.

9.5. Denotative dimensional adjectives

Before closing this chapter, I would like to take a brief look at a phenomenon that is closely related to prototypicality in adjectival semantics. As explained in Section 3.6.2.4, the best exemplars of the property denoted by the adjective can be made explicit in the form of the adjective. Following Ruzin (1994), I call such prototype-specifying adjectives *denotative*. Denotative adjectives are highly frequent in the domain of colour, where they either make a default prototype explicit (e.g. *blood-red*, *fiery, fire-engine red*) or specify a compound prototype (e.g. *brick-red, cherry-coloured, coppery, orange-red*). These adjectives are usually formed by means of compounding (e.g. *ruby-red*), suffixation (e.g. *rubine*), or conversion (e.g. *ruby*).

In the domain of dimensional adjectives, this phenomenon is noticeably less ubiquitous than in colour terminology. For instance, no single denotative adjective derived from *tall* or *short* has been attested in the BNC and in the dictionaries. The same goes for *vysokij* 'high/tall' and *nizkij* 'low/short' in the RNC. This could result from the relatively limited prototypicality qua best exemplars in the domain of dimensional terms, as compared to colour adjectives. However, the fact that prototypes are seldom made explicit in the domain of dimensional adjectives does not mean that these prototypes do not exist at all. The adjective *thin*, for instance, participates in several compounds naming prototypically thin objects.[21] Witness (44)-(46):

(44) He brought her soup in a **paper-thin** china cup, a morsel of fish in a flotilla of pink shrimps, chicken creamed in a silver dish, peaches and grapes on a glass plate. (BNC)

(45) Born and raised in Hill O'Beath, one of the unfashionable heartlands of Scottish Junior football, Baxter was **wafer-thin** and in the persona of 'Slim Jim', he rose to become one of the most elegant and arrogant players in the game. (BNC)

[21] Relatedly, *high* gives rise to the compounds *breast-high, knee-high, sky-high,* and *waist-high*. Further, there are similar compounds with *deep*, such as *knee-deep* and *waist-deep*. Notice that only the adjectives describing vertical extent can be used in compounds using the human body as a "ruler". This observation confirms the finding that verticality is conceptualised in close relation to EGO (see Chapter 8).

(46) Or think about the Fonda phenomenon. The text of Fonda's book, Women Coming of Age (1984), exhorts women not to 'think thin', and its theme is mainly that of health. Yet the illustrations are nearly all of women who are **pencil-thin** enough not to be out of place on the catwalk in a Paris fashion show. (BNC)

Yet again, comparison to prototypes of thinness does not imply that the cup in (44) and the people in (45) and (46) were literally as thin as paper, wafers, and pencils. Rather, reference to prototypically thin entities suggests that they were *very* thin for cups and people, respectively.

Another group of denotative dimensional adjectives are terms derived from the names of best exemplars by means of suffixes and containing no explicit reference to the general dimensional term (e.g. *midget, minuscule, scrubby*). A dictionary search provides the following semantic groups of best exemplars for English:
(i) mythological creatures: *Amazon, Antaean, cyclopean, elfin, giant, Herculean, titanic*;
(ii) biblical characters: *behemoth, goliath, leviathan*;
(iii) fiction protagonists: *Brobdingnagian, Gargantuan, Lilliputian*;
(iv) animals: *bantam, beefy, elephantine, mammoth, runty, shrimpy, wasp-waisted;*
(v) miscellaneous: *midget, minuscule, lumpish, mountainous, pygmy, reed-like, towering.*

An important point to make here is that these adjectives strongly indicate the necessity to study adjectives in terms of several CRPs, rather than along the lines of only one reference point. The denotative adjectives given above are clearly prototype-oriented. They could also be said to be maximum-oriented, in the sense that, for instance, dwarfs and Lilliputians are usually seen as the creatures whose height is *maximally* short, whereas elephants and giants are conceptualised as entities reaching the upper bound of height. At the same time, they are oriented to the cognitive zero (though, perhaps, to a lesser degree than simple dimensional adjectives). For instance, an entity may be dubbed *mountainous*, if its height considerably exceeds the expected standard dimensions of its kind. See, for example, (47), where the waves are presented as very high, and therefore deviating remarkably from the usual height of waves.

(47) They see the infinite possibilities in the subject-matter, just as a young child, pretending that the table is a house, sees the possibilities in the table, or as the religious person sees and feels God in the thunder or the **mountainous waves**. (BNC)

Since prototypes are primary CRPs for this type of dimensional terms, denotative dimensional adjectives display restricted gradability. For instance, it would be odd

to say that this wave is *more mountainous* than that one, or that the wave is *very mountainous*. This observation runs counter to the claim made by Ruzin (1994: 89) that adjectives such as *ispolinskij* 'titanic' and *gigantskij* 'gigantic' are not maximum-, but medium-oriented, just as "normal" dimensional adjectives.

However, the fact that denotative adjectives are less gradable than morphologically simple dimensional adjectives does not mean that gradation is absent altogether in the semantic make-up of these terms. Note, for instance, the use of the degree adverb *enough* modifying the denotative adjective *paper-thin* in (45). The use of *enough* in (46) is in a way metalinguistic, in the sense that the women are claimed to be thin enough to qualify for the term *paper-thin* labelling the extreme region on the scale of thinness (cf. Chapter 7).

In sum, I would like to suggest that a prototype is the primary reference point of denotative dimensional adjectives, and a cognitive zero is only a secondary CRP marginally relevant to their semantics.

9.6. Summary

This chapter has shown that there are two sorts of prototypes applicable to dimensional adjectives. In the first place, an adjective may have a number of prototypical head-nouns, i.e. it can prototypically apply to a restricted number of entities. Put another way, an adjectival word cannot be equally felicitous with all head-nouns, since some entities are more likely to be described by means of a particular adjective than other (types of) entities. For instance, adjectives denoting vertical extent, such as *vysokij* 'high/tall' and *nizkij* 'low/short', prototypically describe entities made of rigid material, having a canonical vertical orientation, a profound vertical extent (which should be the maximal dimension for 'high'), and a point of attachment at the bottom. The more of these properties an entity possesses, the more likely it is to be dubbed *vysokij* 'high/tall' or *nizkij* 'low/short'. And, conversely, the fewer of these properties it has, the less likely it is to be described by means of these adjectives. In addition, certain topological types of entities are better described by supra terms than by the corresponding sub terms, or the other way around.

Another interesting finding is that the colour term *krasnyj* 'red' is to a lesser degree associated with this type of prototypicality. This is probably due to the fact that there are more combinatorial restrictions for dimensional adjectives, especially for dimensional hyponyms, such as 'high' and 'low' (thus, opposed to hyperonyms, such as 'big' and 'little') than for colour terms. The reason is that almost all physical

entities can be attributed a certain colour, but only entities of a specific topological type can be said to have height.

In the second place, there are certain objects that are given a status of the best exemplars of the property. These prototypes are strongly associated with the maximum of the gradual scale. It is this kind of prototypicality that is more characteristic of colour terms than of dimensional adjectives. However, counter to the claim made by Kamp & Partee (1995), dimensional adjectives score fairly high on this kind of prototypicality as well, though not as high as colour terms.

As has been shown in Section 9.2, best exemplars often provide a starting point for the acquisition of dimensional adjectives by children. Adult caretakers consistently apply dimensional adjectives to describe a restricted number of prototypical entities, most of which are either extremely large or extremely small. Children acquire these ready-made AN-combinations by rote-learning and later extract more general schemas.

Part IV. Conclusions and discussion

Chapter 10. Conclusions and theoretical implications

10.1. Introduction

The major purpose of this study was to extrapolate the reference-point analysis to cognitive *lexical* semantics and to show that a prototype is not the only CRP type applicable to semantic analysis of adjectives. I have argued that prototypes constitute a special case of a general cognitive strategy to use reference-point reasoning. The analysis of adjectives from two semantic groups (colour and vertical size) has shown that other types of reference points, such as a cognitive zero, polar anchors, incidental landmarks and EGO, are also very important to a semantic make-up of adjectives.

The CRP approach to adjectival semantics introduced in this thesis provides a unified account of seemingly unrelated semantic facts and apparently dissimilar adjective classes. I have suggested that semantic and functional (to the extent that the two can be torn apart) differences between adjectives are motivated by default CRPs anchoring their conceptual specifications. However, defaults can be overridden by construal vis-à-vis other non-default CRPs. In this way, the CRP account advocated in this book captures not only "normal" (i.e. default) uses, but also contextually motivated deviations from the norm.

In this chapter, I will summarise the main conclusions and discuss their implications. The results of the present study have implications for both adjectival semantics and reference-point theory. These will be discussed in order.

10.2. Implications for adjectival semantics

10.2.1. One CRP per adjective type?

There have been several attempts to deal with the semantics of adjectives in terms of what I call *reference points*. Šramm (1979), for example, divides adjectival words into three classes: 1. adjectives whose *standard* (CRP in my terminology) is the

maximum of the denoted property (e.g. *white*, *sweet*); 2. adjectives oriented to the medium of the property (e.g. *large*, *small*); 3. adjectives with a standard defined in terms of typified properties, such as configurations (e.g. *round, straight*) and surface type (e.g. *clean*, *dirty*).

In a similar fashion, Ruzin (1994) and Levanova & Tribushinina (1998) distinguish between *model* adjectives and *gradable* adjectives on the basis of different CRP types anchoring their semantic specifications. It is argued that model adjectives (e.g. *red*, *sweet*, *square*) are maximum-oriented terms and that the reference point for gradable adjectives (e.g. *large, loud, dark, cold*) is the medium of the property. Those adjectives that evoke scales, but lack orientation to the medium value (e.g. *sharp* : *blunt*, *dry* : *wet*) are treated as peripheral members of the category of gradable adjectives.

Kennedy & McNally (2005), Kennedy (2007) and Syrett (2007) use the notion of a *standard value* to make a distinction between *relative* and *absolute* adjectives (cf. Pocelujevskij 1974). The standard value for relative adjectives (e.g. *tall, poor, expensive, good*) is a relative standard in the middle of the scale; the standard value for absolute adjectives is one of the endpoints of the scale – minimum for adjectives such as *dirty* and *wet* and maximum for words such as *full*, *clean*, and *dry* (also Rotstein & Winter 2004). By this view, default standard values may be overridden by pragmatic knowledge (which does not constitute part of semantic knowledge), but an adjective may evoke *only one reference point at a time*. For instance, *full* can, in principle, be processed vis-à-vis *either* a maximum value *or* a relative standard, depending on the modifying degree phrases and larger contexts of use (see further Section 10.3.1), but it cannot evoke several standard values at the same time.

In contrast, one of the most significant findings of the present study is that semantic analysis in terms of only one CRP type is untenable. Adjectives are very often interpreted against several reference points, rather than just one. The preceding chapters provide ample evidence of this. Using colour terms and dimensional adjectives as examples, I hope to have demonstrated that the one-CRP-per-adjective-type approach can account only for evident default cases, but not for a variety of everyday uses of these words. The main findings for colour terms and dimensional adjectives will be discussed in turn.

10.2.2. Colour terms: prototypes and beyond

One of the most well-known assumptions about colour terms is that they name categories organised around a prototypical core. What is more, both prototype theory (Rosch 1973a) and reference point theory (Rosch 1975a) were brought into being through studies of colour terminology. Since then, association of colour

terms with prototypes has been very strong. Research reported in this thesis has shown, however, that this picture is not complete.

To begin with, there are at least two different kinds of prototypes involved in the conceptualisation of colour. In the first place, there are natural foci, i.e. perceptually determined parts of the spectrum having a privileged cognitive status. In the second place, there are natural reference points, i.e. entities typically associated with a particular colour within or across cultures (e.g. snow for *white*). Experimental work in cognitive psychology has provided strong evidence of prototypicality effects qua foci. In this thesis, I have demonstrated the linguistic relevance of natural reference points (see Chapter 3). A lot of colour adjectives are etymologically related to environmentally salient prototypes. Entrenched associations between colour terms and natural reference points are manifested in numerous comparative constructions, dictionary definitions and compound colour terms, such as *blood-red*. Further, a lot of metonymical and metaphorical extensions of colour terms are based on conceptual links to environmental prototypes. I have also suggested that antonymy *black* : *white* is presumably rooted in the alternation of dark nights and light days.

Crucially, there is no one-to-one mapping between a colour term and a reference point. The meaning of colour adjectives is dynamically construed through complex links between the object of conceptualisation (a given instantiation of colour), a perceptually salient focus, and a culturally selected natural reference point.

Yet, this is only part of the story. As explained in Chapter 4, colour categories are anchored not only by overarching default prototypes (foci and natural CRPs), but also by a variety of combination-specific reference points, which I termed *compound prototypes*. An important piece of evidence in favour of compound prototypes is that we do not judge the colour of, say, red wine as a deviation from the blood-red colour of the focus. I have argued that foci and natural prototypes are activated, by default, in zero-contexts and in the case of non-entrenched AN-combinations. In all other cases, language users can immediately access the compound prototype, i.e. a colour instantiation typical of that particular type of entity (e.g. red hair is ginger-coloured).

These results have a number of important implications. First, the finding that there are at least three various reference points involved in the interpretation of colour adjectives provides strong support to the central claim of this thesis that semantic analysis in terms of only one CRP type is insufficient.[1] Second, the exis-

[1] Notice that colour terms can also evoke medium-anchored scales, as in compounds *dark-red* and *light-red*.

tence of compound prototypes can be taken as evidence of non-absoluteness of colour adjectives (contra De Schutter 1976; Draškovič 2003; Kamp & Partee 1995; Katz 1972; Kennedy 2007; Pocelujevskij 1974; Rips & Turnbull 1980; Syrett 2007; Vendler 1968). Colour terms cannot have context-independent (absolute) meanings, because not only do they denote different hues in different AN-combinations, but also their reference points vary per noun context. Third, if reference points of colour adjectives are context-dependent, then these words cannot make the same semantic contribution to every expression in which they occur, which undermines the "principle of compositionality" (Fodor & Pylyshyn 1988, see further Section 4.3.3).

10.2.3. Dimensional adjectives: questioning the axioms

10.2.3.1. Introductory remarks. The one-CRP-per-adjective-type view has led to a number of assumptions about the semantics of relative adjectives that have become almost axiomatic in modern semantic research. These assumptions include norm-orientedness and non-prototypicality of relative adjectives, as well as unboundedness of scales triggered by them. The main finding from the research reported in this thesis – multiplicity of reference points – provides a new way of looking at these phenomena and calls these three axioms into question.

10.2.3.2. Norm-orientedness. Orientation of the positive form to a norm (average value in the middle of the scale) is perhaps the most well-known and largely agreed upon property of relative adjectives in general and dimensional adjectives in particular. By this view, a supra term such as *tall* is used when the dimensions of an entity exceed some expected average and a sub term such as *short* is employed for shorter-than-average objects.

The results reported in Chapters 5 and 6 have shown that the medium value, which I refer to as *cognitive zero*, is indeed a very relevant CRP anchoring conceptual specifications of vague dimensional adjectives. For example, a cognitive zero is indispensable in the account of relativity, antonymy and degree modification (Sections 5.4 and 6.4.3). Further, without appealing to a cognitive zero it would be difficult to account for the distinction between short and long Russian adjectives and for committed construals of the English comparison-of-deviation construction and of Russian analytic comparatives (for details see Section 6.4).

This notwithstanding, this study has presented ample evidence against the *overall* applicability of the average value. First, dimensional adjectives are norm-free in constructions with measure phrases (e.g. *He is six feet tall*) and questions with *how* (e.g. *How tall is he?*). In addition *supra* terms are norm-free in equatives (e.g. *He is as*

tall as his father) and in consequential grading constructions (*He is tall enough for the stage*) (for details see Section 6.3.1). Further, relative adjectives modified by diminishers are usually interpreted with respect to an exceeded maximum rather than vis-à-vis the cognitive zero, as in *The flower is a bit tall for the bouquet* (see Section 7.2).

Second, Russian short adjectives, though falling under the label "positive form", are in most cases interpreted vis-à-vis an incidental maximum, rather than a default medium value. In contrast, long forms of Russian (dimensional) adjectives are usually interpreted vis-à-vis the cognitive zero in the middle of the scale (see further Sections 6.4.7 and 7.2.1). For this reason, only short forms are acceptable with diminishers (e.g. *nemnogo vysok* 'a bit high-SF' *vs.* #*nemnogo vysokij* 'a bit high-LF').

Third, there are plenty of other cases where English and Russian adjectives in the positive form are interpreted irrespective of the cognitive zero. For example, as shown in Chapter 8, giraffes are often called *tall* not by virtue of exceeding the average height of giraffes, but by virtue of being much taller than EGO, i.e. exceeding the vertical size of the human body. This is why the sentence *Giraffes are tall* is perfectly acceptable, whereas *People are tall* is odd.

Another illustration of a norm-free use of the positive form is example (35) in Chapter 6, repeated here as (1):

(1) For example, a person witnesses the following events in a swimming pool: A tall adolescent boy walks purposefully up behind a small coloured child and pushes him strongly into the pool. (BNC)

The adolescent in the above example is called *tall* by virtue of being taller than the coloured child (incidental standard of comparison), rather than due to exceeding the average height of his age group. Likewise, the child is called *small* not because he is smaller than children of his age, but because he is smaller than the incidental landmark – the adolescent.

Fourth, the cognitive zero alone cannot account for the fact that Slavic languages have both morphological and lexical opposites of dimensional supras. The case study reported in Chapter 8 has shown that analysis in terms of cognitive zeros cannot account for the fact that *nevysokij* 'not.high' and *nizkij* 'low/short' are not blocked in Russian, since they both denote values below the cognitive zero. This case study has revealed another CRP type relevant to the semantic make-up of these words, namely EGO. There is a very strong tendency to use *nevysokij* 'not high' for shorter-than-average entities *that are as tall as or taller than humans*, whereas *nizkij* 'low/short' is more often used for shorter-than-average objects *that are also shorter than human beings*.

Fifth, if the norm were the only salient reference point on the gradual scale, then bare scalars would be synonymous to the *Aer-than-average* construction. However, the findings presented in Chapter 7 strongly suggest that the two constructions are not synonymous; they are different construals of the same gradual scale. More precisely, bare adjectives and the *Aer-than-average* construction profile different parts of the scale. The *Aer-than-average* construction may profile the whole subscale immediately adjacent to the norm, whereas scalar adjectives in their positive form select as their profile the part of a subscale significantly diverging from the norm. Thus, every time a relative adjective is interpreted vis-à-vis the cognitive zero, it is also interpreted vis-à-vis the minimum value of "adjectiveness", which is a different reference-point phenomenon (see further Section 7.2).

In summary, it is not the case that "the positive of dimensional adjectives without a complement is *always* norm-related" (Bierwisch 1989: 95, emphasis mine). This thesis has demonstrated that the cognitive zero, though relevant to the semantic description of relative adjectives, cannot be applied throughout. There are a lot of norm-free uses of relative adjectives even in the positive form. Furthermore, even in cases where the cognitive zero *is* relevant, it is often not the only (and sometimes not even the primary) reference point involved.

10.2.3.3. Open scales. Another famous assumption about relative adjectives is that they evoke open scales, i.e. scales lacking both a minimum and a maximum boundary. On this view, the only CRP on relative scales is an average value in the middle of the scale. In this respect, it is argued, relative adjectives are different from "absolute" adjectives interpreted vis-à-vis (half-)closed scales. Two major arguments are usually used to substantiate this point. First, there is in principle no upper bound to how, say, tall things can be: a glass can be maximally full, but it cannot be maximally tall, because it can always be made taller. Second, relative adjectives, unlike maximum-standard adjectives, cannot be combined with totality modifiers denoting the maximum of the property (maximizers) or approximations to the maximum (approximators). Thus, *completely full* and *almost empty* are felicitous, and *completely tall* and *almost short* are odd.

Counter to this line of thought, the research reported in Chapter 7 has demonstrated that relative adjectives may trigger both open and closed scales. Put another way, just as "absolute" terms, relative adjectives can also be anchored by the endpoints of the gradual scale, which I termed *polar anchors*. Three types of polar anchors can be relevant to the semantics of relative adjectives: minimum of "adjectiveness", maximum of the property, and the absolute zero. These will be discussed in turn.

Minimum

As has been mentioned in the preceding subsection, the minimum CRP is relevant in all cases where relative adjectives are interpreted vis-à-vis the cognitive zero. Positive forms of relative adjectives denote some value of the property *significantly* standing out from the relative standard in the middle of the scale. For this reason, relative adjectives in their positive form display restricted modification by diminishers (see Section 7.2).

Maximum

The maximum CRP is relevant to the semantics of relative adjectives in the following cases. In the first place, language users may interpret specific AN-combinations against the categorical maximum of the given comparison class. For example, our world knowledge tells us that people cannot be infinitely tall and that the maximum height of human beings is slightly above 2 metres. This CRP type has been termed *categorical maximum* (see Section 7.4.3).

In the second place, I hope to have demonstrated that the well-established view treating relative adjectives as unbounded terms on the basis of their incompatibility with totality modifiers does not withstand criticism in the face of cross-linguistic data. Evidence from non-Germanic languages immediately provides obvious counterexamples. As a case in point, I have shown that Russian sub terms, unlike their English counterparts, are acceptable with maximizing adverbs (Section 7.4.6). The same pattern can be found in other Slavic languages as well. Furthermore, according to my informants, the same holds for Greek and French. This finding strongly suggests that making universalist claims on the basis of one or two closely related languages can lead to grossly inadequate conclusions.

In the third place, this study has shown that even English relative adjectives that (unlike their Russian counterparts) are, by default, infelicitous with totality modifiers can become compatible with maximizers and approximators, given constraining (often anthropocentric) contexts. Put another way, our knowledge of the world can and often *does* impose categorical boundaries on, by default, unbounded scales triggered by relative adjectives (Section 7.4.6).

These findings reinforce the conclusion that there is no one-to-one relationship between a modifier type and a scale type. Nor is there a one-to-one relationship between semantic types of adjectives and types of scales triggered by them. This becomes obvious from the distribution of relative adjectives with maximizers across languages. For instance, antonym pairs 'large'/'little', 'high'/'low', 'rich'/'poor', and 'expensive'/'cheap' are all relative adjectives. Yet, only 'little',

'low', 'poor', and 'cheap', but not 'large', 'high', 'rich', and 'expensive' are felicitous with maximizers in Russian and Greek. In French, *tout petit* 'entirely small' and *tout bas* 'completely low' are felicitous; *tout pauvre* 'completely poor' and *tout bon marché* 'completely cheap' are less acceptable; and *tout grand* 'completely large' and *tout riche* 'completely rich' are odd. In Spanish, 'high', 'low', 'large', 'little', and 'rich' are incompatible with maximizers, whereas 'poor' is acceptable with *del todo* 'completely'. In Hungarian, both sub and supra terms can be modified by maximizers; for instance, both *teljesen hosszú* 'completely long' and *teljesen rövid* 'completely short' are felicitous. The same holds for German, where both sub and supra terms can be combined with the modifiers *ganz* and *total*. In the latter case, however, the adverbs are undergoing a semantic change from a maximizer to a booster (see also Section 10.4.2.1).

And, finally, the study presented in Chapter 9 has shown that children start using dimensional adjectives by applying them to the endpoints of the scale. "Best exemplars" of spatial properties (such as towers for *tall*) are the most prominent referents of dimensional adjectives early in development. This finding may suggest that it is the maximum, rather than the cognitive zero that facilitates the development of relative adjectives in children. It will be a matter for further research to establish whether this is indeed the case.

Absolute zero

The third type of polar anchors considered in this thesis is the absolute zero of the property. The study reported in Chapter 7 provided converging evidence in favour of the reference-point status of the absolute zero. Counter to the open-scale hypothesis, I have argued that relative scales *do* have a lower bound which is relevant not only in the extra-linguistic reality, but also *in language*. Five types of linguistic evidence demonstrating the reference-point status of the zero value on a gradual scale have been provided.

First, the absolute zero plays a crucial role in the interpretation of relative adjectives in constructions with measure phrases and questions with *how*. For instance, it is impossible to understand sentences such as *How tall is he?* or *The mountain is 4,000 metres high* without some zero point from which the measurement is taken (Section 7.5.2).

Second, the evocation of the absolute zero can account for the markedness asymmetry between sub and supra terms. Gradual scales extend from the zero point in the direction of infinity (or maximum). The subscale of a sub term starts in the mid-zone and goes towards the zero point. The subscale of a supra term starts from the norm and follows the path of the general scale in the direction of infinity

or a maximum endpoint. Thus, the direction of the general scale coincides with the subscale of the supra term and is counter to the direction indicated by the sub term. It is obvious then that only co-directional supra terms (but not counter-directional subs) can be taken to refer to the whole scale in unmarked questions (*How tall are you?* versus *How short are you?*) and constructions with measure phrases (*He is five feet tall* versus *He is five feet short*).

Third, the reference-point status of the absolute zero can account for the sub-supra asymmetry qua degree modification. An interesting result is that in Russian and in a number of other languages where relative adjectives can take maximizers, there tends to be a selectional restriction on the acceptability of this modification. More precisely, sub terms are more likely to be felicitous with maximizers than their supra counterparts (e.g. *sovsem nizkij* 'completely/really low' versus #*sovsem vysokij* 'completely/really high'). I have argued that this restriction is related to the fact that there is a perceptually salient reference plane at the bottom of the scale and no salient boundary at the top (Sections 7.4.6 and 7.5.6).

Fourth, the location of the zero point is crucial to the semantics of dimensional adjectives and to their combinability with noun heads. For instance, adjectives denoting vertical extent (e.g. *high, low, tall, short*) are usually employed when the zero point is at the bottom of the human visual field. In contrast, adjectives such as *deep* and *shallow* require scales with the zero point at the top (Section 7.5.3).

Fifth, the corpus study and the Survey have provided converging evidence that the zero plane at the ground level is crucial to the semantic make-up of the Russian adjective *nizkij* 'low/short'. This adjective is different from its near-synonym *nevysokij* 'not.high' in that only the former but not the latter term profiles the position of the (functional) top vis-à-vis the ground level. Thus, orientation to the zero plane can be said to constitute the prototypical core of *nizkij* 'low/short' (see Sections 7.5.4 and 8.4). Interestingly enough, similar results were reported in Vogel (2004) for the Swedish *låg* 'low'.

Taken as a whole, these findings strongly suggest that the view treating relative adjectives as unbounded terms is inadequate. Although polar anchors are not as prominent as the cognitive zero, they still can be relevant to the semantic make-up of these words. What is more, in certain types of constructions polar anchors may become more prominent than the cognitive zero (see further Section 10.2.5).

10.2.3.4. Non-prototypicality of dimensional adjectives. This investigation has also provided counterevidence to the view that dimensional adjectives are prototype-free and that non-prototypicality is their major difference from colour terms. Chapter 9 of this thesis has shown that there are at least two kinds of prototypical-

ity characteristic of spatial adjectives, which I called *prototypicality qua best exemplars* and *prototypicality qua head-nouns*.

Prototypicality qua best exemplars involves the finding that some entities are considered to be prototypical instantiations (best exemplars) of the property denoted by the adjectives (e.g. towers and giraffes for *tall*, elephants for *large*). Importantly, in elicitation tests, subjects give fairly uniform judgments about what counts as a prototypically tall or a prototypically large entity in their culture. Moreover, there is a great deal of cross-linguistic uniformity. Notice that this result is remarkably similar to the findings from colour research that had laid the foundations for prototype theory. This study has also shown, in line with the Categorical Learning Hypothesis, that best exemplars are the most prominent referent categories of dimensional adjectives early in ontogeny.

Prototypicality qua head-nouns is manifested in the selective combinability of dimensional adjectives with noun heads. In other words, some AN-combinations with spatial adjectives are more prototypical than others. To give just one example, adjectives such as *tall* and *vysokij* 'high/tall' prototypically describe dynamically growing entities made of rigid material, standing out from the background, having a canonical vertical orientation and a point of attachment at the bottom, whose vertical extent is their maximal dimension. The more of these properties an object possesses the more likely it is to be described by means of *tall* or *vysokij* 'high/tall'.

It is worth pointing out once again that prototypicality is a matter of degree. There are degrees of prototypicality in the sense that some concepts are more prototypical than others. For example, as shown in Chapter 9, colour terms reveal more prototypicality effects qua best exemplars, whereas dimensional adjectives score higher on prototypicality qua head-nouns.

10.2.4. Some further examples

It is my hope that this thesis has presented sufficient evidence against the one-CRP-per-adjective-type approach. It is important to comment in passing that the relevance of multiple reference points has been observed in other cognitive domains as well. For example, Kahneman (1992) and Kristensen & Gärling (1997a, 1997b, 2000), among others, have shown that negotiators usually evaluate offers relative to multiple CRPs, such as initial offers, reservation prices, and estimated market prices. One of these reference points – the reservation price (i.e. the highest price one is ready to pay) – will usually have a privileged cognitive status.

Likewise, vantage theory (MacLaury 1995, 1997, 2003) posits that categorisation often involves two or more reference points. One of these reference points is usually more prominent and represents the dominant vantage (Chapters 3 and 8).

In the same vein, Holyoak (1978: 237) suggests that "subjects can strategically vary the functional reference point, as well as the nature of the decision made about the relation between a stimulus and a reference point".

As an example of a linguistic study illustrating the point I have tried to make in this thesis, I would like to mention Koptjevskaja-Tamm & Rakhilina (2006). In a comparative study of Swedish and Russian temperature adjectives, they demonstrate that the linguistic domain of temperature is organised around several "temperature foci", the most prominent of which are the physiological zero (corresponding to the skin temperature at 33°) and the comfort zone (temperatures at which people will feel most comfortable). Notice that the two reference points do not coincide, since temperatures producing thermal comfort are usually significantly lower than the physiological zero and the neutral zone around it. The interaction of the two CRPs ("temperature foci") determines the choice of a particular adjective. For example, the Russian adjective *znojnyj* 'sultry, hot' signals that not only the physiological zero, but also the comfort zone has been surpassed. In contrast, only the physiological zero, but not the comfort zone, is used as a CRP in the case of *žarkij* 'hot', which does not necessarily mean 'uncomfortable' (see also Rakhilina 2000: Chapter 2). Numerous examples analysed in Koptjevskaja-Tamm & Rakhilina (2006) also illustrate the relevance of polar anchors (minimum and maximum) in the semantic make-up of temperature adjectives.[2]

10.2.5. Diversity and unification

10.2.5.1. Heterogeneity of adjectives. Linguists have been intrigued by the adjectival category for a very long time. There is still no harmony of opinion as far as the categorical status of adjectival words is concerned. There are languages where adjectives have a minimal number of distinguishing properties and merge with other word classes. For instance, scholars of Sanskrit consider adjectives and nouns as a single nominal class, whereas Japanese adjectives are very similar to verbs (Bhat

[2] Interestingly enough, Koptjevskaja-Tamm & Rakhilina (2006) also demonstrate that there are language-specific patterns of anchoring adjectives by "temperature foci". For example, the Russian phrase *gorjačij kofe* 'hot coffee' is interpreted vis-à-vis the minimum CRP: it is coffee that is warm *enough* to taste good. In contrast, the Swedish *het kaffe* 'hot coffee' denotes that the maximum drinking temperature has been surpassed: such coffee is *too* hot to drink. Swedish speakers use *varmt* 'warm' to describe food and drinks at enjoyable temperatures. Russian is in this respect similar to English and Swedish to Dutch.

1994; Dixon 2004). English adjectives, although constituting a separate word class, are still very diverse. Some of them display a number of considerable similarities with nouns (De Schutter 1976; Potebnja 1985; Rajevskaja 2003; Rusiecki 1985; Vinogradov 2001; Žirmunskij 1976). Others are more like verbs (Chafe 1970; Falkovitch 1982; Kharitontchik 1986; Kubrjakova 1977). Some other adjectives possess a lot of adverbial properties (Falkovitch 1982; Sljusareva 1986; Smirnitskij 1959).

Another problem traditionally associated with adjectives is the difficulty of providing a semantic classification of this word class. Numerous attempts have been made by linguists of different research schools to classify adjectives. A lot of classifications have been done on purely extra-linguistic grounds (e.g. colour, age, nationality) and do not say much about semantic and functional properties of adjectives as such (e.g. Akodes 1987; Dixon 1977; Dixon & Aikhenvald 2004; Hundsnurscher & Splett 1982; Lee 1994; Raxilina 2000; Šramm 1979). Another well-established way of classifying adjectival words is the division of adjectives into absolute and relative terms (e.g. Katz 1972; Kennedy 2007; Kennedy &McNally 2005; Syrett 2007; Vendler 1968). This type of classification is not satisfactory either, because, as shown repeatedly throughout this thesis, there is no such thing as context-independent (absolute) standard of comparison. For one, even the standard of cleanliness will vary across such settings as a stable and an operation room in a hospital (see further Tribushinina 2006a). Furthermore, the approach advocating the relative-absolute distinction accounts only for some groups of adjectival words and leaves a lot of other adjective types beyond consideration.

I would like to suggest that a CRP-based approach could provide the much-needed unified account of the adjectival category. For one, as shown in this thesis, colour terms and dimensional adjectives are not as fundamentally different as has often been assumed. Colour adjectives are primarily oriented to prototypes, whereas the meaning of dimensional adjectives is largely anchored by scalar CRPs (medium, zero, maximum). Yet both prototypes and various scalar anchors are manifestations of essentially the same cognitive phenomenon of reference-point reasoning.

10.2.5.2. Primary and secondary reference points. Recall that both colour terms and dimensional adjectives can trigger prototypes as their reference points. If this is the case, then, one could argue, it is impossible to use CRPs for a semantic classification of adjectives, since very different adjectival classes, such as dimensional adjectives and colour terms, will fall under the same category. It should be noted, however, that prototypes are not as salient in the semantic make-up of dimensional adjectives as in the semantics of colour terms. In order to operationalise this differ-

ence, I suggest using the distinction between *primary* and *secondary CRPs* introduced in my earlier work (Tribushinina 2006a).

Primary CRPs are more salient than secondary CRPs and have stronger implications for functional properties of adjectives. A CRP can be primary *by default* or by virtue of *contextual salience*. In the case of colour terms, the prototype (or rather prototypes, including a focus, a natural CRP and/or a compound prototype) is the default reference point. Other prototype-oriented adjectives include, for example, shape adjectives (Giljarova 2001, 2002; Lessmöllmann 2002; Tribushinina 2006c), gustatory adjectives (Lehrer 1978; Tribushinina 2006a), as well as a number of evaluative adjectives such as *brave*, *cruel*, and *polite* (Fjeld 2001). The cognitive zero is, by default, a primary CRP for dimensional adjectives and other relative adjectives such as *warm* : *cold, light* : *dark, loud* : *quiet*, *good* : *bad*, *cheap* : *expensive*, *old* : *young*, and *poor* : *rich* (Croft & Cruse 2004: 169-92; Ruzin 1994; Litvintseva 2004; Tribushinina 2003a). Adjectives such as *wet, dirty, bent, wrong, open*, and *awake* trigger a minimum value as their default primary CRP, since even a minimal degree of, say, wrongness is sufficient to be labelled *wrong*. In contrast, adjectives such as *full, empty, straight, clean, alive, dead, dry*, and *closed* are, by default, oriented to a maximum value, since objects must possess these properties to the full extent in order to be described by means of the above adjectives (Kennedy 2007; Rotstein & Winter 2004).

A non-default reference point can also gain the primary status under contextual and/or structural constraints. For one, as has been repeatedly shown throughout this thesis, certain contexts may render other reference points more salient than the cognitive zero in the semantics of relative adjectives. To use the same example, giraffes are often called *tall* not because they exceed the categorical average, but because they are taller than human beings. In such cases, EGO is the primary CRP for the processing of *tall* (see Chapter 8).

An example of a structurally determined primacy of reference points is the salience of the absolute zero in constructions with measure phrases (e.g. *six feet tall*) and questions with *how* (e.g. *How tall is he?*), since in such cases the starting point for measurement is much more relevant than the norm (see Section 7.5.2). In the same way, a maximum CRP is primary in the *more-than-A* construction, as in *more than tall* or *taller than tall*. Critically, these uses are not treated as deviations from "normal" (i.e. cognitive-zero-anchored) uses. Nor do language users always start with a default CRP and then move to a contextually relevant one. There are entrenched correlations between construction types and CRP types. Hence, constructions with measure phrases and questions with *how* are immediately processed vis-à-vis the locally salient CRP, i.e. the absolute zero. In Van Hoek's words:

> We can assume that, in producing or comprehending linguistic material, speakers do not choose reference points entirely *de novo*, drawing directly on these very general and schematic notions. Rather it is much more plausible that the conventionalized grammatical structures of the language include reference point/dominion configurations which have become entrenched, established configurations (Van Hoek 1997: 63).

To summarise, reference points can be salient by default or gain salience through construal. Since language is largely conventional, there are a lot of entrenched construction-CRP pairings. In other words, particular constructions systematically impose a specific CRP type on the interpretation of adjectives.

10.2.5.3. Implications of default reference points. I would like to suggest that different semantic and distributional properties of, for instance, colour terms and dimensional adjectives, are motivated by the relative salience of their *default* primary CRPs.

One of the implications of default CRPs is unequal gradability of adjectives with different primary reference points. In earlier work, I have shown that English relative adjectives (whose default CRP is the cognitive zero) are significantly more frequent in combinations with degree adverbs and in non-positive (comparative and superlative) constructions than prototype-anchored adjectives of colour and shape (Tribushinina 2006a). This finding is also confirmed by the results of Task 4 of the Survey. The combinations of the Russian degree adverbs *očen'* 'very' and *dovol'no* 'rather' with the relative adjectives (*vysokij* 'high/tall' and *nizkij* 'low/short') were judged more acceptable than the combinations of the same adverbs with the colour term *krasnyj* 'red' (see Table 10.1).

	vysokij 'high/tall'	nizkij 'low/short'	krasnyj 'red'
očen' 'very'	4.43	4.26	3.05
dovol'no 'rather'	4.24	4.07	2.27

Table 10.1. Mean acceptability judgments: relative adjectives vs. colour terms

Different default CRPs also result in different types of opposite between the words constituting the semantic field. As shown in Tribushinina (2006a), colour terms and other prototype-oriented adjectives (e.g. gustatory and olfactory terms) form *incompatible contrast sets* (cf. Broekhuis 1999: 33-4; Givón 1970; Lehrer & Lehrer 1982; Murphy 2003: 181). The same holds for prototype-anchored evaluative adjectives (cf. Bierwisch 1989).

Adjectives whose default CRP is a cognitive zero are *antonyms par excellence* (Lyons 1969). They are gradable adjectives denoting degrees of the property diverging from a CRP in the middle of the scale. The negation of one term does not imply the assertion of the other, since there is also a mid-zone (cognitive zero) where neither of the antonymous terms applies (*It is not tall* ≠ *It is short*).

Adjectives whose primary reference point is one of the polar anchors (minimum or maximum) are either *complementaries* (e.g. *dead* : *alive*) or *gradable complementaries* (e.g. *wet* : *dry*). Gradable complementaries are different from prototypical complementaries by allowing grading, but they are also different from antonyms by not allowing the neutral zone (Cruse 1980).

Another implication of primary reference points is the productivity of compounds. As explained in Chapter 9, colour adjectives are involved in a huge number of compounds. Most of these compounds either make a default prototype explicit (e.g. *blood-red*, *fire-engine red*, *tomato-red*) or specify a compound prototype (e.g. *brick-red, cherry-coloured, orange-red*). In contrast, participation of dimensional adjectives in such compounds (e.g. *paper-thin*) is highly restricted. I would like to suggest that this difference can be related to the difference in the primary CRPs. Colour adjectives are primarily oriented to prototypes. Pointing to a specific prototype is thus totally natural to them. The salience of prototypes in the semantics of dimensional adjectives is much lower than in the case of colour terms; hence constrained productivity of prototype-specifying compounds.

10.2.5.4. Some further examples. There are some adjective types that have been left out of consideration in this section. Although it will be a matter for future research to establish whether such generalisations can be made, it seems fair to assume that not only qualitative adjectives, but also other adjective types can be studied in terms of CRPs. For example, a primary CRP for denominal (relational) adjectives, such as *golden, industrial,* and *windy* could be the corresponding nominal concept of gold, industry, and wind.

Quantitative adjectives can be treated in terms of the same scalar reference points as gradable adjectives, namely the cognitive zero (e.g. *much, little, few*), minimum (e.g. *enough, sufficient*), or maximum value (e.g. *all, some*).

Temporal adjectives, such as *former, future,* and *current* probably trigger the same CRPs as other temporal deictics, such as tenses and temporal adverbs (see Section 2.4.1.3). Their CRP may coincide with the moment of speaking or be otherwise established by the preceding discourse. *Former*, for instance, signals a value preceding the reference point; *future*, conversely, profiles a region following the CRP, whereas in the case of *current* the profiled region coincides with the CRP.

Possessive adjectives fall under the general category of possessives that are considered as prototypical reference-point phenomena in Cognitive Grammar (Langacker 1991, 1993; see Section 2.4.1.1).

10.2.6. Summary

To recapitulate, the reference-point approach could provide an attractive unified account of seemingly very different adjective types. Differences in linguistic behaviour of various adjectival classes could be motivated by the different primary CRPs triggered by them. The fact that some adjective groups are similar to verbs, whereas others behave like nouns or adverbs is attributable to the observation that words from different parts of speech may still share CRPs. To give just one example, tense forms of verbs, temporal adverbials and temporal adjectives all have the moment of speech as their default reference point.

In a nutshell, the reference-point account allows us to place adjectives in a broader context of linguistic and, importantly, non-linguistic phenomena and to ground the analysis of adjectival semantics in more general principles of cognition.

10.3. Implications for reference-point theory

10.3.1. Monopoly of prototypes

As shown in Chapter 2, reference-point reasoning is a ubiquitous cognitive phenomenon intrinsic to perception, categorisation, spatial orientation, social, organisational and marketing behaviour of human beings, among other things. All these domains seem to be structured by a restricted set of salient reference points that provide mental access to less salient entities.

Given the pervasiveness of reference-point phenomena, it is reasonable to assume that a lot of linguistic facts are also motivated by human ability to use cognitively prominent items for establishing mental contact with less salient entities. However, in contrast to cognitive psychology where reference-point reasoning has received a lot of attention, *linguistic* aspects of reference-point reasoning have hardly been investigated. A welcome exception is Langacker's (1993) model describing a wide range of grammatical phenomena in terms of their reference-point function.

In this thesis, I have elaborated the CRP-model by extrapolating it to *lexical* semantics. As has been demonstrated in Chapter 2, the only CRP type that has been dealt with in a panoply of lexical semantic studies is a prototype. This state of affairs has even led to an equation of reference points and prototypes. One of the

major goals of the investigation reported in this thesis was to call the monopoly of prototypes into question. Focusing on only two adjective groups (colour and vertical size), I have demonstrated that there is a lot more to the reference-point aspects of their meaning than just prototypes. For one, a great number of adjectives do not lend themselves to analysis in terms of prototypes at all.

An important contribution of this thesis is the finding that each word usually triggers more than one CRP at a time. For example, conceptual specifications of dimensional adjectives may be anchored by the cognitive zero, minimum and maximum endpoints, absolute zero, EGO and prototypes. It is not the case that all these reference points are active at the same time. Different construals profile different parts of the scale and render one (or more) of these CRPs more salient than the rest. Contextual variability can be directly related to various possible CRP combinations, their relative salience and patterns of interaction.

By the view proposed in this thesis, atypical adjectival uses do not fall outside the scope of semantics into the all-saving realm of pragmatics. I have argued that unusual uses, just as "normal" ones, can be explained by the relative salience of one particular CRP over the others. Unusualness is generated by the contextual salience of non-default CRPs.

Let me give an example. It has often been pointed out in the literature that maximum-standard ("absolute") adjectives, such as *full* or *straight*, are normally modified by maximizers (e.g. *completely*, *absolutely*) and approximators (e.g. *almost*, *nearly*), but not by scalar adverbs such as *very* or *rather*. The reason is that "absolute" adjectives evoke closed scales, whereas scalar degree modifiers operate on open scales and modify the distance from the norm. The fact that maximum-standard adjectives are sometimes combined with, say, *very* has often been considered as pragmatics-driven departure from normal maximum-oriented uses to deviant medium-anchored occurrences. Counter to this view, I have suggested that uses with *very* are not deviant. Rather they are facilitated by another primary CRP – the cognitive zero in the middle of the scale. The fact that "absolute" adjectives are more often combined with maximizers than with scalar degree modifiers can be attributed to the *default* primacy of the maximum reference point in their semantics. Yet, defaults can be easily overridden by giving more salience to other reference-point phenomena, such as the cognitive zero or the minimum value (for details see Section 6.4.8).

Using a tiny portion of the lexicon (colour and size adjectives) as a case in point, this investigation has provided evidence that there is a whole array of intriguing reference-point phenomena in language that we are hardly aware of. This study has put some bits together and revealed the need for more research in this line.

10.3.2. From lexicon to cognition and back again

It should be observed that the CRPs studied in this thesis share essential properties with both the Roschean and the Langackerian reference points. To begin with, the most important property of reference points, according to both Rosch (1975a) and Langacker (1993), is the asymmetry between CRP and non-CRP items. The essence of this asymmetry is that a reference point is more salient than non-CRP entities. Therefore, other items are seen in relation to the reference point (Rosch 1975) and reference points can give mental access to non-CRP items (Langacker 1993).

Critically, on the reference-point view, both prototypes and various scalar anchors (cognitive zero, absolute zero, minimum, maximum, EGO, incidental CRPs) are all manifestations of essentially the same cognitive phenomenon, *viz.* reference-point reasoning. Focal colours fulfil reference-point function by virtue of their perceptual salience. For this reason, various non-focal hues are seen in relation to the foci. Similarly, average dimensions of a comparison class are quite prominent CRPs providing mental access to specific properties denoted by means of dimensional adjectives. Through repeated exposure to numerous instantiations of an object category we store a visual image of a normal representative of that category. For instance, having seen a lot of dogs in our life we construct a mental image of a usual dog. So we know quite well how big an average dog is. A sentence like *His dog is very big* can activate this knowledge of an average dog, which will give the listener mental access to the target values above the norm. The visual image of a usual-sized dog is more entrenched than various individual instantiations of the dog class. Crucially, this is another manifestation of a CRP *vs.* non-CRP asymmetry.

Another important outcome of this study is that the CRP inventory developed for colour terms and dimensional adjectives has obvious counterparts in other areas of cognition. Examples of this have been provided throughout the thesis. Here I will only mention a few instances to illustrate the point.

Two case studies reported in Chapter 8 have provided converging evidence of a reference-point status of EGO, which is crucial to the distribution of *nevysokij* 'not.high' vs. *nizkij* 'low/short' in Russian and *high* vs. *tall* in English. In the same manner, numerous studies in social psychology found that EGO is an important CRP facilitating people's judgments about themselves and about others. What is more, this CRP displays considerable similarities to prototypes in terms of their function of structuring experience and affecting similarity judgments (Holyoak & Gordon 1983; Kunda & Nisbett 1988; McFarland & Miller 1990; Srull & Gaelick 1983). For example, people usually assume that others are more similar to them-

selves (false consensus effect) than they are similar to others (false uniqueness effect).

Further, the sub-supra asymmetry attested in the domain of relative adjectives (see Chapter 7) remarkably parallels asymmetric effects of high *vs.* low anchors discovered by psychologists. For example, in a study reported in Jacowitz & Kahneman (1995), subjects in the control group gave estimates of numerical values, such as the height of Mount Everest and the number of members in the United Nations. In the experimental group, the subjects first indicated whether the quantity was greater or less than an anchor value (incidental standard of comparison) and then provided their estimation of the quantity (e.g. 1. *Is Mount Everest higher or lower than 2,000 feet?* 2. *How high is Mount Everest?*). An important result of this study is that the answers to Question 2 were largely influenced by the anchors mentioned in Question 1. More precisely, "the median subject moved almost halfway toward the anchor, from the estimate that the subject would have made without it" (Jacowitz & Kahneman 1995: 1163). And, more importantly for the present discussion, the effects of high and low anchors were not equally strong. The effect of high anchors was significantly larger. Jacowitz & Kahneman (1995: 1164) give the following explanation of the observed asymmetry: "The asymmetric effect of high and low anchors may arise from an asymmetry of uncertainty in many of our problems, in which there is a definite lower bound (zero) but no definite upper bound".

Notice that the explanation provided by Jacowitz & Kahneman (1995) with respect to the estimation process nicely captures the linguistic asymmetry attested in the domain of relative adjectives. As explained in Chapter 7, sub terms are more felicitous with maximizers (e.g. *completely*) than their supra counterparts. I have suggested that this asymmetry is motivated by the presence of the definite lower bound (ground in the case of adjectives denoting vertical size) and no salient upper bound. Thus, again we observe the same cognitive principle at work in language and other facets of human cognition.

Finally, another intriguing similarity between linguistic and non-linguistic CRPs is manifested in the remarkably similar reference-point inventories in the semantics of relative adjectives and in the marketing behaviour of human beings. Recall that the primary default CRP for interpreting relative adjectives is the cognitive zero. In addition, meaning construal in relative adjectives can also be contingent on the endpoints of the scale and various incidental standards of comparison. Likewise, the most salient CRP which determines our willingness to buy a product is a so-called *internal reference price*, i.e. an average value established as a result of past shopping experience (Chen & Bei 2005; Nunes & Boatwright 2004; Thomas & Menon, forthcoming). Crucially, the internal reference price is a direct counterpart of the

cognitive zero. The cognitive zero divides the scale into the realms of sub and supra terms. Similarly, the internal reference price divides the outcomes of marketing activities into gains and losses.

Another important CRP type discovered by marketing and negotiation research is a *reservation price*, i.e. the highest price a buyer is ready to pay (Kristensen & Gärling 1997a). Likewise, knowledge of object categories and various (often anthropocentric) contexts may render the maximum value relevant to the semantics of relative adjectives (see Section 7.4).

Besides internal and reservation reference prices, marketing behaviour is also anchored by incidental prices of unrelated products (for details see Section 2.3.5), just like the linguistic behaviour of relative adjectives is sometimes contingent on various incidental landmarks, as illustrated by (1) above (see further Chapters 5-7).

In summary, these examples and numerous other parallels between linguistic and non-linguistic instantiations of CRP-reasoning discussed in this thesis provide a compelling piece of evidence in support of the view that language is an integral part of human cognition and should therefore be studied in close connection to cognitive psychology. The CRP-model proposed in this book provides an elegant account of conceptual motivation of linguistic phenomena based on the general cognitive principles. One of such general principles is flexibility of human cognition, which allows us to entertain more than one reference point at the same time. Psychologists provided evidence of this ability in the domains of perception, categorisation, spatial orientation, social, organisational and marketing behaviour of human beings. In this book, I have shown that the same flexibility is intrinsic to language use as well. One of the most significant findings of this thesis is that several CRPs are usually involved in the interpretation of adjectival words; context-specific interpretations result from various combinations of contextually relevant CRPs and the *interaction* of multiple reference points.

10.4. Future research

10.4.1. Reference points in adjectival semantics

10.4.1.1. CRPs and extended uses. In this thesis, I have focused on the prototypical meanings of adjectives (colour and size) and left their extended uses out of consideration. Future research could go deeper into the analysis of adjectival words and try to establish whether primary CRPs motivate extended uses of adjectives. Evidence available at this moment clearly points in that direction. For instance, as

has been shown in Chapter 3, metaphorical uses of colour adjectives are largely motivated by natural prototypes, such as snow, blood, and the sky (see further Levanova & Tribushinina 1999; Niemeier 1998; Philip 2003; Tribushinina 2002).

In a similar fashion, Tribushinina (2003a) argues that metaphorical uses of *low* in the auditory domain (e.g. *low voice*) are facilitated by the similarities in terms of reference points between size adjectives, on the one hand, and adjectives of volume and pitch, on the other hand. More precisely, scale projection from the domain of size into the domains of sound volume and pitch is possible because all these scales have essentially the same reference points, cognitive zero being, by default, the most salient one.

In the same vein, Rakhilina (2000: 146ff.) suggests that extensions of *vysokij* 'high/tall' are motivated by the reference-point status of the norm. For instance, *vysokaja prestupnost'* 'high criminal rate' is interpreted as 'the number of crimes above the norm'. In the same way, *vysokie dostiženija* 'high achievements' means 'achievements above the usual'.

A study reported in Levanova & Tribushinina (1999b) analyses symbolism of colour terms and size adjectives in literary texts. The results indicate that there might be a relation between primary CRPs and types of symbolic meanings acquired by adjectives in text structure. For example, the colour adjective *red* being integrated into the global whole of Dickens' novel *A Tale of Two Cities* symbolizes murder, aggression and destruction of the French Revolution. It is very plausible that these associations are motivated by the natural reference point for *red* – blood.

Taken as a whole, these studies indicate that this might be a fruitful research path to take. What is needed is a more comprehensive approach to these phenomena that would examine the relationship between CRP types and types of extended meanings in a more systematic way.

10.4.1.2. CRPs in semantic change. Another exciting avenue for future research is an investigation of the historical development of CRPs. How do reference points behave when a word meaning changes: does the CRP remain or does it also change? Or, alternatively, is it possible that a CRP shift facilitates semantic change?

A quick glance at the data in two etymological dictionaries (Vasmer 1964 and *Online Etymology Dictionary*[3]) gives the impression that all these scenarios are possible. For instance, the English adjective *big* shifted its meaning from 'powerful, strong' to 'of great size', but retained its primary reference point – the cognitive zero. Conversely, its Russian counterpart *bol'šoj* 'big' has undergone a CRP shift from the

[3] http://www.etymonline.com/

maximum endpoint to the cognitive zero (medium). Its earlier orientation to the maximum reference point is manifested by the etymological relation to the Sanskrit *bálisthas* 'strongest' and to the Ancient Greek *βελτίων, βέλτιστος* 'better, best'.

A different type of CRP shift was attested in the English auditory adjective *loud*. Its meaning change from 'heard, making noise' to 'having exceptional volume' was accompanied by the shift of a reference point from the minimum value (loud enough to be heard) to the cognitive zero (louder than normal).

Another frequent path of CRP development is from a nominal concept to a cognitive zero. As mentioned in Chapter 7, the adjective *nizkij* 'low/short' is derived from the noun *niz* 'bottom, lower part'. Thus, *nizkij* 'low/short' originally meant 'close to the ground'. A case study reported in Chapter 8 has shown that the ground level is still an important reference point in the semantics of *nizkij* 'low/short'. For one, pieces of furniture whose (functional) tops are located close to the ground (or floor) constitute the most prominent referent category of this adjective. However, a more salient CRP for *nizkij* 'low/short' in present-day Russian is the cognitive zero. Thus, in the case of *nizkij* 'low/short' we see a CRP shift without a drastic change in meaning. An interesting question to pursue in this respect is whether the semantic and distributional range of the adjective has changed along with the CRP. It is reasonable to assume, for instance, that the shift of a primary CRP from the bottom to the cognitive zero was accompanied by a growing ability to be combined with a wide range of noun heads. Similar CRP development has presumably taken place in the adjectives *gromkij* 'loud' (from *grom* 'thunder') and *bogatyj* 'rich' (from *bog* 'God', i.e. given by God).

Even a small pilot study reveals an obvious tendency for a CRP shift *towards* the cognitive zero, rather than *from* the cognitive zero. An example of the latter type of shift is the Dutch evaluative adjective *leuk* 'nice, pleasant', which originally meant 'tepid' (cf. Eng. *luke* as in *lukewarm*). A similar development has taken place in the case of the English *cool*. This semantic shift was accompanied by a CRP change from the cognitive zero (mid-zone between hot and cold) to the positive endpoint of the evaluative scale (De Smet & Verstraete 2006). However this type of shift is probably quite rare.

The observation that there is a tendency for a CRP change *towards* the cognitive zero rather than *from* the cognitive zero receives support from a number of studies investigating semantic change in degree adverbs. As has been pointed out in Chapter 7, a lot of boosters originated from maximizers, whereas the reverse has never been attested (Athanasiadou 2005, 2007; Cuzzolin & Lehmann 2004; Lorenz 2002; Mendez-Naya 2003; Nevalainen & Rissanen 2002; Paradis 1997; Peters 1994; Stoffel 1901; Tribushinina 2008a; Xmelevskij 2003).

To take just one example, the Russian degree adverb *vpolne* (from *polnyj* 'full') is now used as a moderator meaning 'rather, fairly'. However, in the 18th century it was exclusively used as a verb adjunct meaning 'fully' (e.g. *vpolne doverjat* 'fully trust'). In the early 19th century, it came to be used as a degree adverb denoting the maximal degree of the property, as in *vpolne gluxoj* 'totally deaf'. In the early 20th century, the adverb presumably developed a weaker scalar meaning of 'very', as in *vpolne ljubeznyj* 'very kind'. By the end of the 20th century, *vpolne* has developed an even weaker scalar meaning of a moderator, as in *vpolne dovolen* 'rather pleased'. In some adjective-contexts it however still retains the maximizer sense, as in *vpolne očevidno* 'quite apparent' (Tribushinina 2008a).

Critically, this developmental path is one of subjectification, whereby "meanings become increasingly based in the speaker's subjective belief state/attitude toward the proposition" (Traugott 1989: 35). Both totality and maximum can be determined quite objectively. For instance, a glass is either completely or not completely full. In contrast, the expression of both high and moderate degree largely involves the speaker's attitude towards the proposition (cf. Athanasiadou 2005, 2007; Paradis 2000b). What is a very expensive restaurant to one person is not at all expensive to the other.

It will be a matter for future research to establish which patterns of CRP shifts prevail within and across languages and which factors motivate the preferred directions of CRP change. For example, it could be the case that the change *towards* the cognitive zero is more frequent than the reverse pattern because the process of subjectification generally prevails over the process of objectification (Traugott 1989, 1995). Future research will be crucial to resolving these issues.

10.4.1.3. CRPs in language acquisition. This thesis has shown that the cognitive zero is, by default, the primary reference point for interpreting relative adjectives. Other CRPs, such as the absolute zero, EGO, minimum and maximum values, are usually less salient than the cognitive zero. Although this observation holds for adults, we still do not know how these reference points develop in children. There is considerable disagreement in the literature about the role of the cognitive zero in the acquisition of relative adjectives. Some studies suggest that very young children are sensitive to the statistics for comparison classes and use the relative standard in the middle of the scale for producing and interpreting relative adjectives (Barner & Snedeker 2007; Carey & Potter 1976 cited in Carey 1978: 279; Ebeling & Gelman 1994; Nelson & Benedict 1974; Syrett et al. 2005; Syrett 2007).

Other studies suggest however that the cognitive zero is not relevant until the age of four or five (Ehri 1976; De Villiers & De Villiers 1979; Jaščenko 2006; Ryalls

2000; Sera et al. 1988; Smith et al. 1987). By this view, children acquire relative adjectives on a categorical basis (e.g. elephants are always big, ducks are always small) and shift to medium-related uses later in development.[4]

The results presented in this thesis partly support the view that the acquisition of relative adjectives is categorical rather than medium-based. The corpus study reported in Chapter 9 has shown that the first referents of *tall* are prototypically tall entities. Tribushinina (2008b) replicated these results for the Dutch adjectives *hoog* 'high', *lang* 'long/tall' and *groot* 'large'. In other words, children know, for example, that towers and giraffes are tall, that trains are long and elephants are big. However, the fact that toddlers eagerly operate on their knowledge of adjective-entity pairings does not mean that they cannot make relative judgments. For one thing, from early on infants are perfectly able to choose *the big one* out of two objects of different sizes (Braine 1976; Ebeling & Gelman 1994; Syrett et al. 2005; Syrett 2007, Experiment 1).

To summarise, it is highly controversial how exactly the acquisition of relative adjectives proceeds and how reference points develop in the acquisition process. I will leave this problem for future investigation.

10.4.2. Beyond the adjectival domain: putting the bits together

As shown by numerous studies in cognitive psychology and various other disciplines, reference-point reasoning is very pervasive in human cognition. This notwithstanding, we know very little about *linguistic* aspects of the reference-point phenomenon. Even less is known about reference points in lexical semantics. The present study has discovered an array of reference-point phenomena on a tiny piece of the lexical landscape, which bolsters the conclusion that there must be a lot more CRPs to discover in other lexical fields.

It is up to future research to discover a multitude of other reference points in different lexical and non-lexical domains, to establish patterns of interaction between various CRPs, and to pinpoint linguistic facts that are conceptually *motivated* by the cognitively prominent reference-point phenomena.

[4] Notice that this developmental path is one of subjectification and that it remarkably parallels the semantic change in adjectives and adverbs discussed above (see further Tribushinina 2008a).

Appendices

APPENDIX 1
Pilot study

Какой это оттенок красного? 'Which shade of red is it?'

красное вино 'red wine'
красная вишня 'red cherries'
красные глаза 'red eyes'
красная икра 'red caviar'
красный кирпич 'red brick'
красная кровь 'red blood'
красное лицо 'red face'
красная малина 'red raspberries'
красный мяч 'red ball'
красный перец 'red paprika/pepper'
красное пламя 'red flame'
красный помидор 'red tomato'
красный рак 'red crayfish'
красная роза 'red rose'
красная рыба 'red fish'
красная свекла 'red beet'
красный стул 'red chair'
красный флаг 'red flag'
красная черепица 'red tiling'
красные чернила 'red ink'
красная шапка 'red cap'
красное яблоко 'red apple'

Как Вы можете описать ВЫСОТУ следующих объектов?
'How can you describe the HEIGHT of the following objects?'

высокая башня 'tall tower'
высокие ботинки 'high boots'
высокие каблуки 'high heels'
высокий небоскреб 'tall skyscraper'
высокие сапоги 'high jackboots'
высокий столб 'high post'
высокий стул 'high chair'
высокий сугроб 'high snowdrift'
высокая трава 'tall grass'
высокий холм 'high hill'
низкая башня 'short tower'
низкая гора 'low mountain'
низкое дерево 'low tree'
низкий забор 'low fence'
низкое здание 'low building'
низкое кресло 'low armchair'
низкая стена 'low wall'
низкий стол 'low table'
низкая трава 'short grass'
низкий шкаф 'low wardrobe'

Мой пол / I am:
() Ж (F) / () М (M)
Мне _____ лет. / My age is _____ .

Благодарим за сотрудничество!
Thank you for your cooperation!

APPENDIX 2
Survey

1. Пожалуйста, назовите по три существительных, которые, по Вашему мнению, лучше всего сочетаются с приведенными ниже прилагательными. Обратите внимание, что Вы можете использовать существительные не только мужского, но также женского и среднего рода.
Please, give three nouns that you think go particularly well with a given adjective. Note that you may use not only masculine, but also feminine and neuter nouns.

Пример:
Example:
Назовите три существительных, которые, по Вашему мнению, особенно хорошо сочетаются с прилагательным *зелёный (-ая, -ое)*:
а) *трава* б) *ёлка* в) *крокодил*
Give three nouns that go particularly well with the adjective *zelenyj* 'green'.
а) *grass* б) *fir-tree* в) *crocodile*

1А. Назовите три существительных, которые, по Вашему мнению, особенно хорошо сочетаются с прилагательным *далёкий* (*-ая, -ое*):
Give three nouns that you think go particularly well with the adjective *dalekij* 'far'
а) …… б) …… в) ……

1Б. Назовите три существительных, которые, по Вашему мнению, особенно хорошо сочетаются с прилагательным *высокий* (*-ая, -ое*):
Give three nouns that you think go particularly well with the adjective *vysokij* 'high/tall'
а) …… б) …… в) ……

1В. Назовите три существительных, которые, по Вашему мнению, особенно хорошо сочетаются с прилагательным *интересный* (*-ая, -ое*):
Give three nouns that you think go particularly well with the adjective *interesnyj* 'interesting'
а) …… б) …… в) ……

1Г. Назовите три существительных, которые, по Вашему мнению, особенно хорошо сочетаются с прилагательным *сладкий* (*-ая, -ое*):
Give three nouns that you think go particularly well with the adjective *sladkij* 'sweet'
а) …… б) …… в) ……

1Д. Назовите три существительных, которые, по Вашему мнению, особенно хорошо сочетаются с прилагательным *красивый* (*-ая, -ое*):
Give three nouns that you think go particularly well with the adjective *krasivyj* 'beautiful'
а) …… б) …… в) ……

1Е. Назовите три существительных, которые, по Вашему мнению, особенно хорошо сочетаются с прилагательным *чистый* (*-ая, -ое*):
Give three nouns that you think go particularly well with the adjective *čistyj* 'clean'
а) …… б) …… в) ……

1Ж. Назовите три существительных, которые, по Вашему мнению, особенно хорошо сочетаются с прилагательным *красный* (*-ая, -ое*):
Give three nouns that you think go particularly well with the adjective *krasnyj* 'red'
а) …… б) …… в) ……

1З. Назовите три существительных, которые, по Вашему мнению, особенно хорошо сочетаются с прилагательным *добрый* (*-ая, -ое*):
Give three nouns that you think go particularly well with the adjective *dobryj* 'kind'
а) …… б) …… в) ……

1И. Назовите три существительных, которые, по Вашему мнению, особенно хорошо сочетаются с прилагательным *трудный* (*-ая, -ое*):
Give three nouns that you think go particularly well with the adjective *trudnyj* 'difficult'
а) …… б) …… в) ……

1К. Назовите три существительных, которые, по Вашему мнению, особенно хорошо сочетаются с прилагательным *пустой* (*-ая, -ое*):
Give three nouns that you think go particularly well with the adjective *pustoj* 'empty'
а) …… б) …… в) ……

1Л. Назовите три существительных, которые, по Вашему мнению, особенно хорошо сочетаются с прилагательным *низкий* (*-ая, -ое*) / *невысокий* (*-ая, -ое*):
Give three nouns that you think go particularly well with the adjective *nizkij* 'low/short'/*nevysokij* 'not.high'
а) …… б) …… в) ……

2. Пожалуйста, выберите прилагательное, которое, с Вашей точки зрения, лучше всего подходит в следующих контекстах. Подчеркните его.
Please, choose the adjective that you think fits best in the following texts. Underline it.

2А. Наш дом **невысокий/низкий**. В нём всего два этажа.
Our house is **not.high/low**. It is only two-storeyed.

2Б. Забор на нашей даче **невысокий/низкий**. Нам хорошо видно соседей.
The fence at our dacha is **not.high/low**. We can see the neighbours well.

2В. Уральские горы **невысокие/низкие**, проедешь – и не заметишь.
The Ural Mountains are **not.high/low**, you will hardly notice passing them.

2Г. Трава у нас в саду **невысокая/низкая**, сантиметров 10-15.
The grass in our garden is **not.high/low**, it is about 10-15 cm tall.

2Д. Это была самая обычная комната: **невысокий/низкий** сервант, журнальный столик посередине, телевизор в углу.
It was a most usual room: a **not.high/low** sideboard, a newspaper table in the middle, a TV-set in the corner.

2Е. Мы не стали вызывать службу спасения, так как дерево на которое залез котёнок, было **невысоким/низким**. Папа сам снял Мурзика.
We did not call the emergency service, because the tree which the kitten had climbed was **not.high/low**. Dad could take Murzik down himself.

2Ж. Азалиии лучше сажать в **невысоком/низком** горшке, т.к. корни у них поверхностные.
You should better plant azaleas in a **not.high/low** pot, because their roots are shallow.

2З. Дверь в баню - **невысокая/низкая**, приходится нагибаться при входе.
The door of the bath-house is **not.high/low**, you have to stoop to enter.

2И. Машенька села на **невысокий/низкий** пенек и принялась за пирожок.
Mašen'ka sat down on a **not.high/low** stump of a tree and started eating her patty.

3. Дополните следующие выражения.
Continue the following expressions.

Примеры:
Examples:

горький как *полынь*
as bitter as *wormwood*

тонкий как *спичка*
as thin as *a matchstick*

3А. красный как ……
as red as ……

3Б. высокий как ……
as high/tall as ……

3В. низкий как ……
as low/short as ……

4. Насколько приемлемы, с Вашей точки зрения, следующие фразы? Оцените их приемлемость по пятибалльной шкале. Обведите нужный балл кружочком. 1 означает, что выражение абсолютно неприемлемо, 3 означает, что Вы не уверены в приемлемости фразы, 5 означает абсолютную приемлемость высказывания. Фраза приемлема, если она кажется Вам естественной, и Вы не были бы удивлены, услышав ее. Фраза неприемлема, если она кажется Вам неправильной и невозможной в русском языке.

How acceptable do you think the following phrases are? Evaluate their acceptability on a 5-point scale. Indicate your rating by encircling the appropriate grade. Choose 1 if you find the phrase totally unacceptable; choose 3 if you are not sure about the acceptability of the phrase, choose 5 if you find the phrase perfectly acceptable. A phrase is acceptable if it sounds natural, and you would not be surprised to hear it. A phrase is unacceptable if it sounds ungrammatical and non-Russian.

4A.

	абсолютно неприемлемо	**не совсем приемлемо**	**сомневаюсь**	**достаточно приемлемо**	**абсолютно приемлемо**
Это здание – очень высокое. This building is very tall.	1	2	3	4	5
Это здание – довольно высокое. This building is rather tall.	1	2	3	4	5
Это здание – немного высокое. This building is a little tall.	1	2	3	4	5
Это здание – едва высокое. This building is barely tall.	1	2	3	4	5
Это здание – совсем высокое. This building is completely tall.	1	2	3	4	5
Это здание – почти высокое. This building is almost tall.	1	2	3	4	5

4Б.

	абсолютно неприемлемо	**не совсем приемлемо**	**сомневаюсь**	**достаточно приемлемо**	**абсолютно приемлемо**
Этот куст – очень низкий. This bush is very low.	1	2	3	4	5
Этот куст – довольно низкий. This bush is rather low.	1	2	3	4	5
Этот куст – немного низкий. This bush is a little low.	1	2	3	4	5
Этот куст – едва низкий. This bush is barely low.	1	2	3	4	5
Этот куст – совсем низкий. This bush is completely low.	1	2	3	4	5
Этот куст – почти низкий. This bush is almost low.	1	2	3	4	5

4В.

	абсолютно неприемлемо	**не совсем приемлемо**	**сомневаюсь**	**достаточно приемлемо**	**абсолютно приемлемо**
Эта кофта – очень красная. This sweater is very red.	1	2	3	4	5
Эта кофта – довольно красная. This sweater is rather red.	1	2	3	4	5
Эта кофта – немного красная. This sweater is a little red.	1	2	3	4	5
Эта кофта – едва красная. This sweater is barely red.	1	2	3	4	5
Эта кофта – совсем красная. This sweater is completely red.	1	2	3	4	5
Эта кофта – почти красная. This sweater is almost red.	1	2	3	4	5

Мой пол: ○ Ж ○ М
I am: ○F ○ M

Мне _____ лет.
My age is _____

Благодарим за сотрудничество!
Thank you for your cooperation!

APPENDIX 3
Positional and metaphorical uses elicited on Task 1 of the survey

Word	Frequency
nebo 'sky'	4
potolok 'ceiling'	4
mesto 'place'	2
bereg 'shore'	1
polet 'flight'	1
ravnina 'plane'	1
solnce 'sun'	1
vysota 'height'	1
zvezda 'star'	1

Table 1. Positional uses of *vysokij* 'high/tall'

Word	Frequency	Word	Frequency
uroven' 'level' (e.g. intelligence)	12	kul'tura 'culture'	1
čuvstvo 'feeling'	8	masterstvo 'mastery'	1
mnenie 'opinion'	7	moda 'fashion'	1
intellekt 'intellect'	6	mysl' 'thought'	1
golos 'voice'	4	myšlenie 'thinking'	1
post 'post'	4	nota 'note'	1
razvitie 'development'	4	organizacija 'organisation'	1
ocenka 'mark/evaluation'	3	poznanie 'cognition'	1
ball 'point/mark'	2	projezd 'fare'	1
cel' 'goal'	2	procent 'percentage'	1
doxod 'income'	2	rezul'tat 'result'	1
status 'status'	2	samoocenka 'self-appraisal'	1
ton 'tone'	2	smysl 'sense'	1
zarplata 'salary'	2	son 'dream'	1
avtoritet 'authority'	1	stepen' 'degree'	1
dolžnost' 'post'	1	texnologii 'technologies'	1
dostiženie 'achievement'	1	trebovanija 'requirements'	1
duxovnost' 'spirituality'	1	um 'intelligence'	1
duša 'soul'	1	znanie 'knowledge'	1
iskustvo 'art'	1	zvuk 'sound'	1
kar'jera 'career'	1		

Table 2. Metaphorical uses of *vysokij* 'high/tall'

Word	Frequency	Word	Frequency
potolok 'ceiling'	15	mesto 'place'	1
nebo 'sky'	4	okno 'window'	1
dolina 'valley'	2	podveska 'pendant'	1
porog 'threshold'	2	polet 'flight'	1
posadka 'seat'	2	start 'start'	1
bar'jer 'barrier'	1	tuči 'clouds'	1
luna 'moon'	1		

Table 3. Positional uses of *nizkij* 'low/short'

Word	Frequency	Word	Frequency
uroven' 'level'	18	dolžnost' 'post'	1
postupok 'deed'	14	doxod 'income'	1
čelovek 'man/human being'	11	mnenie 'opinion'	1
samoocenka 'self-appraisal'	6	namerenie 'intention'	1
golos 'voice'	5	razum 'reason'	1
intellekt 'intellect'	4	rezul'tat 'result'	1
ocenka 'mark/evaluation'	4	status 'status'	1
nota 'note'	3	stupen' 'step'	1
zvuk 'sound'	3	tembr 'timbre'	1
kačestvo 'quality'	2	tvar' 'creature'	1
zarplata 'salary'	2	ton 'tone'	1
ball 'point/mark'	1	um 'intelligence'	1
čelovečiška 'humble man'	1	videnie 'vision'	1
dostoinstvo 'dignity'	1	zvučanie 'sounding'	1

Table 4. Metaphorical uses of *nizkij* 'low/short'

Word	Frequency
potolok 'ceiling'	2
bereg 'shore'	1
karniz 'cornice'	1
nebo 'sky'	1
pol 'flor'	1
polet 'flight'	1
solnce 'sun'	1
vysota 'height'	1
zemlja 'ground'	1

Table 5. Positional uses of *nevysokij* 'not.high'

Word	Frequency	Word	Frequency
uroven' 'level'	7	golos 'voice'	1
mnenie 'opinion'	6	dolžnost' 'post'	1
intellekt 'intellect'	5	IQ	1
položenie 'status'	4	metka 'mark'	1
gradus 'degree'	2	moda 'fashion'	1
ocenka 'mark/evaluation'	2	nalog 'tax'	1
procent 'percentage'	2	potencial 'potential'	1
zarplata 'salary'	2	razum 'reason'	1
znanija 'knowledge'	2	skorost' 'speed'	1
zvuk 'sound'	2	status 'status'	1
ball 'point/mark'	1	um 'intelligence'	1

Table 6. Metaphorical uses of *nevysokij* 'not.high'

APPENDIX 4

Referents of *tall* in the Brown Corpus and the Manchester Coprus

Child	Referents	Tokens in CS*	Tokens in CDS**
Adam	arrow	1	0
	building	4	0
	giraffe	1	2
	house	2	0
	ladder	1	0
	people	12	8
	tower	1	2
Eve	---	0	0
Sarah	cat	0	1
	duck	0	1
	horse	0	1
	people	6	17
	shadow	1	3
Anne	bridge	0	1
	castle	0	6
	giraffe	0	4
	people	0	4
	tower	3	5
	tree	0	1
	tunnel	1	3
Aran	bridge	0	1
	giraffe	0	2
	hat	1	0
	horse	0	1
	house	0	1
	igloo	0	4
	penguin	0	2
	people	0	1
	roof	0	1
	slide	0	1
	steeple	0	1
	tower	1	5
	tree	0	1
Becky	bridge	1	2
	castle	2	1
	cock-a-doodle-doo	0	1
	doorway	0	2
	elephant	1	1
	people	0	3
	steps	0	2
	tower	3	7
	train	0	2
	tunnel	1	2

Carl	bridge	0	2
	car	1	0
	house	0	2
	shed	0	1
	slide	0	1
Dominic	giraffe	0	1
	green giant	0	1
	hat	0	1
	people	0	2
	tower	1	4
Gail	camel	2	1
	people	1	2
	tower	3	10
	tree	0	1
Joel	people	0	2
John	giraffe	0	1
	Humpty-Dumpty	1	0
	ladder	0	3
	thing (train part)	0	1
	tower	0	2
Liz	candlestick	1	0
	house	0	3
	plant	2	1
	tower	1	5
	tunnel	0	1
Nicole	animal	0	1
	bridge	0	8
	giraffe	0	1
Ruth	boat	0	1
	people	0	8
	teddy-bear	0	1
	tower	0	2
	train	0	4
Warren	bridge	2	6
	gate	1	0
	giraffe (Jolly Tall)	3	3
	funnel	0	1
	neck	1	2
	people	0	4
	pile of bricks	0	1
	tower	5	23
	train	0	6

*** Child speech**
**** Child-directed speech**

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Samenvatting

De prototypetheorie heeft in de cognitieve linguïstiek een hoge vlucht genomen. Het belang van prototypen wordt echter vaak overschat, vooral in de lexicale semantiek, waar prototypen worden beschouwd als het enige soort *cognitieve referentiepunten*. Daaronder wordt hier verstaan: cognitief prominente elementen die de woordbetekenis verankeren en toegang bieden tot de relevante conceptuele specificaties van lexicale items.

In dit proefschrift wordt betoogd – anders dan gangbaar is in de traditie – dat een prototype slechts een van de vele soorten cognitieve referentiepunten is. Voor sommige woorden is een prototype primair als referentiepunt, maar bij andere lexicaal-semantische groepen spelen prototypen een zeer perifere rol. Bovendien kunnen meerdere referentiepunten tegelijk van toepassing zijn bij het gebruik van lexicale elementen.

De centrale claim van dit proefschrift – prototypen zijn niet meer dan een van de vele soorten cognitieve referentiepunten – wordt getoetst aan de hand van twee groepen adjectieven: kleur- en maatadjectieven. Kleurtermen zijn gekozen omdat ze bekend staan als karakteristiek voorbeeld van prototypische categorieën. Uit psychologische studies is herhaaldelijk gebleken dat mensen het in hoge mate met elkaar eens zijn over wat als het "beste exemplaar" van b.v. rood gezien wordt. Bij maatadjectieven (zoals *groot, lang, dik*) is het daarentegen vrij moeilijk een prototype te noemen. Omdat maatadjectieven vaag zijn en slechts in beperkte mate op prototypen georiënteerd, is als uitgangspunt genomen dat er waarschijnlijk andere soorten referentiepunten zijn waaraan de conceptuele specificaties van vage scalaire adjectieven worden verankerd.

Om vast te stellen in welke mate de semantiek van adjectieven bepaald wordt door het universele cognitieve mechanisme van referentiepuntgebruik vergelijkt dit proefschrift de wijze waarop kleur- en maatadjectieven gebruikt worden in twee talen, namelijk Engels en Russisch. De Russische data zijn van groot belang voor dit onderzoek omdat de dominante semantische theorieën grotendeels gebaseerd zijn op inzichten vanuit het Engels en – zij het minder vaak – andere Germaanse talen, zoals Duits, Nederlands en Zweeds.

De studie waarover in deze dissertatie gerapporteerd wordt, is grotendeels gebaseerd op de analyse van adjectieven in twee corpora – het British National Corpus en het Russian National Corpus. Verder wordt in hoofdstuk 9 gebruik gemaakt van twee kindertaalcorpora uit de CHILDES-database (Brown Corpus en Man-

chester Corpus). Omdat de semantiek van Russische adjectieven nog nauwelijks onderzocht is (in vergelijking met het Engels), worden de Russische corpusdata aangevuld met data die geëliciteerd zijn door middel van vragenlijsten en interviews.

Het proefschrift bestaat uit vier delen. Deel I (hoofdstukken 1-2) introduceert het onderzoek en schetst zijn theoretische achtergrond. Deel II (hoofdstukken 3-4) behandelt de referentiepunten die bij kleuradjectieven relevant zijn. In Deel III (hoofdstukken 5-9) wordt getracht in kaart te brengen welke referentiepunten bij de verwerking van dimensionele adjectieven betrokken kunnen zijn. Deel IV (hoofdstuk 10) bevat conclusies, theoretische implicaties en suggesties voor verder onderzoek. Hieronder geef ik verder een korte beschrijving van elk hoofdstuk.

Hoofdstuk 1 motiveert het belang van dit onderzoek, introduceert de onderzoeksvragen, beschrijft de methodologie en schetst de theoretische principes die ten grondslag liggen aan deze studie.

Hoofdstuk 2 opent met een overzicht van psychologische studies die het begrip 'cognitief referentiepunt' nader onderzoeken in een aantal uiteenlopende domeinen, zoals perceptie, categorisatie, marktgedrag, ruimtelijke en sociale cognitie. Vervolgens wordt het *reference-point model* besproken, zoals door Langacker voorgesteld is in het kader van de cognitieve grammatica. Langacker (1991, 1993) wijst erop dat verschillende grammaticale constructies in termen van referentiepunten beschreven kunnen worden. Hierbij valt te denken aan possessieven, topicconstructies en anaforen. Wat deze constructies met elkaar gemeen hebben, is dat een cognitief prominente entiteit (referentiepunt) gebruikt wordt om mentale toegang te bieden tot minder saillante elementen. Bijvoorbeeld: in *Kate's car* fungeert Kate als een referentiepunt dat mentale toegang geeft tot het *dominion* van haar bezittingen. Hoofdstuk 2 wordt afgesloten met een overzicht van lexicaal-semantische studies die gebruik maken van de notie 'cognitief referentiepunt'. Hoewel uit psychologische studies keer op keer gebleken is dat het gebruik van referentiepunten een algemeen voorkomend cognitief mechanisme is en dat prototypen slechts een van de vele soorten referentiepunten zijn, worden de cognitieve referentiepunten binnen de lexicale semantiek doorgaans gedefinieerd als prototypen. Geconcludeerd wordt dat er tot nu toe te weinig aandacht is besteed aan talige en in het bijzonder lexicaal-semantische aspecten in het gebruik van referentiepunten. In de volgende hoofdstukken wordt daarom een aantal conceptuele entiteiten empirisch onderzocht die gebruikt kunnen worden als referentiepunten bij de verwerking van enkele soorten lexicale items.

In de hoofdstukken 3 en 4 wordt de rol van prototypen in de semantiek van kleuradjectieven nader bestudeerd. De resultaten van dit onderzoek laten zien dat de notie 'prototype' complexer is dan algemeen wordt aangenomen. Elke kleurca-

tegorie kan in termen van zowel algemene (default) prototypen als combinatiespecifieke (lokale) prototypen worden beschreven. In hoofdstuk 3 wordt voorgesteld dat de default-prototypen niet beperkt zijn tot de focale kleuren waarover in de psychologische literatuur vaak gerapporteerd wordt. De foci zijn de delen van het spectrum die vrijwel unaniem als "beste exemplaren" van een kleurcategorie worden herkend doordat het menselijke oog voor bepaalde golflengtes het gevoeligst is. De focale prototypen zijn vermoedelijk universeel doordat de perceptie ervan universeel is. Naast de perceptueel bepaalde prototypen bestaan ook objecten die als ijkpunten voor kleurcategorieën in een bepaalde cultuur worden gezien (zoals sneeuw voor wit, bloed voor rood). Ze worden door Wierzbicka (1990) *natural reference points* genoemd. Anders dan de focale prototypen verschillen de natuurlijke referentiepunten vaak per cultuur. Zo wordt de zon als prototypisch *geel* object geconceptualiseerd in de Britse cultuur, maar in de Russische cultuur als ijkpunt voor *rood*. Deze cultuurspecifieke natuurlijke prototypen zijn even belangrijk in de semantiek van kleurtermen als de perceptueel bepaalde foci. In hoofdstuk 3 wordt de relevantie van natuurlijke referentiepunten aannemelijk gemaakt, vooral met woordenboekdefinities, samenstellingen, idiomatische uitdrukkingen, geëliciteerde oordelen en de etymologie van kleurtermen, maar ook met antonymische relaties, metaforen en metonymieën die door de ijkpunten gemotiveerd zijn.

In hoofdstuk 4 gaat de aandacht uit naar combinatiespecifieke prototypen. Het achterliggende idee is dat we een woordcombinatie zoals *rode wijn* niet interpreteren als een afwijking van een prototypische bloedrode kleur. Op basis van onze kennis van de wereld en van veelvoorkomende AN-combinaties zijn we in staat om de juiste variant van rood rechtreeks te activeren (dus niet via een default-prototype). We weten bijvoorbeeld dat rode wijn donkerrood is en dat rodekool paars van kleur is. Dit geldt niet alleen voor vaste uitdrukkingen, maar ook voor minder idiomatische combinaties. Zo is het heel goed mogelijk dat individuele taalgebruikers bepaalde verwachtingen hebben over een rode kleur als in de combinatie *rode trui*; en deze representatie hoeft niet identiek te zijn met de representatie van rood bij *rode bus*. Dit soort combinatiespecifieke prototypen worden in deze dissertatie *compound prototypes* genoemd.

De hoofdstukken 5 en 6 bespreken de referentiepuntstatus van een *cognitieve nul*, d.w.z. een gemiddelde waarde op een graduele schaal die als vergelijkingsstandaard gebruikt wordt binnen een bepaalde categorie. Een voorbeeld: een hond kan *groot* genoemd worden als hij groter is dan een gemiddelde hond. En andersom: een hond die kleiner is dan gemiddeld kan dan de attributie *klein* krijgen. In hoofdstuk 5 wordt betoogd dat de cognitieve nul een belangrijk referentiepunt is in de semantiek van maatadjectieven. De activering van een categoriegebonden gemiddelde

verklaart onder andere waardoor hetzelfde adjectief gebruikt kan worden om objecten van zeer verschillende maten te beschrijven (vergelijk *hoge berg, hoog gebouw, hoog gras*). Daarnaast stelt het gebruik van de cognitieve nul ons in staat bepaalde aspecten van antonymie, het effect van graadadverbia op scalaire adjectieven en het verschil tussen de syntactische en de morfologische comparatief te verklaren, alsmede het verschil tussen lange en korte adjectieven in het Russisch.

Maar hoe belangrijk de cognitieve nul ook is, zijn relevantie moet toch niet worden overschat. Zo indiceert het onderzoek in hoofdstuk 6 dat een cognitieve nul niet in alle contexten van toepassing is. Het is welbekend dat maatadjectieven ongemarkeerd zijn in een aantal constructies (zoals *Hoe groot is jullie huis? Hij is 2 meter lang. Mijn toren is hoger dan die van jou. Deze stoel is te laag voor je.*). Bij ongemarkeerd gebruik is de cognitieve nul niet essentieel. Bovendien worden ook adjectieven in de positieve vorm vaak onafhankelijk van de cognitieve nul geïnterpreteerd. In plaats daarvan worden de conceptuele specificaties van relatieve adjectieven verankerd door andere soorten referentiepunten, zoals polaire ankers, EGO en prototypen. Die komen aan bod in de hoofdstukken 7-9.

In hoofdstuk 7 staan polaire referentiepunten centraal. *Polar anchors* is een overkoepelende term voor drie soorten referentiepunten – minimum, maximum en absolute nul. Dat een minimale waarde op een schaal een belangrijk referentiepunt is, blijkt onder andere uit de bevinding dat scalaire adjectieven in de positieve vorm niet of nauwelijks gecombineerd kunnen worden met zogenaamde *diminishers*, graadadverbia die een heel lage graad van een eigenschap aanduiden. Combinaties zoals *een beetje hoog* worden meestal geïnterpreteerd in termen van overmaat (d.w.z. het overschreden maximum: 'te hoog voor bepaalde doelen') en niet ten opzichte van de cognitieve nul. In hoofdstuk 7 wordt betoogd dat de beperkte compatibiliteit van relatieve adjectieven met diminishers erop wijst dat adjectieven in de positieve vorm altijd een voldoende afwijking van een referentiepunt veronderstellen (minimum).

De relevantie van een maximum als referentiepunt wordt in de literatuur vaak genegeerd. Relatieve adjectieven worden doorgaans dan ook beschreven als woorden die onbegrensde (open) schalen oproepen. Een mogelijke verklaring hiervoor is dat men de semantiek van adjectieven bestudeert los van de nomina waarmee ze gecombineerd worden. Dit onderzoek laat echter zien dat de semantiek van het zelfstandig naamwoord waarmee een adjectief gecombineerd wordt, een maximale waarde toevoegt aan de *per default* onbegrensde schalen. Zo is er in principe geen objectieve maximale grens aan lengte. Het is niettemin aannemelijk dat er wel sprake is van een bepaalde grens als het niet om lengte in het algemeen gaat, maar bijvoorbeeld om *menselijke* lengte. Taalgebruikers weten dat een mens niet veel langer

kan zijn dan twee meter. Zo'n soort referentiepunt wordt in deze dissertatie *categorical maximum* genoemd. Als het categorische maximum wordt overschreden, kan de spreker ervoor kiezen het substantief te vervangen (b.v. *man* → *dwerg*) ofwel een extremer adjectief te gebruiken (*groot* → *gigantisch*).

Een andere verklaring voor de bekende claim dat relatieve adjectieven "onbegrensd" (*unbounded*) zijn, is dat deze woorden in talen als Engels en Nederlands (dus in de goed bestudeerde talen) in principe incompatibel zijn met *maximizers* (zoals *helemaal, volledig*) en *approximators* (zoals *bijna*). Uit hoofdstuk 7 komt echter naar voren dat deze eigenschap van relatieve adjectieven niet universeel is. In Slavische talen als Russisch en Bulgaars kunnen *subtermen* als 'laag', 'klein' en 'koud' wel gecombineerd worden met maximizers. Een belangrijke conclusie die in het hoofdstuk wordt getrokken is dat er geen een-op-eenrelatie bestaat tussen een type adjectief (relatief *versus* absoluut) en een type schaal die door een adjectief wordt opgeroepen.

Een derde soort polaire ankers die in hoofdstuk 7 wordt besproken is de absolute nul: een beginpunt voor meting. De relevantie van dit referentiepunt is vooral evident bij vragen als *Hoe hoog is dit gebouw?*, waar de grond als referentiepunt dient. De resultaten van dit onderzoek laten zien dat de referentiepuntstatus van het nulniveau belangrijke implicaties heeft voor de manier waarop maatadjectieven worden gebruikt. Om een voorbeeld te geven, de cognitieve prominentie van de absolute nul verklaart de asymmetrie binnen antonymische adjectiefparen. Zo kunnen in het Engels alleen supratermen als *tall* en *big* ongemarkeerd worden gebruikt; subtermen als *short* en *small* zijn daarentegen altijd gemarkeerd (vergelijk *How tall are you?* versus *How short are you?*). Dit heeft waarschijnlijk te maken met het gegeven dat subtermen schalen oproepen die *naar* de absolute nul lopen, terwijl bij een meting normaal gesproken de tegenovergestelde richting wordt gekozen (dus vanaf nul).

Een ander soort asymmetrie die door de referentiepuntstatus van de absolute nul kan worden verklaard, komt vooral in Slavische talen voor. Zo is het in het Russisch mogelijk om subtermen met maximizers te combineren (*sovsem nizkij* 'helemaal laag'); bij supratermen zijn dergelijke combinaties echter niet mogelijk (#*sovsem vysokij* 'helemaal hoog'). Dit komt hoogstwaarschijnlijk doordat er een saillante ondergrens is en geen duidelijke bovengrens.

In hoofdstuk 8 wordt de hypothese getoetst dat de referentiepuntstatus van EGO (de maat van het menselijk lichaam) de distributie bepaalt van twee Russische synoniemen (*nevysokij* 'onhoog' versus *nizkij* 'laag'). Gebleken is dat *nevysokij* 'onhoog' vaker gebruikt wordt voor objecten die lager dan gemiddeld zijn in hun categorie, maar groter dan mensen. *Nizkij* 'laag' wordt daarentegen geprefereerd als een object lager is dan de categorische vergelijkingsstandaard en kleiner dan EGO. Dit

resultaat laat heel duidelijk zien dat meerdere referentiepunten tegelijkertijd betrokken kunnen zijn bij de interpretatie van een adjectief. Dit proefschrift pleit dan ook tegen benaderingen waarbij er een een-op-eenrelatie wordt gelegd tussen een semantische groep adjectieven en een referentiepunt. Relatieve adjectieven zijn niet altijd georiënteerd op het middenpunt van een schaal. Heel vaak wordt de oriëntatie op het gemiddelde aangevuld met andere referentiepunten zoals EGO.

In hoofdstuk 9 wordt ingegaan op de rol van prototypen in de semantiek en in de verwerving van maatadjectieven. De resultaten geven aanleiding tot de conclusie dat twee verschillende soorten prototype-effecten geassocieerd kunnen worden met maatadjectieven: prototypicaliteit qua "beste exemplaren" en prototypicaliteit qua nomina.

"Beste exemplaren" zijn objecten die een eigenschap in hoge mate vertonen (zoals torens voor *tall*). Dit soort prototypen blijkt vooral belangrijk te zijn in de verwerving van maatadjectieven. Kinderen worden vaak geattendeerd op prototypisch hoge/grote/lange objecten, zoals respectievelijk torens, olifanten en slangen. Dit verklaart de bevinding dat *tall* in de vroege taalontwikkeling heel vaak gebruikt wordt in samenhang met torens, terwijl het zo nauwelijks wordt gebruikt in de taal van volwassenen vanwege de redundantie van die modificatie. De geëliciteerde data tonen aan dat maatadjectieven in mindere mate georiënteerd zijn op "beste exemplaren" dan kleuradjectieven.

Prototypische nomina zijn de meest voorkomende zelfstandige naamwoorden waarmee een adjectief gecombineerd wordt. Zo treedt *tall* vaak op met nomina waarbij het om menselijke referenten gaat (63% in het BNC). De bevindingen in dit hoofdstuk laten verder zien dat maatadjectieven meer prototype-effecten qua nomina vertonen dan kleurtermen.

In hoofdstuk 10 worden de conclusies van het onderzoek gepresenteerd. Tevens wordt ingegaan op de theoretische implicaties van de gerapporteerde bevindingen. Het hoofdstuk wordt afgesloten met suggesties voor verder onderzoek.

Curriculum vitae

Elena Tribushinina was born on the 4th of September, 1979, in Kemerovo, Russia. From 1995 to 2000, she studied English language and literature at Kemerovo State University and specialised in cognitive semantics. After obtaining a cum laude Master's degree in May 2000, she was employed as a lecturer at the Faculty of Romance and Germanic Languages of Kemerovo State University. From 2000 to 2004 Elena was teaching courses such as Text Analysis, Morphology of English and Dutch as a Foreign Language. From 2004 to 2006 she attended the Vrije Universiteit in Amsterdam, where she obtained a cum laude MPhil degree in Linguistics. In September 2006 she joined the Leiden University Centre for Linguistics as a PhD student. The research carried out at the University of Leiden resulted in this dissertation.