

CONCEPTUALISED DEVIATIONS FROM EXPECTED NORMALITIES

A SEMANTIC COMPARISON BETWEEN LEXICAL ITEMS ENDING IN *-FUL* AND *-LESS*

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Abstract: In our article, we start by posing the question why some adjectival stems can end both in *-ful* and *-less*, while others take only one of the endings. Together these items make up around 1% of the entries in a good dictionary. It soon becomes clear that we need to use several basic concepts from cognitive linguistics to answer our question: boundedness, mass vs. individual, part-whole relations and container metaphors. By this we can divide the *-ful* and *-less* items into a number of subgroups with different semantics. The most important aspect of their semantics, however, is that both *-ful* and *-less* express deviations from our expectations of how the normal world is structured. In other words; they represent the world by negating it.

1 THE QUESTIONS¹

The goal of our article is to answer the questions: Why do certain lexical stems have two adjectival forms (*-ful* and *-less* according to the pattern $x + \text{-ful}$ and $x + \text{-less}$, such as *meaningful* and *meaningless*)? Why do others have only one form (for instance *beautiful* but not *beautiless*, *endless* but not *endful*)? Why is there no symmetry between *-ful* and *-less*?

This is of course not the first attempt in linguistics to apply a cognitive approach to a particular morphological element of language. Slobin & Aksu 1982 present the analysis of the Turkish evidential suffix *-mis*. Janda 1984 present an analyses of the Russian verbal prefixes *za-*, *pere-*, *do-* and *ot-*. Lakoff himself provides a preliminary sketch of the English prefixes *dis-*, *un-*, and *im-*. Several other analyses of grammatical elements of different languages have been made, for instance Brugmans lexical analysis of *over* (see: Lakoff 1987: 460 ff).

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These analyses all aim at explanations of the general grammatical behaviour of their respective elements, what Talmy (1988: 166) calls a *closed-class* analysis. They do not attempt to give specifications or definitions of a linguistic classification term (such as *adjective*), what Talmy calls an *open-class* analysis. In our analysis, we have followed the closed-class approach in cognitive linguistics.

2 THE SOURCES

We have compared the definitions of lexical items ending in *-ful* and *-less* in three Internet dictionaries as of October/November 1994: *Webster English Dictionary*, *Langenscheidt English-German Dictionary* and the *English - Slovene Internet Dictionary* from Ljubljana. We have also used two standard reverse English dictionaries: *The English Word Speculum, Volume III, The Reverse Word List* (1964) and the *Reverse Dictionary of Present-Day English* (1971). Apart from these sources, we have also made occasional comparisons with Polish, Russian and Czech prefixes and with the related Swedish and German suffixes.

We have chosen to accept all pairs of items ending in both *-ful* and *-less*, even if some of these came only from one source or otherwise appeared strange to us. In the

lists with items ending only in *-ful* or only in *-less*, we have removed some of the strangest forms. In deciding upon strange cases, Webster was used as our authority. The English-Slovene dictionary had several items with *-ful* and *-less* that only appeared there. Probably several Slovene words with resultative prefixes (such as *sraméljiv*, *skromen*: *blushful* and *nesramen*, *predrzen*: *blushless*) could not be given any other translation than by an innovative use of the productive morphemes *-less* and *-ful*.²

3 METHODOLOGICAL RESTRICTIONS

A semantic analysis that is based only on lexical definitions is necessarily quite limited. Many objections can be raised against attempts that try to avoid contextual analysis, pragmatic factors such as context and co-text, co-operation, presuppositions, implicatures, etc. Language usage is a process where the meanings of lexical items always adapts to the current situation. Unfortunately, we have had no possibility to compare the many dictionary entries to their contextual embedding, neither in written nor in transcribed spoken texts.

An analysis based on lexical content furthermore only allows explanations to the selected items that are based on the language community as a whole. After all, that is what the lexica reflect. This analysis cannot answer, for instance, how or in what order a child learns the items and the cognitive restrictions that we discuss, nor can it be considered proof that the image structures we discuss are consciously present during reception of spoken or written language.

In addition to these general methodological restrictions, our analysis is also quite limited in that it involves only two suffixes: *-ful* and *-less*. We have made no systematic comparisons to other prefixes (such as *dis-*, *un-* and *im-*) and suffixes (*-free*, *-ous*), nor to translations of *-ful* and *-less* in other languages. Such comparisons could be very interesting. In Swedish, for instance, besides obvious form *-full* and *-lös*, there are other similar suffixes like *-fylld* and *-rik*. Although the suffixes often seem to be the same between Germanic languages, there are surprisingly many semantic differences. An accurate contrastive comparison demands co-operation between specialists in different languages.

Furthermore, a comparison between *-less* and the prefixes *dis-*, *un-* and *im-* could provide deeper insights into what Lakoff (1987: 133 - 135) calls the *internal negative* inside Idealised Cognitive Models (ICMs). The large number of items just in the group containing *un-* adjectives has made us exclude such an analysis from this article.

²A similar example was provided by a Czech immigrant in Sweden, who productively formed the Swedish adjective *alkoholfull* (*alcoholful*) to express the Czech *alkoholický*.

Finally, there is also the general methodological problem whether we can decompose lexical items into fixed sets of conceptually primitive elements (Jackendoff 1991: 12). It is however clear from our analysis that the morphological properties of *-ful* and *-less* cannot be described without taking the semantics of the morphemes into account. In doing so, we have had to use a number of conceptual elements that intuitively appear very relevant. A careful choice of conceptual elements seems necessary not only for our task; we are convinced that a thoroughgoing analysis of many lexical items could provide us with important knowledge also about what elements are central in human conceptualisation.

4 THE SUFFIXES *-ful* AND *-less* ARE PRODUCTIVE

Since we base our analysis on dictionary sources only, our evidence for the productivity of *-ful* and *-less* can merely be indirect: When words from a fairly different language – Slovene – were to be translated into English, the translator often seems to have created an English translation to the Slovene word by constructing *-ful* and *-less* items that are not included in the English monolingual dictionaries, such as Webster's: Of 258 items found only in the Slovene dictionary, let us mention *actionless*, *crumbless*, *pilotless*, *skirtless*, *supperless* and *udderless*. For this translatory technique to be efficient, *-ful* and *-less* in the novel uses have to be both possible to understand and sufficiently acceptable, i.e. *-ful* and *-less* have to be productive.

The productivity of *-ful* and *-less* means that the number of these adjectives varies, both over time as individual adjectives become more or less frequent, and between dictionaries that have different source and target languages. But more importantly, it means that we have some more or less unconscious knowledge how to build new adjectives with *-ful* and *-less*. In other words, we have some folk theory for how *-ful* and *-less* work.

5 PRESUPPOSITIONS AND INTERNAL NEGATIVES IN ICMs

Cases where the negative is inside the cognitive model are often marked linguistically with prefixes like *dis-*, *un-*, and *in-*. For example, *dissuade* assumes a cognitive model which has a background in which someone has been intending to do something and a foreground in which he is persuaded *not* to do it. The *not* is internal to the model associated with *dissuade*. (Lakoff 1987: 133-134)

In our opinion it is necessary to take adjectives ending in *-less* into consideration when discussing the existence of internal negatives in the Idealised Cognitive Model. Clearly, the suffix *-less* is semantically similar to the prefixes *dis-*, *un-*, and *in-*. Just like these prefixes, *-less* also exhibits a cognitive model with an ex-

pected background which is negated in a more salient fore-ground.

The existence of an internal negation in *-less*, similar to that of *un-* and *dis-*, could explain one distinct asymmetry between *-ful* and *-less*: There are two large subsets of *-ful* adjectives which can be built by the forms *un-**-ful (such as *undutiful, uneventful, unfaithful, unfruitful, ungraceful, ungrateful, unlawful, unmerciful, unmindful, unskillful, unsuccessful, untruthful*) and *dis-**-ful (for instance *disdainful, disgraceful, disgusting, disrespectful, distasteful, distressful, distrustful*). The adjectives with *-less*, however, exhibit not one single instance prefixed by *dis-* or *un-*. Obviously, the internal negation in *-less* (*merciless*) makes an additional negation by *dis-* or *un-* (*unmerciless*) either unnecessary or confusing. Conversely, since *dis-* adjectives remove an expected property (*disrespect*), the *-less* suffix cannot further negate what is already unexpected (*disrespectless*).

-less and all the morphemes *de-*, *dis-*, *in-* (*il-*, *im-*, *ir-*)³ *mis-*, *non-*, *un-* are strictly tied to our expectations of normality, which they negate and place in the background. Several other items, like the words *but*⁴, *stop* and *lack* (described by Lakoff (1987)), and the language items relevant for the theory of presuppositions also involve this internal negation. Like these words, *-less* provide us with a negation or cancellation of our expectation of normality⁵.

-ful adjectives, in our opinion, have the same negating property: We have adjectives such as *fanciful* and *baleful* because we expect people not to be fanciful or baleful, just like we do not have *fanciless* or *baleless* because the expected state of people is to be fanciless and baleless.

The negated normal expectation is internal to our knowledge and evaluations of the world (cf. Holmqvist 1993: 211 - 218). Take the concept of *beauty*. The *beauty* concept is structured such that only things that surpass the normality position on the beautiful-ugly scale can be called *beautiful*. Just *a house* is not beautiful, nor ugly; it is just normal. In *a beautiful house*, our expectation of the normal, plain house is negated and surpassed on the beauty scale.

6 BOUNDEDNESS

In current literature *boundedness* seems to be a fuzzy category, although a very inspiring one. In our analysis we use Jackendoffs (1991: 19 - 20) useful criterion for boundedness: If we split an unbounded substance into two parts, each may still be called by the same name as

the original substance. Masses and imperfective processes are unbounded but individuals and perfective processes are bounded.

Talmy (1988: 178 - 180) provides another characterisation: "When a quantity is specified as <<unbounded>> it is conceived as continuing on indefinitely with no necessary characteristic of finiteness intrinsic to it. When a quantity is specified as <<bounded>>, it is conceived to be demarcated as an individuated unit entity."

Thus, it is a very basic cognitive operation to bound entities: Separate two areas of the mass and draw a border between them. Binding the mass *time* means the creation of the *day* concept. Binding *water* means the introduction of *gallons* or *litres*. Units such as these impose boundaries in a mass. With units, it is possible to count an otherwise uncountable mass.^{6, 7}

At a first glance, Jackendoffs and Talmys characterisations of boundedness may sometimes seem contradictory. In *This space is not big enough*, the space certainly does not continue on indefinitely. Yet, if we split it in two parts, each part is space in the same meaning as the original insufficient space. Several possible explanations are available to this and similar contradictions.

Polysemy in a word often means that the different meaning variants of the word have different boundedness. For instance, Langacker (1987: 151) claims that space and time are essentially unbounded. Space in a scientific meaning may be unbounded, while the every-day insufficient space is bounded (at least if we believe Talmy).

Boundedness also has an important property which may be called *contextual dependency*. For example, *water* is an essentially unbounded entity, but in some contexts such as *waterless*, it becomes bounded. The same applies to *blood* in *bloodless* (see section 12). The determiners *this*, *a* and *the* also function as contextual binders (*This space...*).

Processes are often unbounded within a narrow *scope of attention*, although from the viewpoint of infinity, they are bounded. A *quenchless thirst* is quenchless because when we experience this thirst, we cannot imagine it coming to an end. Eventually the thirst will be quenched, but this end state is outside of our scope of attention and we are therefore not aware of it. Hence the quenchless thirst is unbounded in time.

Finally, in different domains the same entity may be differently bounded. For instance, *beer* is unbounded in the spatial domain, but in the conceptual or quality

³ Prefixes *in-*, *il-*, *im-*, *ir-* are phonetic variants of one prefix.

⁴ Compare Blakemore (1989:34) who analysed how *but* can be used for signalling that the interpretation should contrast to the prototype expectation in a concept. Gärdenfors (1993) also connects *but* to expectations.

⁵ Similar perhaps to what Winter and Gärdenfors (1994: 6) call an *epistemic revision*.

⁶ A further speculation is that the bounding operation is involved when the very youngest infants learn that different areas of its original mass of sensory input are different objects.

⁷ The difference between *boundedness* and *dividedness* (Talmy) or *boundedness* and *internal structure* (Jackendoff) has actually not been defined clearly enough. Ikegami (1993) presents the persuasive thought that Talmys and Jackendoffs concepts are two aspects of the same difference.

domain (*This is a particularly fine beer*), the same beer is bounded and contrasted against other brands of beer. *Storm* is bounded in the intensity dimension, where it is contrasted against for instance breezes. In the spatial (geographical) domain where the storm blows, it is unbounded by both Talmys and Jackendoffs criterion.

7 KINASTETHIC IMAGE SCHEMATA

Another crucial term for our analysis is *kinaesthetic image schema*. In particular, we make use of the CONTAINER image schema and the PART - WHOLE schema. "Image schemata are relatively simple structures that constantly recur in our everyday bodily experience: CONTAINERS, PATHS, LINKS, FORCES, BALANCE and in various orientations and relations: UP - DOWN, FRONT - BACK, PART - WHOLE, CENTER - PERIPHERY, etc." (Lakoff 1987: 267)

Beside Johnson (1987) who composes almost a hymn on the CONTAINER schema, we use some other sources describing interesting kinaesthetic image schemata (Lakoff 1987, Holmqvist 1993, Krzeszowski 1993, Pauwels and Simon-Vandenberg 1993, etc.) The main function of schemata is to play a central role in both perception and reason (Lakoff 1987: 440). Schemata are however generalisations over the basic perceptual and imaginative images. In other words: "Schemata are schemata because they schematise" the images of both perception and reason (Holmqvist 1993: 107).

8 VALENCE RELATIONS AND THE ACCOMMODATION PROCESS

Other terms, essential for the purpose of this paper, are *valence relations* and *the accommodation process*. When *-less* combines with stem (*blood*) and object (*war*) to form *bloodless war*, these connections are valence relations. The accommodation process takes the semantic schemata of the stem, *-less* and the object and forms the composite schema corresponding to the entire expression. In this composition process, the schemata will often change somewhat.⁸ In the analysis, we will particularly look at the boundedness status of the stem and object before and after they have been combined with *-less* or *-ful*.

⁸ "Valence relations are relations between parts within image schemata. *The accommodation process* takes these parts and tries to weld them into one entity by means of image superimposition." "The purpose of the accommodation process is to knit schemata together in valence relations as tight as reasonable and to protest when it finds them too different from each other." (Holmqvist 1993: 115 - 119; italics ours). The accommodation process is half-conscious or even unconscious (Holmqvist 1993:118).

9 THE GROUP OF ADJECTIVES WITH TWO FORMS

In appendix 1 we present around 80 pairs of adjectives with the same stem and ending both in *-ful* and *-less*. Because of the productivity of these suffixes, our appendix does not contain all possible such adjectives. But we could not find agreement in our sources on the lexicalisation of other examples of this group. Then, what is the common feature to this group? It turns out that these adjectives appear in one big and two much smaller subgroups. For each of these sub-groups, we will analyse the *-ful* adjectives and then contrast them to the *-less* adjectives.

1. *Adjectives with a mental meaning.*

There are many adjectives in this group which refer to states of human mind (*remorseful - remorseless*), human character (*careful - careless*) and emotional life (*joyful - joyless*). In the case of *-ful*, the human mind is conceptualised as a container filled with remorse, care or joy.⁹ The suffix *-less* similarly conceptualises the mind as a whole where the corresponding part is lacking.

This is the largest group of double forms. Actually, almost all of the double forms are mental except for the few adjectives in the second and third subgroups.

In the mental pairs, the stem has the same meaning in both adjectives. For instance, the remorse of *remorseful* is the same kind of remorse as in *remorseless*. The existence of these double forms therefore tells us that in general remorse, care and joy are neither expected to be present to any significant degree, nor expected to be completely absent, with humans and the other objects of these adjectives. The language community has simply decided that the amount of remorse, care and joy varies too much. In such an unpredictable world, both adjectives in the pairs are necessary.

The expectation component of *remorseless* and *remorseful* instead appears in the specific context: Saying that someone is *remorseful* means that s/he exhibits more remorse than expected in this context. Similarly, a *remorseless* person lacks remorse in a situation where it was expected.

2. *Adjectives with a mass stem and a non-mental meaning.*

This is a fairly small group. Our examples are only *colourful - colourless*, *sapful - sapless*, *seedful - seed-*

⁹ Mental processes are obviously seen as essentially unbounded. This might be evidence for the domination of vision in our conceptualisation: Since we count with our eyes, we also impose boundaries with our eyes. Since we cannot look inside ourselves, we therefore have no alternative other than to think of our inside content as a mass. Cf Lakoffs (1987) and Johnsons (1987) metaphors for our feelings as masses - liquid, air, steam, pressure.

less, stormful - stormless, voiceful - voiceless. In this group there are no stems which denote individual 3D things in the relevant domains. For instance, in a *stormful day*, you do not contrast the storm against other wind intensities. The storm is an unbounded content of the day, contrasted against other unbounded weather contents.

If there are any 3D things in the stems, they are conceptualised as multiplex and thus treated as unbounded masses. Especially *seedful - seedless* exemplify this. A seed is an individual 3D thing, but in a group *seeds* is seen as similar to *sand* or even *water*, which are both examples of masses. You may keep *seeds* in your hand and pour it from one hand to the other. Thus *seeds* is unbounded.

The most important feature of these masses is their *homogeneity*. By this, we do not mean to say that a mass is inherently homogenous. Rather, the speaker structures her/his reality so as to present groups of individuals as homogenous masses. This is the case with the non-literal use of *handful* as in *a handful of people*. Even people (who are indeed individuals) may be treated as a mass. Mass or individual depends wholly on the speaker's perspective. As Langacker (1987:205) puts it: "This construal of effective homogeneity in fact establishes the mass as a region".

These individuals in a mass such as *cattle* or *seeds* may even be recognisable and individually different. When you see a large group of cows, *cattle* is an appropriate name for them. It is only when you see the individual cow face to face that it is a little odd to say *I see cattle*. *Seeds* is slightly different from *cattle*, because there are several kinds of seeds in our everyday life and some seeds (like those in peaches) do not often figure in masses. But when it comes to *seed* in *seedful*, it requires a model of reality in which *seeds* is conceptualised as a mass.

Thus, the difference in relation to the first group is that in these adjectives, the stems are always masses and the adjectives have at least one non-mental meaning. But we can also here see that the stems have the same meaning in both adjectives of the pairs. Obviously, the same general unpredictability of objects applies to their *colours* and *seeds* as to their *remorse* and *joy*.

3. Accidental adjective pairs

Since we have chosen to accept all pairs, some will be accidental mixtures: Our two examples are *topful - topless* and *brimful - brimless*. Of course, the top in *topful* and the top in *topless* are not the same tops, so this pair only came into existence by accident. The brim in *brimful* is the brim of a glass or some similar container. We only found *brimless* in the Slovene dictionary, where the brim is the brim of for instance a *brimless hat* (brez okrajca) or part of a mental metaphor (brez roba). Both pairs can therefore be considered as accidental.

Topless and *brimless* belong to the first subgroup of adjectives ending only in *-less* (see below). *Topful* and

brimful however make up the intensifier subgroup of adjectives ending only in *-ful*.

10 THE GROUP OF ADJECTIVES WITH ONLY ONE FORM: *-less*

In appendix 2 we present 166 adjectives from stems that form *-less* derivations but which are not combined with *-ful*. These adjectives seem to come in two different subgroups.

1. Adjectives meaning that a specified part is lacking.

In the first subgroup we find examples such as *bloodless, brainless, earless, fingerless, finless, footless, roofless, rootless, toothless, verandaless, waterless*. Here *-less* evokes a whole (such as *body* for *bloodless*) which is normally expected to have the lacking concrete part mentioned in the stem. It is relatively easy to predict what whole *toothless* and *brainless* refer to, even without any context. Not only do they evoke wholes which are denoted by nouns. The things that can be bloodless is a much more restricted group than the things that can be green, soft, or even beautiful.¹⁰

In other words, when a speaker uses a word like *bloodless, fingerless* or *roofless*, s/he creates a very restricted context from the expected whole with the stem part missing. Although a restricted context, the whole may be a semantically rich concept, such as the *war* in *bloodless war*. The listener receiving *bloodless* automatically experiences the expectation of several such possible rich wholes (except for *war*, also *body, film, victory, coup, statistics*).

This evocation mechanism is easy to see when we examine stems denoting 3D things, such as *hand, roof, tree*. But it is even more interesting from a semantic perspective to show how the evocation mechanism works when we consider things that are not primarily 3D objects, as in *godless, homeless* and *childless*. We will return to these cases in section 14.

The reason that there are no *-ful* adjectives corresponding to this group of *-less* adjectives should be obvious: There are not many things normally without fingers that we would want to say are *fingerful*, so *fingerful* can almost only express either what is already expected and nothing special (*fingerful hand*; a hand with fingers) or what is a weird anomaly (*fingerful house*). Using *fingerful* is therefore pointless. Had *-ful* expressed a process leading to the state (as does *-filled*), the anomalies could have been resolved: Compare *bloodful barrel* to *blood-filled barrel*. But *-ful* only refers to the state itself.

Also, as we will see, *-ful* requires there to be a container involved, and normally these adjectival stems are not

¹⁰ Since the object to *bloodless* is also expected just after *bloodless* itself (as the *war* in *bloodless war*), this is a very clear example of the coinciding grammatical and semantic expectations that Holmqvist 1993 describes.

placed in containers. It is difficult to conceptualise the hand as a container that is possible to fill with fingers.

Building amount-specifying *-ful* nouns from these stems is sometimes possible but often strange: *an earful (of scolding)*, *a brainful of thoughts*. They do not belong in this group, however.

There exist a few metaphorical *-ful* adjectives with these stems, at least in Swedish: *blodfull* (English *full-blooded*). However, since the blood in the metaphorical adjective is not the same blood as in *bloodless* (but instead a “mental” blood as in section 7), *blodfull* does not couple with *bloodless*.

2. Adjectives which remove boundaries.

The second subset of *-less* adjectives is the most metaphysical group in our collection: *ageless*, *bottomless*, *boundless*, *ceaseless*, *countless*, *dateless*, *endless*, *fathomless*, *formless*, *limitless*, *measureless*, *numberless*, *placeless*, *quenchless*, *spaceless*, *structureless* and *timeless*.

Of course, some of these adjectives are similar to the first subgroup. For instance, an *endless journey* lacks the end which is normally a part of a journey. But are forms parts of things? Or places? Or ages?

Instead we propose that all stems in this subgroup more or less indirectly denote *boundaries*. The end of a journey is the boundary between the journey and whatever follows. The bottom of a lake is the boundary between the lake and whatever is beneath it.¹¹ In these cases *-less* removes these boundaries from the journey and the lake. In *limitless* a general limit, present with many objects, can be removed.

Similarly, in a *quenchless thirst* the normal boundary is removed between the thirst and the satisfied state after having drunk one’s fill. The object (*thirst*) has a process tied to it (*quench*), and *-less* removes the end of the process (at least within the current scope of attention). *Ceaseless* is a more general adjective with the same end-boundary removal function.

A number of adjectives remove the form and structure of objects: *formless*, *shapeless*, *structureless*. When we imagine a *formless creature*, it is not possible to point out the boundary between the creature itself and the external environment, i.e. the object to *formless* is not configured as an entity, but rather as a mass. *Structureless* similarly refers to the lack of internal organisation of parts: Because the parts of a structureless entity can move about freely (just like grains of sand), we conceived of it as a plural mass.

The *timeless beauty of Venice* has no boundaries in time: Venice will never (within our scope of attention) cross any of the boundaries from beautiful to common or to ugly. *Spaceless* and *timeless* remove the basic

¹¹ The bottom in *bottomless* is not, of course, an abstract and geometrically precise boundary. Jackendoff therefore claims that we have to add to its description a certain very fuzzy factor ϵ .

boundaries with all objects between what they are here and now and what they will be elsewhere and afterwards.

Countless and *numberless* show the significance of boundaries for practical reasons: If you want to count something, you first need to bound what you want to count. When you cannot structure something in the form of countable entities, you represent it as a homogenous mass.¹²

Why then does not *ageful*, *endful* or *structureful* exist? It is because hardly anything is expected to lack age. Even if there were such a thing, we would not very often need to point out that for once it does have an age. In short, the stems in subgroup 2 refer to limitations that are expected of almost all conceivable objects. Coding these limitations in the *-less* adjectives may be the language community answer to Kant’s a priori categories: Just like space and time are inherent in our conception of the world, so are structures, ends, bottoms and the other stems in this group.

3. Valence relation requirements of *-less*

In this first analysis of the *-less* adjectives, we presented two subgroups¹³. Let us now look at how the binding requirements of the *-less* adjectives appear before and after the valence relations have been accommodated.

	<i>stem</i>		<i>object</i>
adj.	[± b]	+	[less] + [± b]

The formula means that *-less* has no special requirements concerning boundedness, neither on the stem nor on the object of the adjective.

4. Results of the accommodation process, subgroup 1

After accommodation however, both the stem and the object in subgroup 1 adjectives will be conceived of as bounded, irrelevant of their previous boundedness status. Take as an example *bloodless victory*. The stem

¹² This shows very clearly the role of our subjectivity in the process of conceptualisation: “something is bounded because a conceptualiser imposes a boundary in structuring a conceived situation, irrespective of how the requisite cognitive events are prompted” (Langacker 1987: 196).

¹³ Sigurd (1972:55-56) claims that in Swedish, four main groups of nouns take the *-lös* suffix: (1) Admirable human qualities such as in *talanglös* (talentless), *mållös* (speechless) and *orkeslös* (powerless). (2) Effect and importance, as in *poänglös* (pointless), *verkningslös* (ineffective) and *värdelös* (worthless). (3) Selfevident, close and useful things, such as *roderlös* (rudderless), *hemlös* (homeless) and *huvudlös* (thoughtless). (4) Desired benefits, such as *hjälplos* (helpless) and *värnlös* (defenceless). Without conducting any deeper analyses of the Swedish material, it seems clear that most of the examples in groups (1), (2) and (4) can be placed in our subgroup 2, because in these cases *-lös* removes the resultative boundaries on perfective processes underlying the nouns: The help given to the helpless person never can reach the positive end of the helping process. Sigurd’s group (3) mainly has to do with part-whole relations and therefore corresponds to our subgroup 1.

blood refers to something which is unbounded when it is out of context. Here, in this context, *blood* is bounded, because this blood is a part of the bounded whole *victory* (or more precisely the blood is part of the people that are part of that war and victory). The blood is properly contained and consequently bounded.

	<i>stem</i>		<i>object</i>	
adj.	[+ b]	+	[less]	+
			[+ b]	

If the object was unbounded, as in *waterless ground*, that object will also be bounded, at least in the quality domain: The waterless ground is contrasted against ground with water on the other side of the boundary.

5. Results of the accommodation process, subgroup 2

Of course, in the second subgroup (*limitless, spaceless* etc.) the object is instead conceived of as unbounded after accommodation. The stem is a boundary and it does not change its boundedness status.

	<i>stem</i>		<i>object</i>	
adj.	[boundary]	+	[less]	+
			[- b]	

If we combine an object which is bounded, say *speech*, with, for example, *endless* we get an unbounded *speech*. If we instead say *endless speaking* nothing special occurs - *speaking* is as unbounded after its encounter with *endless* as it was before.

Yet it makes sense to say *endless speaking*, why? It seems that we expect a result from all processes, bounded or not: From the unbounded *sleep*, we expect as a result that the agent is less tired afterwards. This expectation is so common that it seems not to require a special marker. But if this expectation becomes actually fulfilled, or if it is clear that it cannot become fulfilled, an overt marker may be required. The adjectives discussed here function as such markers of unfulfilable results. Prefixes marking the resultative Aktionsart in Polish and Russian provide an example of fulfilled result.

11 THE GROUP OF ITEMS ENDING ONLY IN -FUL

There is also a group of items whose stems may combine with *-ful*, but not with *-less*. Among these items, there are no stems that involve boundaries which are part of the object (*endless journey*), for reasons explained above. Instead there is one subgroup of amount-specifying nouns and one subgroup of adjectives with a mental meaning.

1. Nouns meaning the amount in the container of the stem.

There is in this group a collection of nouns (or rather lexemes traditionally characterised as nouns) ending in *-ful*: *handful, glassful, spoonful*, etc. Appendix 3 provides a longer list. In these nouns, the stems are what

Langacker calls *open containers*: *box, jar, pot*. It is notable that open containers “are often construed as designating the entire enclosed area, and not simply the physical object per se”, Langacker (1987: 195). Langacker uses open containers as good examples to show what a *virtual boundary* is.

To our analysis it may be more important that such lexical elements (*open containers*) trigger a cognitive operation of *bounding* or *portion-excerpting*. “By this operation, a portion of the specified unbounded quantity is demarcated and placed in the foreground of attention.” (Talmy 1988: 179-180).

2. Adjectives with a mental or social meaning.

In appendix 4 we have collected around 125 adjectives for this group. Except for a handful of uncertain cases (*fitful, interfruitful*), all of them have a mental or social meaning, such as: *blissful, deceitful, disrespectful, unfaithful, watchful*. Most of these adjectives have a negative meaning: *Boastful, forgetful, ghastrful, hateful, scornful, unfruitful, unskilful, wrongful*. Even adjectives which are positive from a social perspective – *respectful, remorseful* – might be seen as negative for the individual because of the social restrictions on behaviour involved in them.

The objects to these adjectives are seldom prototypical open containers: *Boastful people, lustful evening, beautiful song*. Instead the objects are conceptualised as *closed containers*. These containers are filled with boasting, lust or beauty, but we cannot physically open and look into them, as we can with the open containers.

There are two large subgroups of adjectives prefixed with *un-* and *dis-*. As we noted above, these adjectives are probably close in meaning to the *-less* adjectives.

There seem to exist no adjectives ending only in *-ful* similar to *seedful*, i.e. with the meaning: Full of the non-mental mass denoted in the stem. Somehow, such adjectives are always coupled with an opposite adjective with *-less*. The only non-mental examples of *-ful* adjectives were *brimful* and *topful*, which accidentally couple with *-less* adjectives.

3. Adjectives with an intensifier meaning

On a surface level, *topful* and *brimful* are coupled with *-less* adjectives, but as we saw above, this is a mere accident. The meaning of the stems differ enough for the couples to be considered as different.

These adjectives also differ in meaning from the other *-ful* adjectives in the double forms. While seeds and tears can be treated as masses, certainly it is not the case with brims and tops. As is hinted by their alternative spelling *brimfull* and *topfull*, *brimful* and *topful* instead function as intensifiers, just like *chock-full*. They say of something that it is more than full, more precisely that the container is full to the “virtual boundary” (Langacker 1987: 191) part of the container that is placed in the stem (brims and tops being boundary parts of containers).

However, *brimful* does not say what the container is full of. Contrast its meaning to that of *seedful*, which says that the container is full of seeds, but not necessarily full to the brim. Or contrast *brimful* to the noun *handful*. A hand is a 3D container, so *handful* means only (an amount so big) that the hand is full, but *handful* says neither full of what nor that the hand is full to the brim or any other boundary that is part of the hand.

	<i>stem</i>		<i>object</i>
n. (1)	[+ b in perceptual spatial domain] +	[ful] + of	[- b]
adj. (2)	[- b in perceptual spatial domain] +	[ful] +	[± b]
adj. (3)	[+ b in perceptual spatial domain] +	[ful] +	[+ b]

4. Valence relation requirements of *-ful*

In her *Classifying Adjectives*, Warren (1984: 110) presents the hypothesis that the *-ful* suffix is “without lexical content” and “with discernible stem preference” of an abstract concept, i.e. that *-ful* only wants stems which are abstract (as opposed to *hand* in *handful*). It seems reasonable to reject Warrens hypothesis. From our analysis, *-ful* adjectives require stems with a mass meaning (with the exceptions of subgroup 3 in section 7). Strictly speaking, when the grammatical element *-ful* forms an adjective, it requires a stem denoting a *thing* which is *unbounded in its perceptual spatial domain*.

When the stem is not a mass, as a result of the accommodation process, *-ful* forms nouns with special grammatical requirements (as being followed by the *of*-something; cf. Jackendoff (1991: 23-24) on the function of COMPOSITION which takes “a substance as its argument and maps it into an individual”). The requirements on valence relation formation for *-ful* may thus be described as in the table on the top of this page.

We can say *a handful of people*, but *a handful of man* seems to be anomalous (unless, of course, we interpret it with Jackendoffs (1991:25) grisly *universal grinder* – the opposite to the COMP function – which maps an individual entity into a mass substance).

The objects to the second group adjectives can be either bounded or unbounded: *beautiful song* and *beautiful singing*. The third group of adjectives seem to take only bounded objects (*brimful glass* is in order, but *brimful water* is anomalous as long as *water* is not allowed to have a part which is a virtual boundary).

5. Results of the accommodation process

As a result of the accommodation process of the valence relations, the adjectival stems will be bounded, like the objects to both the *-ful* adjectives and the *-ful* nouns; see the table below. For the group 2 adjectives discussed

here, the containers are not literal 3D spatial containers: The smile in *rueful smile* does not physically contain ‘rue’, i.e. regret. The nouns, however, denote amounts of things that are spatially contained as masses, and in this context as bounded masses: *a teaspoonful of coffee*.

12 THE *-ful* AND *-less* GROUPS

Above, we presented two sets of formulae describing the boundedness behaviour of the *-ful* and *-less* morphemes in the accommodation process. The seven subgroups that we have described can be summarised as in table 1. For each group, we give a short description of its stem, a semantic characterisation of the object, a perceptual characterisation of the meaning of items in the group, and the normal state expectation that is negated by the members of the group. In this table, we have left out the accidental double 3 group.

Our characterisation of these groups has been based on the idea that they all have as their main function to negate a connected normal state expectation. Despite this similarity, we have seen a striking lack of symmetry between the *-less* and *-ful* groups.

We will now discuss more carefully the semantic mechanism of *-ful* and *-less* and point out the underlying cognitive domains, which can explain why there is so little symmetry between *-ful* and *-less*.

At a first glance, adjectives ending in *-ful* and *-less* seem to involve the plexity concept. However, in our opinion, plexity is not the main component in their semantic behaviour. Instead, the *-ful* and *-less* morphemes evoke two different *kinaesthetic image schemata*.

stem

object

n. (1)	[+ b in perceptual spatial domain] +	[ful] + of	[- b]
adj. (2)	[+ b in perceptual spatial or conceptual domain] +	[ful] +	[± b]
adj. (3)	[+ b in perceptual spatial domain] +	[ful] +	[+ b]

Group	Stem	Object	Item meaning	Normal state expectation
Double 1, adjectives	Mental or social (<i>remorseful, joyless</i>)	Conceived of as closed container	Object is full of or lacks the stem	Generally neither nor. In context: Not normally full of stem or stem is expected.
Double 2, adjectives	Mass (<i>sapful, seedless</i>)	Physical closed container	Object is full of or lacks the stem	-"
-less 1, adjectives	Part (<i>fingerless, verandaleless</i>)	Whole	The object lacks the part	That the whole includes the part expressed in the stem
-less 2, adjectives	Basic (kantian) boundary (<i>ageless, formless</i>)	Varying	The object lacks the stem type of boundary	That the object is bounded in the stem aspect
-ful 1, nouns	Open container (<i>handful, glassful</i>)	of mass	The amount of the object that fills the stem container	The amount meets the expected fullness level of the stem container
-ful 2, adjectives	Mental or social (<i>boastful, unfaithful</i>)	Conceived of as closed container	The object is full of the stem	That the object has little of the stem in it
-ful 3, adjectives	Virtual boundary (<i>brimfull, topful(l)</i>) which is part of container	Open container	Container is full to this boundary.	The normal fullness level is not this high

Table 1: Summary of the groups in the analysis above. The accidental double 3 group is not included.

13 THE FULL – EMPTY DOMAIN AND THE CONTAINER IMAGE SCHEMA

-ful has very strong semantic requirements on its stem and object because -ful involves the *full-empty* domain¹⁴.

In Rusiecki (1985: 9), the full-empty domain is called a “binary, antonymic, symmetric, bounded scale”. Moreover, Rusiecki excludes it from all numerical adjectives: “Firstly, in the case of all numerical adjectives except the bounded-scale ones (full : empty etc.), the numbers are always number of *something*: namely numbers of *units of measure*, such as feet, years, kilograms, etc., appropriate to a *dimension*, such as height, age, weight, etc.”

Rusiecki's exclusion seems very reasonable. The main difference between numerical adjectives and *full-empty* lies in the fact that the *full-empty domain* involves the relation between two different cognitive entities: *container and contents*. Numerical adjectives, on the other hand, involve only one entity.

In other words: The domain full-empty has two landmarks (container and contents). When you say *something is full* it means: *It is a container and it contains something else and the content has reached the maximum level of the container*. The meaning of *something is empty* is very similar: *It is a container and the container contains nothing*.

Therefore the full-empty domain has only two values, 1 and 0, that apply to the relation between container and contents. Of course, the numerical adjectives instead make use of a full numerical scale (0, 1, 2, 3...n).¹⁵

¹⁴ In Langackers (1987) terminology, the *full-empty* domain is an *abstract* domain, not a basic domain such as time, space and temperature.

¹⁵ Cases such as *something is half full* or *something is 70% empty* are very special. We treat them as no primary use of *full* and *empty*, as opposed to Rusiecki (1985: 76 - 77).

Significantly, if we put *full* in the predicative position we can add *of X*: *The river is full of water*. If instead we say *Y is empty* we cannot add *of X*: *The river is empty of water*. We only have an expectation what there should be within the empty container (such as wine in the empty wine bottle). The *full-empty* scale is therefore not as symmetric between full and empty as one may initially think.

1. Full is not always full

Moreover, the state of *fullness* in a container is dependent on the kind of container. *Open(able)* containers such as *glass, jar, vase*, and so on all have an *absolute maximum*: The state when all of the container is filled. This state is lexicalised in *brimful* and *topful*. There is also for many open containers an *expected fullness level*: In *a full bottle of beer*, we expect there to be a little air left at the top. The expected fullness level is therefore lower than *brimful*, i.e. lower than the absolute maximum.

But when the content is not a mass but a collection such as pears, the open containers do not any longer have such a well-defined absolute maximum. Herskovits' 1984 example *the pear is in the bowl* clearly indicates that in a full bowl of pears, we can add or remove many of the pears, and the bowl would still be full.

Closed containers, such as a *fruit* or the *body*, are quite different. A *sapful apple* is not completely filled with sap (there are also seeds, for instance). For closed containers, *full* rather seems to mean that we expected a high level of sap, but there was even more sap than we expected. The same applies to *beautiful song*: We expect songs to have beauty in them, but a beautiful song has more beauty than expected. In closed containers, the contents (sap and beauty) seem to be uniformly spread out inside the container, in contrast to the content in the full bottle of beer.

There are also cases such as *rueful smile* and *watchful child*. Here we expect a low level of 'rue' in the smile and not much watchfulness in the child, yet *-ful* tells us that there was much of both. We are therefore more surprised (or given more information) in these cases than in *beautiful song*.

In short, there are many different 'fullnesses', and *full* is definitely not always *maximum*.¹⁶ Instead *-ful* in adjectives means just fuller than expected. Even the absolute level adjective *brimful* has the meaning: full to the brim, when we only expected the normal fullness level.

2. Resultative fulfilment

If we translate adjectives with *-ful* into inflectional languages (such as Polish or Russian), we often have to use the aspectually marked resultative participle: *delightful - zachwycający, remorseful - skruszony*. In

¹⁶This difference between full and maximum might be similar to the length of the end of a rope, for which Jackendoff (1991) would use the category ϵ .

these cases *-ful* therefore seems to mark the fulfilment of the script connected to the stem. The *-ful* adjective very often has a stem with a script, which it applies to an active object: *harmful germs, merciful soldier, watchful eye*.

Other evidence for the *resultative* or *active* character of objects determined by these adjectives is found in their dictionary definitions. They usually include words such as: *having, containing, showing, expressing, causing, full of, giving, keeping, producing, feeling*. We could not check the frequency of these expressions, but they definitely give the image of resultative fulfilment.

Despite this strong processual character of the *-ful* adjectives, their connection to the CONTAINER image schema makes the stems appear as nouns rather than as verbs: Things make better contents than processes.

3. Container creation

It is interesting that when we apply a *-ful* adjective to an object, that object appears to be automatically conceptualised as a container: *scornful sight, dreadful news*. The container creation follows the pattern: Unbounded stem + *-ful* + object -> the object is a bounded container.

[- **b** in the perceptual spatial domain] +
[ful] + noun ———>
stem = conceptual CONTENT [+ **b**]
noun = CONTAINER [+ **b**]

These containers then become instantly full of the stem content, *scorn* and *dread*.

Containers in the mental domain are non-3D and non-literal. Instead, the containers created by *-ful* express very fundamental human experiences, like in *rueful smile*. *Smile* can be conceived of as a container, because it has a temporal domain and it is temporally bounded. This temporal extension together with the spatial extension of the smile form a perceptually salient container, which can be filled with 'rue' (i.e. regret).

As we showed in section 7, the vast majority of *-ful* adjectives are mental. Is it an accident that experiences from the interaction between people and the conceptualisation of humans as mental individuals is made by container constructions? Hardly, but this interesting question unfortunately lies outside the scope of this article.

4. Verticality: *-ful is not up, -less is not down*

Some of the confusion about *-ful* versus *-less* may stem from the VERTICALITY component of the full-empty domain: In a full bottle, the level is *higher* than in an empty bottle. Via VERTICALITY, the full-empty domain partially corresponds to the *more-less* domain: Since full is max and empty is nothing, full is *more* than empty and empty is *less* than full.

If the VERTICALITY component in full-empty were strong, one would expect that the full - empty domain connects to the metaphor MORE IS UP, LESS IS DOWN

to generate the pattern FULL IS UP, EMPTY IS DOWN. If this connection existed, *full* would come close to being an opposite to *less*.

One indication of the weakness of the VERTICALITY in the full-empty domain is that it does not connect to the very well known metaphor UP IS GOOD, DOWN IS BAD to generate FULL IS GOOD, EMPTY IS BAD. The following examples clearly indicate the lack of such a connection: *artful, blameful, deathful, forgetful, frightful, harmful, hateful, mournful, painful, plaintful, resentful, revengeful, ruthful, scornful, sinful, slothful, sorrowful, spiteful, spleenful, stenchful, stressful, tearful, toilful, vauntful, vengeful, wailful, wasteful, weariful, woeful, wrongful*.

It should be fairly obvious that VERTICALITY in the full-empty domain is very marginal. The reason is that VERTICALITY is gradable and continuous, while the full-empty domain is binary and discontinuous. Such domains do not connect. Therefore the *full* in *-ful* does not mean *more*, and *-less* does not mean *less*.

14 THE MINUS DOMAIN AND THE PART-WHOLE IMAGE SCHEMA

What domain does *-less* involve? At a first glance it may seem that *-less* invokes the more-(equal)-less domain. So, according to Rusiecki (1985: 34) the relations *equals, is more than* and *is less than* are primitive semantic concepts, just as primitive as *many* and *few*, which Bartsch and Vennemann call “the most primitive relative adjectives” (Rusiecki 1985: 34).

To us the most important feature of the relations *more* and *less* is that they apply to two continuous portions of the same kind of mass. You compare these portions, seeing their sizes at one and the same time, and estimate whether they are equal. If they are not equal, you have to decide where there is more, and where less. Your predication refers to two portions of one substance placed on two places at one time. This comparison is made within the *more-(equal)-less* domain.

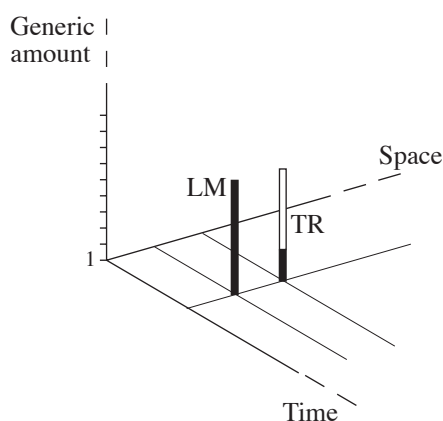


Figure 1: When comparisons are made within the *more-(equal)-less* domain, the two substance portions differ either in space or in time. Here we show an example of less where the time of comparison is the same, but where the spatial location of the two portions differ.

You can however also compare the same portion of *the same substance* but at different time points. You then make use of the *minus* domain.

The *more-(equal)-less* domain does not seem to matter at all for the *-less* adjectives. Waterless is not a comparison between two simultaneously accessible objects, a TR which lacks the expected water and an LM which has the water. The two compared objects are not simultaneous. In other words, *-less* rather refers to the *minus* domain. It is the main reason why you can find *not having* and *lacking* in dictionaries definitions of the different lexical entries: Some of the substance has been removed.

Applying the *minus* domain is a mental decrementation process. You have to compare two states at different time points. This comparison does however not only work with substances and numerals. When applied to non-numerical objects; i.e. to individual things possibly with an internal structure, what we saw in section 10 will reappear: The TR of figure 2 is the missing part, i.e. the difference between the current whole (LM) and the whole in a previous time (LM2). The LM, i.e. WHOLE *minus* PART, is the profile of the entire nominal expression.

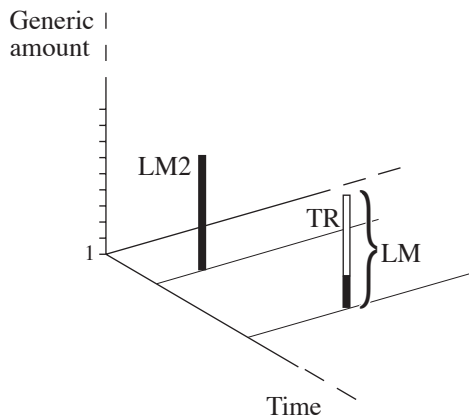


Figure 2: In the *minus* domain, comparisons are instead made between two time instances (the previous LM2 and the current LM) of the same substance portion. Space is now irrelevant, because over time, the substance may have moved. The lacking part of the LM is marked as TR. Again, the amount minimum is 1, because 0 is a bad base for comparisons: *We have more children now than we had before* sounds like a joke when coming from a couple with only one child.

Unfortunately, this explanation of the semantics of *-less* adjectives is still not satisfactory. The time dimension of the minus domain is not present in the *-less* adjectives: When you say *legless table* you ascertain only a present state of the table, but nothing is said of an actual process leading to this state.¹⁷

Take as an example *childless couple*. This couple probably did not previously have a child, which they then lost and so became childless. Time is not the crucial difference between their current childless state and the expected but negated state of having children. Instead of having a time dimension, the domain which *-less* invokes has a dimension of different *realities*.¹⁸ In the actual reality, we have the LM which in our case is the childless couple. In another reality, which is *expected* (and perhaps also imagined, possible or prescribed), the LM2 is the same couple but now with the expected child(-ren). The difference between the LM2 and the LM is the TR, i.e. the child(-ren).

¹⁷ Here we can apparently see why adjectives in English are “a fuzzy category”. “Semantically, the adjective seems to stand between the noun and the verb. This applies particularly to adjectives in predicative function. Occasionally one and the same sense can be expressed, within the same language, by a verb or an adjective.” (Rusiecki 1985: 1 - 2)

¹⁸ We prefer the naive term *reality* to *possible world*, which is used in modal semantics. An other reality is an imagined, presupposed, desired, believed or expected version of our actual reality, much like Fauconniers (1985) *mental spaces*. Holmqvist 1993:182 pp discuss how so-called *hedges* also invoke different realities.

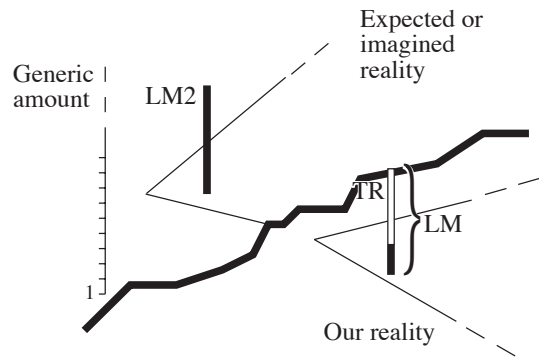


Fig 3: The *-less* adjectives have a dimension of different realities: One actual and one expected or imagined. In the expression *childless couple*, the LM is the couple, the TR is the lacking child, and the LM2 is the couple in the expected or imagined comparison state, i.e. with a child. Now, neither space nor time is relevant in the comparison, but the generic amount scale is the same for both realities.

The relative status of the other reality to our own is very important for the evaluative meaning of *childless couple*. If the other reality is the world of unfulfilled wishes of the couple, having (that much) less than what they hope for makes us feel sorry for the childless couple. If however the other reality expresses the world as it would be if the prescribed moral were followed, then having less than what is prescribed is rather seen as immoral and causing indignation¹⁹.

That the time dimension of the minus domain has been substituted for a dimension of realities in the *-less* domain is not so strange. Futures and pasts are easily conceptualised as other realities. Consider a piece of *stainless steel*. In the future, it will have no or few stains. A normal piece of steel will corrode over time. So although the normal and the stainless steel look alike when you choose between them today, your choice is also between two different futures; the normal future with rust and the stainless future. By buying stainless steel, you sign up for the version of future where the steel is not stained, as opposed to the normal future where steel is always stained.

Taking the step from conceptualising different version of the future to conceptualising other variants of reality is not at all difficult.

Probably, the generations living towards the end of the 20th century have little experience with steel always rusting over time. To them, the commercial persuasiveness of *stainless steel* is therefore not very strong. Today, stainless steel is the norm. But even if the current generation lacks experience with stained steel,

¹⁹ According to Sigurd (1972:54), the corresponding Swedish suffix *-lös* has the evaluation built into it: Only positive or neutral stems are used. Negative stems are instead used with the suffix *-fri* (*-free*). Therefore *painless* is translated into *smärtfri*, not *smärtlös*.

when they consider buying stainless steel, the comparison mechanism in *-less* is not gone. *-less* makes it clear to them that there is something like stained steel, even if it is outside of their own experience and expectations.

How the current day consumers imagine stained steel is another matter: To previous generations, *stainless* did not imply that the expected normality is *stainful* or *full of stains*. Their standard was rather steel with *some* stains.

A *stainless reputation* is also compared to an expected reputation with only some stains. Stains are always part of a surface whole, so *stainless* will expect a surface. Steel can provide such a surface, and obviously something in the concept of reputation is also a surface. Or, equally possible, the expected surface from *stainless* is simply installed in the *reputation* concept, similar to how humans were made into mental containers by *-ful*.

Applying *stains* and its surface to the *reputation* concept has to be metaphorically motivated (since *stainless* does not apply to everything). In this case the motivation probably comes from the opposition *clean - dirty* with its metaphorical pattern CLEAN IS GOOD, DIRTY IS BAD. This metaphor pattern is involved in some other relations as well (*immaculate, spotless, unimpeachable*).

Stainless just like *childless* hints at how we think the world is organised: Steel and people's reputations have some stains. Couples have children. *Ageless* tells us that all things have an age. *Brainless* that people have brains. *Breathless* that we breathe. *Emotionless* that we have feelings. *Jobless* that we normally have jobs. The *-less* adjectives present a picture of the normal world, to which we can compare and contrast the current situation.

But the *-less* adjectives are not just an objective mirror of the world as we know it. Objectively, *godless* should only indicate that we normally have gods, but in the dictionaries its primary meaning is *wicked* (i.e. we have *partial compositionality* only). There is a clear normative element in this meaning of *godless*. *Stainless* connects to CLEAN IS GOOD. We could feel pity for or indignation over the *childless couple*. Is *mannerless* good or bad? What about *spineless, spiritless* and *resistless*. In our analysis of the *-less* adjectives, we have often had the feeling that large areas of life are being evaluated, as if these adjectives were a road into whole ideologies and social mythology. With this conceptual content, it is not strange that the *-less* adjectives are so often used to *evaluate* deviations from expected and prescribed behaviour.

SUMMARY

It is now easy to answer our initial questions: The reason that *-ful* and *-less* sometimes appear in pairs and sometimes do not is that they make a different use of our expectations. *-ful* refers to the expected amount in containers, *-less* to lacking parts that should have been

present in an expected whole. Only sometimes are these meanings compatible, as in the mental and social world, where we humans can be conceptualised either as closed containers (*-ful*) or as wholes (*-less*) and where the contents (*-ful*) or lacking parts (*-less*) are neither expected to be absent nor to be plentiful. More often, we have such a strong conceptualisation of what the world is like (all things have an age etc.) that only one of the two suffixes will ever have a communicative use. Finally, *-ful* and *-less* refer to different domains, which make them specialised for different purposes. *-ful* can be used not only to indicate deviation from the expected fullness level in physical and mental containers as well as in processes. *-ful* also specifies units by binding a mass with a container size. *-less* not only negates expected concrete parts such as fingers, verandas and children but also negates basic boundaries like age, space and structure.

The *-less* and *-ful* adjectives make up around 1 % of the words in dictionaries of 60000 - 100000 words, which is an indication that they have been found useful in many areas of life. Their usefulness consists in their broad flexibility in contrasting all sorts of things to how they *should be* in the normal, expected, prescribed, desired,... world.

REFERENCES

- Blakemore D. (1989) "Denial and Contrast: A Relevance Theoretic Analysis of BUT", in *Linguistics and Philosophy*, vol. 12, no. 1, February 1989
- Fauconnier G. (1985) *Mental Spaces: Aspects of Meaning Construction in Natural Language*, Cambridge, Mass.: MIT Press
- Gärdenfors P. (1994) "The Role of Expectations in Reasoning", Lund, LUCS 21
- (1995) "Conceptual Spaces as a Basis for Cognitive Science" in APLOG.
- Herskovits A. (1984): *Language and Spatial Cognition*, Cambridge: Cambridge University Press
- Holmqvist K. (1993): *Implementing Cognitive Semantics*. Lund: Department of Cognitive Science
- (1994) "Conceptual Engineering I. From morphemes to valence relations." Lund: Lund University Cognitive Studies, 28
- Ikegami Y. (1993) "What does it mean for a language to have no singular-plural distinction? Noun-verb homology and its typological implication." In: *Conceptualizations and Mental Processing in Language*, ed. by R. A. Geiger and B. Rudzka-Ostyn. Berlin, New York: Mouton de Gruyter
- Jackendoff R. (1991) "Parts and boundaries" In: *Lexical & Conceptual Semantics*, ed. by B. Levin and S. Pinker, 1992 Blackwell, Cambridge MA & Oxford UK.
- Janda L. (1984) *A Semantic Analysis of the Russian Verbal Prefixes ZA-, PERE-, DO- and OT-*, Ph.D. Theses, Univ of California, Los Angeles
- Johnson M. (1987) *The Body in the Mind. The Bodily Basis of Meaning, Imagination, and Reason*. Chicago and London: The University of Chicago Press

- Krzeszowski T. P. (1993) "The axiological parameter in preconceptual image schemata." In: *Conceptualizations and Mental Processing in Language*, ed. by R. A. Geiger and B. Rudzka-Ostyn. Berlin, New York: Mouton de Gruyter.
- Lakoff G. (1987) *Women, Fire, and Dangerous Things. What Categories Reveal about the Mind*. Chicago and London: The University of Chicago Press
- Langacker R. W. (1987) *Foundations of Cognitive Grammar, Vol. I*, Stanford, Stanford University Press
(1991) *Concept, Image and Symbol. The Cognitive Basis of Grammar*. Berlin and New York: Mouton de Gruyter
- Rusiecki J. (1985) *Adjectives and Comparison in English. A Semantic Study*. London and New York: Longman
- Sigurd B. (1972): *Ord om ord*, CWK Gleerup Bokförlag, Lund
- Slobin, D.I & Aksu, A. A. (1982): "Tense , Aspect and Modality in the Use of the Turkish Evidential", in Hopper (ed) (1992): *Tense-Aspect: Between Semantics & Pragmatics.*, pp 185 - 200, Amsterdam/Philadelphia: Benjamins
- Talmy L. (1988): "The Relation of Grammar to Cognition". In: *Topics in Cognitive Linguistics*, ed. by B. Rudzka-Ostyn. Amsterdam/Philadelphia: John Benjamins Publishing Company
- Warren B. (1984) *Classifying Adjectives*. Göteborg: Acta Universitatis Gotheburgensis
- Winter S. and Gärdenfors P. (1994) "Linguistic Modality as Expressions of Social Power." Lund, LUCS 35, to appear in *Nordic Journal of Linguistics*

APPENDIX 1

Double forms.

1. artful artless
2. blushful blushless
3. brimful brimless
4. changeful changeless
5. careful careless
6. cheerful cheerless
7. colourful colourless
8. designful designless
9. doubtful doubtless
10. dreadful dreadless
11. easeful easeless
12. faithful faithless
13. fearful fearless
14. flavorful flavorless
15. forceful forceless
16. fruitful fruitless
17. gainful gainless
18. graceful graceless
19. guileful guileless
20. harmful harmless
21. heedful heedless
22. helpful helpless
23. hopeful hopeless
24. hurtful hurtless
25. joyful joyless
26. lawful lawless
27. lifeful lifeless
28. manful manless
29. masterful masterless
30. meaningful meaningless
31. merciful merciless
32. mindful mindless
33. mirthful mirthless
34. mistrustful mistrustless
35. needful needless
36. painful painless
37. peaceful peaceless
38. pitiful pitiless
39. powerful powerless
40. prayerful prayerless
41. prideful prideless
42. purposeful purposeless
43. regardful regardless
44. regretful regretless
45. remorseful remorseless
46. reproachful reproachless
47. resourceful resourceless
48. restful restless
49. rightful rightless
50. riskful riskless
51. ruthless ruthless
52. sapful sapless
53. scentful scentless
54. seedful seedless
55. senseful senseless
56. shameful shameless
57. sinful sinless
58. skillless skilful
59. songful songless
60. soulful soulless
61. sportful sportless
62. stormful stormless
63. stressful stressless
64. successful successless
65. tactful tactless
66. tasteful tasteless
67. tearful tearless
68. thankful thankless
69. thoughtful thoughtless
70. toilful toilless
71. topful topless
72. trustful trustless
73. truthful truthless
74. tuneful tuneless
75. useful useless
76. voiceful voiceless
77. worthwhile worthless
78. zestful zestless

APPENDIX 2

Forms whose stems only appear with *-less*.

1. ageless
2. backless
3. baseless
4. beardless
5. bloodless
6. boneless
7. bottomless
8. boundless
9. brainless
10. breathless
11. causeless
12. ceaseless
13. cheerless
14. childless
15. classless
16. countless
17. dateless
18. earless
19. effortless
20. emotionless
21. endless
22. expressionless
23. faceless
24. fadeless
25. fatherless
26. fathomless
27. faultless
28. fearless
29. fingerless
30. finless
31. flavourless (flavorless)
32. flowerless
33. footless
34. formless
35. fortless
36. frictionless
37. friendless
38. godless
39. groundless
40. husbandless
41. jobless

- | | | | |
|------|----------------|------|---------------|
| 42. | keyless | 107. | spotless |
| 43. | lidless | 108. | stateless |
| 44. | limitless | 109. | stemless |
| 45. | loveless | 110. | stingless |
| 46. | luckless | 111. | strapless |
| 47. | mannerless | 112. | strengthless |
| 48. | matchless | 113. | strifless |
| 49. | measureless | 114. | strikeless |
| 50. | motherless | 115. | stringless |
| 51. | nameless | 116. | stripeless |
| 52. | nerveless | 117. | structureless |
| 53. | noiseless | 118. | stuffless |
| 54. | numberless | 119. | styleless |
| 55. | odorless | 120. | sunless |
| 56. | parentless | 121. | symptomless |
| 57. | partnerless | 122. | systemless |
| 58. | pathless | 123. | tameless |
| 59. | peerless | 124. | tenantless |
| 60. | penniless | 125. | tensionless |
| 61. | placeless | 126. | tentless |
| 62. | planeless | 127. | termless |
| 63. | pleasureless | 128. | terrorless |
| 64. | pointless | 129. | threadless |
| 65. | poleless | 130. | thrifless |
| 66. | portionless | 131. | tideless |
| 67. | pretensionless | 132. | timeless |
| 68. | priceless | 133. | tintless |
| 69. | printless | 134. | tireless |
| 70. | professionless | 135. | toeless |
| 71. | profitless | 136. | tombless |
| 72. | proofless | 137. | toneless |
| 73. | propertyless | 138. | tongueless |
| 74. | quenchless | 139. | toothless |
| 75. | questionless | 140. | traceless |
| 76. | rayless | 141. | trackless |
| 77. | reasonless | 142. | traditionless |
| 78. | reckless | 143. | treeless |
| 79. | reinless | 144. | tubeless |
| 80. | relentless | 145. | valueless |
| 81. | remediless | 146. | valveless |
| 82. | resistless | 147. | verandless |
| 83. | rewardless | 148. | veteless |
| 84. | riderless | 149. | viewless |
| 85. | roofless | 150. | virtueless |
| 86. | rootless | 151. | visionless |
| 87. | saintless | 152. | wageless |
| 88. | scentless | 153. | warless |
| 89. | seamless | 154. | waterless |
| 90. | selfless | 155. | waveless |
| 91. | sexless | 156. | wayless |
| 92. | shapeless | 157. | weaponless |
| 93. | shiftless | 158. | weedless |
| 94. | sightless | 159. | weightless |
| 95. | sinless | 160. | wifeless |
| 96. | sleepless | 161. | wireless |
| 97. | sleeveless | 162. | witless |
| 98. | smileless | 163. | wordless |
| 99. | smokeless | 164. | workless |
| 100. | soilless | 165. | worthless |
| 101. | soulless | 166. | woundless |
| 102. | soundless | | |
| 103. | spaceless | | |
| 104. | speechless | | |
| 105. | spineless | | |
| 106. | spiritless | | |

APPENDIX 3

Nouns ending in *-ful*.

1. armful
2. bagful
3. basketful
4. bellyful
5. boatful
6. bowlful
7. bushelful
8. canful
9. capful
10. cartful
11. crateful
12. cupful
13. dishful
14. earful
15. eyeful
16. glassful
17. handful
18. hatful
19. hornful
20. houseful
21. jarful
22. jugful
23. kettleful
24. ladleful
25. lapful
26. mouthful
27. nestful
28. netful
29. pailful
30. palmful
31. pipeful
32. plateful
33. pocketful
34. potful
35. purseful
36. roomful
37. sackful
38. shelfful
39. shovelful
40. skinful
41. spoonful
42. tablespoonful
43. teacupful
44. teaspoonful
45. thimbleful
46. tubful
47. tumblerful
48. urnful
49. vatful
50. vesselful
51. wineglassful

APPENDIX 4

Adjectives ending only in *-ful*.

1. baleful
2. baneful
3. beautiful
4. blissful

5. boastful
6. bodeful
7. bountiful
8. chanceful
9. cropful
10. dareful
11. deceitful
12. delightful
13. despiteful
14. direful
15. disdainful
16. disgraceful
17. disgustful
18. disregardful
19. disrespectful
20. distasteful
21. distressful
22. distrustful
23. doleful
24. dutiful
25. eventful
26. fanciful
27. fateful
28. feastful
29. fitful
30. forethoughtful
31. forgetful
32. fretful
33. frightful
34. gameful
35. ghastful
36. gleeful
37. grateful
38. hateful
39. healthful
40. interfruitful
41. ireful
42. lustful
43. mistful
44. moanful
45. mournful
46. museful
47. neglectful
48. plaintful
49. playful
50. plentiful
51. praiseful
52. prankful
53. prayerful
54. presageful
55. prideful
56. proudful
57. pushful
58. rageful
59. rebukeful
60. remindful
61. reposeful
62. resentful
63. respectful
64. revengeful
65. rueful
66. scornful
67. slothful
68. sorrowful
69. spiteful

70. spleenful
71. sprightful
72. stenchful
73. tristful
74. unartful
75. unblissful
76. unboastful
77. uncareful
78. uncheerful
79. undutiful
80. uneventful
81. unfaithful
82. unfruitful
83. ungraceful
84. ungrateful
85. unharmful
86. unhealthful
87. unheedful
88. unhelpful
89. unhopeful
90. unhurtful
91. unlawful
92. unmerciful
93. unmindful
94. unmirthful
95. unneedful
96. unpainful
97. unpeaceful
98. unpitiful
99. unregardful
100. unremorseful
101. unrespectful
102. unrestful
103. unrightful
104. unskillful
105. unsuccessful
106. untactful
107. unthankful
108. unthoughtful
109. untruthful
110. unwatchful
111. unyouthful
112. vauntful
113. vengeful
114. wailful
115. wasteful
116. watchful
117. wilful
118. wishful
119. wistful
120. woeful
121. wonderful
122. wrathful
123. wreakful
124. wrongful
125. yearnful
126. youthful