

JOB 28

Cognition in Context

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SEMANTICS, INFERENCEAL COGNITION, AND UNDERSTANDING TEXT

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1. *Introduction*

For the ordinary modern working linguist, a specific text usually provides raw material, a basis for the development of hypotheses, and a testing ground for general ideas about the meaning and structure of the language in which the text is written.¹ In order to allow a text to fulfill such a function, its interpretation is implicitly taken as unproblematic and well-established, at least in some respects relevant to the linguistic analysis involved. The whole point of this methodology is that we want to answer the question whether our analysis accounts for the use of the language in the text, and for the way a competent language user understands the text; so what is debated, hence considered variable, not-yet-fixed, is the linguistic analysis, and therefore one has to keep the interpretation of the text relatively constant. In actual (text) linguistic practice, the empirical basis is often strengthened by collecting readers' responses of various kinds, e.g. by registering answers to questionnaires or measuring reaction times, which testifies to the importance attached to the constancy and intersubjective factuality of the interpretation of a text, if it is to function as a reliable empirical basis.

This relationship is reversed when a linguistic theory is called upon for the purpose of elucidating a problematic (part of a) text. In such a situation, what is debated (variable, not-yet-fixed) is the interpretation of the text, and if the linguistic information is to be of any help, it must itself be taken as relatively constant. The linguist presents an assumption about, for example, the meaning of a word as well established and there-

¹ I want to thank Jan Boersema for sharing some of his considerable knowledge of the Old Testament with me, as well as a number of his Bible translations and commentaries. Without his contribution, it is highly unlikely that the observations in section 3 of this paper would have made it to this version, and I might actually have decided on another topic. Naturally, the views expounded here and all remaining errors are entirely my own responsibility.

fore reliable, and proceeds to argue on that basis how the text should or might be interpreted, attempting to find an interpretation that satisfies the meaning of the word optimally.

In principle there is nothing wrong with this situation. It simply reflects the basic uncertainty of interpretive activities as well as of scientific theories. In the case of linguistics, it furthermore reflects the indeterminacy of the relationship between specific usage events and meaning. In the usage-based framework that has become standard in present-day cognitive linguistics, meaning is considered an emergent phenomenon, usually a network of related generalizations over many specific instances of use, and as we know such an inductive relationship can never be established with absolute certainty.

This indeterminacy is something very real, and in fact one of the causal factors in language change. Usage events leave traces in memory and their accumulation gives rise to what we may call hypotheses about meaning (i.e. what the usage events have in common, and other ways they can be related to each other) ‘in’ the members of a language community; once a hypothesis has been established, even if only vaguely, it guides and constrains further usage, in production as well as perception. In the meantime, newly encountered usage events continue to be integrated into accumulated experience, which may therefore still undergo changes, in individuals and ultimately also on the level of linguistic communities. I will not elaborate this matter further here,² but it should suffice to make the point that to some extent, holding the meaning of a linguistic element constant for the purpose of text analysis is to some extent an idealization. So in this case too, it is important to find a way to justify the idealization, similar to the way the idealization of a constant interpretation is strengthened by means of testing subjects. In practice, a standard way of strengthening a hypothesis about the meaning of some word or construction, is to maximize its empirical scope. Put differently: we feel more confident in the interpretation of a text proposed on the basis of linguistic analysis if such an analysis links the newly interpreted

² See Keller (1994) for a general outline of such an emergentist view of language change. Croft (2000) contains a more elaborate, comprehensive theory of this kind, integrating insights from evolutionary approaches in several other domains.

element in a consistent way to a large body of other uses of that element in many texts.³

Now an additional problem, recognized especially by functional and cognitive linguists, is that the interpretation of a text is never completely determined by the linguistic material itself. Cognitive linguists emphasize the embeddedness of semantic knowledge—essentially just conceptual knowledge conventionally linked to some linguistic form—in general cognition, with no essential boundary between linguistic and encyclopaedic knowledge (Langacker 2002). Pragmatically inclined linguists will perhaps primarily invoke Grice and conversational maxims such as relevance and quantity to conclude that a text's interpretation is underdetermined by what it (re)presents explicitly, since the maxims imply that one does not say what is not necessary to say, and so on. These two perspectives are perfectly compatible, in fact I think they mutually presuppose each other.

However, in the context of the interpretation of old and very old texts, these assumptions seem to lead to a paradox: on the one hand, to be able to interpret the texts, one has to have non-linguistic cultural knowledge, but on the other hand, the texts seem to be the only, or at least most important, source for knowledge of the culture—including cultural 'common places' that need not be expressed explicitly because they were, presumably, culturally shared.

One mechanism providing us with a way to break out of this dilemma is, of course, history. Chains of stories about previous cultures, old texts and old languages link our knowledge to that of previous generations—we do have considerably more than the texts themselves to base interpretations on. But what I would like to present is yet another potential source of information, inspired by a specific branch of functional-cognitive linguistic research, that may point to pieces of implicit knowledge that is important in the analysis of a text.

³ This notion of consistency is crucial in linguistic analysis in general, and for text linguistics in particular; cf. Verhagen (1997).

2. *Inferential cognition*

2.1 *Scalar reasoning*

As I mentioned before, cognitive linguists emphasize the role of general cognition in understanding language and linguistic utterances. It should come as no surprise then, that cognitive linguists attempt to *explain* apparent universals of language structure on the basis of general psychological capacities and mechanisms which, when put to use in the actual use of language, give rise to different lexical and grammatical systems including all their specific and abstract properties. On the other hand, cognitive linguists have recognized what we may call universals of language use. Some of these have to do with the processing and learning of language, but some others have to do with the nature and content of language use itself, with what is usually called pragmatics, because it involves natural reasoning, i.e. drawing inferences. As has been observed by Sperber and Wilson (1986), all linguistic communication is essentially inferential communication, even when it involves a lot of conventions, because meanings cannot be transmitted directly. Any utterance is an invitation to an interlocutor to make some inference on the basis of that utterance. Making inferences, i.e. reasoning, is another basic cognitive capacity, connected but not identical to such capacities as categorization and abstraction, and also a universal mechanism in the use of language. Knowing the meaning of some element of one's language very often, if not always, involves knowing what kind of inferences it licenses, beyond what kind of categorization it imposes on a situation. Moreover, there are in fact special elements whose most important or even sole function in a language is to guide the construction of inferences. It is this aspect that I will focus on.⁴

Consider the following example:

- (1) The tank is half full.

⁴ What follows is inspired by work on scalar reasoning, originating with one of the founders of cognitive linguistics before it was cognitive linguistics (Fauconnier 1975), and especially by the theory of argumentativity in language (Ducrot 1996). The examples (4) and (3) stem from Horn (1997). For a general introduction to this approach (in Dutch), see Verhagen (2002). For an application to the analysis of subjectivity in grammar (synchronically and diachronically), see Verhagen (1995), (2000a), and Verhagen (2000b) and (2001) for other phenomena at the 'interface' of cognition, grammar, and discourse.

This is a kind of categorization, and thus its cognitive usefulness stems from the additional information it provides access to (cf. Taylor 2002 for general discussion). What could be the kind of inferences licensed by an instance of this expression? Many people, of course, would tend to say: ‘It depends’, viz. on your assumptions. Nevertheless, there is certainly a tendency here for such an expression to count as some sort of positive assessment. Truth-conditionally it is equivalent to an utterance of (2):

(2) The tank is half empty.

But as we all know, the latter is a pessimist’s construal of the situation, and as such it is opposed to the optimistic construal expressed in (1). Or to put it somewhat more concretely: while (1) counts as a reassurance, the use of (2) counts as an advice to start looking for a filling station and stop for refueling. We can say that the meanings of *full* and *empty* profile endpoints on some pragmatic scale, a scale which is the base of the meaning of both.⁵

It may seem that the addition of the modifier *half* marks the categorization by means of *full* or *empty* as only applicable to some extent (viz. 50%), and that it is a consequence of this reduction that the inferences associated with the concepts are weakened accordingly. In fact, one might assume that this relationship is a direct and general one: weakening of inferences associated with a concept is no more than a consequence of reduction of its applicability. Plausible as this idea may appear at first glance, it does not seem to be entirely correct. Consider the following two sentences:

(3) The tank is almost half full.

(4) The tank is barely half full.

Observe that there is more fuel in the tank when it is barely half full than when it is almost half full, as depicted in figure 1.

⁵ Langacker’s concept ‘profile’ plays a central role in cognitive semantics. For an overview, see Langacker (1998), and for a good illustration of its relevance in the present context, Van Hecke (2002).

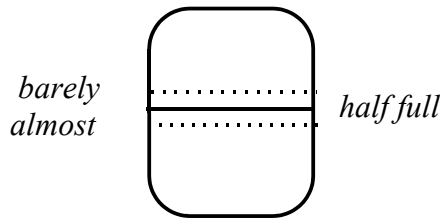


Figure 1. *barely/almost half full: level of fuel.*

But *almost half full* still counts as reassuring, a confirmation of confidence in the distance one can cover without refueling, while *barely half full* counts as a warning, and an advice to start looking for possibilities of refueling soon, despite the fact that in some sort of objective sense, the tank is filled for more than 50% when it is barely half full, while it contains less than 50% when it is almost half full. So what we have to conclude is that such elements as *barely* and *almost* operate **directly on inferences** associated with the concepts they modify, and not via the descriptive contents of the terms as such.

It is important to realize that *barely* does not necessarily evoke the negative idea of a warning and *almost* the positive idea of reassurance. Rather, their effect is dependent on what, in a particular instance of use, the relevant types of inferences are. Suppose, for example, that we are not considering the question whether we should stop for refueling, but that we are actually busy filling the tank, with person A regulating the flow of fuel to the tank and person B keeping an eye on the progress of the process in order to signal to A when it is time to cut off the flow. The utterance of (3) (*The tank is almost half full*) may then count as a warning ('Be prepared: the moment to switch off the flow of fuel is approaching'), while (4) (*The tank is barely half full*) may count as reassurance ('Take it easy: the moment to switch off the flow of fuel is still far away'). The rule is this: whatever the issue associated with the concept mentioned explicitly in the utterance, the use of *almost* confirms the inferences associated with the higher end of the scale involved, whereas the use of *barely* cancels the very same inferences (and therefore tends to evoke inferences associated with the lower end of the scale). This is, admittedly, a rather abstract characterization of the meaning of these two rather mundane words, but the claim is precisely that it must be that abstract because it operates on aspects of conceptualizations that are *not*

evoked explicitly. To me, the very nature of these very ordinary linguistic elements testifies to the normality and automaticity of inferential reasoning in everyday cognition and language use.

2.2 Grammar and cognition

For a linguist, this approach is especially useful because it provides a basis for an explanation of some otherwise rather puzzling properties of linguistic expressions. For example, the word *barely* licenses so-called negative polarity items. It functions in many ways like negation, despite the fact that an assertion of the type *barely p* strictly speaking entails *p* and not *not-p*. For example, the phrase *sleep a wink* in English normally requires a negative context, as in ‘He didn’t sleep a wink last night’, while it is not felicitous to say ‘He slept a wink last night’. This expression can also be licensed by *barely*, ‘He barely slept a wink last night’, despite the fact that this entails ‘He slept a wink’. For a cognitive linguist, this is just another phenomenon that shows that ordinary language reflects ordinary cognition, in this case: ordinary human reasoning, which is concerned with pragmatic, subjective and intersubjective relevance, rather than with objectivist truth-conditions.⁶

However, this perspective on the function of elements such as *almost* and *barely* is also highly relevant to the analysis of discourse. Consider example (5).⁷

- (5) Our two sons, Charles and George, were playing a game. Half-way through, Charles had 60 points. So the youngest was probably going to win again.

If one knows what game is being played, or which of the two boys is the youngest, one may infer who is predicted to win. It may even seem that one simply *must* know this in order to be able to derive such an inference. But linguistic elements of the type discussed may actually also guide reasoning here, even if one does not possess this kind of information. Consider (6) and (7):

⁶ See Israel (1998) for a detailed elaboration of this view.

⁷ The discussion to follow is based on Lundquist & Jarvella (1994). The example used is adapted to my purposes in the remainder of this paper, but exactly parallel to the original one (confirmed by tests in a number of psycholinguistics classes I taught).

- (6) Our two sons Charles and George were playing a game. Halfway through, Charles had almost 60 points. So the youngest was probably going to win again.
- (7) Our two sons Charles and George were playing a game. Halfway through, Charles had barely 60 points. So the youngest was probably going to win again.

Readers who had read (6) and were asked afterward who they thought had won the game, strongly agreed that it was Charles; on the other hand, readers who had read (7) and were asked the same question, strongly agreed that it was George (cf. Lundquist and Jarvella 1994).⁸ The differences between (5) on the one hand and (6) and (7) on the other, is not that the latter two contain more explicit information about the rules of the game, or the ages of the boys (they don't); it only consists in the presence of the words *almost* and *barely*. But as I have argued, *almost* directs the reader towards some inference associated with the upward end of the scale of fullness, whereas *barely* cancels such inferences. Therefore, (6) naturally invites the positively oriented inference that the number of points Charles has gained makes it likely that he will win, and (7) invites the negative inference that this number of points makes Charles' winning *unlikely*, and consequently the expression *the youngest* must be taken as referring to George.

Again, it must be emphasized that the interpretations I have just sketched, even though readers tend to agree on them to a significant degree, are not really *determined* by the use of *almost* and *barely*, respectively. As an implicit background assumption of these interpretations, I have been using a cognitive model of the general type 'More is better', in this case that the purpose of playing a game is to get as many points as possible. But suppose the rules of the game imply that the points involved are *penalty* points, so that the winner is the one with the lowest amount of points. Then, of course, the whole story is reversed. With such a background assumption, the likely winner, referred to by *the youngest*, in (6) is George, not Charles, and in (7) it is Charles, not George.⁹

⁸ The fact that the consensus seems to be somewhat less strong in the latter case than in the former, may be due to the fact that 'Charles' in (7) is more accessible as an antecedent for the expression *the youngest* than 'George'.

⁹ This once again confirms the point that context plays a role in language use in as far as it is, in the formulation of Langacker (2002), *apprehended* by language users, so that it

The interest of observations like these for linguists is that they tell them a lot about the exact semantic nature of these scalar modifiers, and for cognitive scientists in general it is that they reveal something significant of the character of ordinary reasoning. For text analysts and students of culture, the special interest may arguably be that they point to implicit background assumptions, culturally shared cognitive models,¹⁰ that have to be invoked in the interpretation of texts. I will illustrate and elaborate this idea later. First, let me give some more examples of ordinary language elements that have the function of ‘operating on implicit inferences’. Consider examples (8) and (9).

- (8) Our two sons Charles and George were playing a game. Halfway through, Charles already had 60 points. So the youngest was probably going to win again.
- (9) Our two sons Charles and George were playing a game. Halfway through, Charles only had 60 points. So the youngest was probably going to win again.

These demonstrate that *already* functions like *almost* in that it orients the reader to a positive conclusion from the information about having 60 points, whereas *only* functions like *barely* in that it cancels such a positive conclusion. There are also differences, of course. While *almost* invokes an upward orientation of inferences related to the relevant scale despite the fact that a certain limit has not been reached, *already* invokes the same upward orientation while this limit has been reached. Similarly, while *barely* cancels an upward orientation despite the fact that a certain limit has in fact been passed, *only* cancels it while it has been reached. Thus, different elements actually operate on the *relationship between* the situation being described and the inferences to be drawn from it. Other

lends itself naturally to a cognitive approach: both contextual and linguistic information ‘only give rise to constraints [on interpretation] *within* a cognitive system’ (Verhagen 1997: 30). Verhagen (1997) discusses some conceptual and methodological contradictions arising from a failure to recognize this fundamental point (esp. the idea that what a word means depends on the context of use, vs. the idea that what a word means determines the context of use), and how these can be avoided.

¹⁰ I will use ‘cultural model’ and ‘cognitive model’ as more or less synonymous in this paper. In discourse, as communication, only mutually shared cognitive models are relevant, and in texts intended for a relatively indeterminate audience, the models must be assumed to be mutually shared across a community, i.e. cultural.

examples of elements performing such operations on relations between different kinds of situations and inferences are *just*, *merely*, *yet*, *even* and more like them.

A very general linguistic device that must be mentioned here too, is negation, which I already mentioned in passing above. In objectivist approaches to semantics, its primary function is usually considered to be that of marking the reversal of truth-value, i.e. non-correspondence between propositional content and the world (or a possible world). From a functional and cognitive perspective, it makes more sense to consider the primary function of negation to be that it marks a discrepancy between two points of view—an implicit or backgrounded one in which a certain idea is being entertained, and an actual one in which this idea is being cancelled, i.e. non-correspondence between two perspectives. The advantage of the latter view is that it brings to the fore that in terms of their function in discourse as well as in their grammatical behaviour, elements like *barely* and *only* share crucial properties with negation. As mentioned above, in terms of grammatical properties, such elements may license negative polarity items, as straightforward negation does. For textual effects, consider the difference between (6) and the negative formulation in (10):

- (6) Our two sons, Charles and George, were playing a game. Half-way through, Charles had almost 60 points. So the youngest was probably going to win again.
- (10) Our two sons, Charles and George, were playing a game. Half-way through, Charles did not have 60 points. So the youngest was probably going to win again.

While (6) has, as we have seen, a clear positive orientation towards winning, (10) definitely has not. Its relevance in this context is clearly a negative one, i.e. the inverse of the orientation of (6). So for inferential coherence purposes, the negative formulation is actually similar to the one with *barely*, despite the fact that having barely 60 points logically excludes not having 60 points (yet).

The last class of elements I want to mention here is that of discourse connectives. We have already seen one, of course, viz. the element *so* in the examples used so far. As we can see from these examples, *so* marks

what we may call co-alignment of the clause following it with an inference based on the previous discourse: it is a conclusion licensed by the preceding discourse plus inferences derived from it. For the same reason that we had to formulate the function of *barely* as relating to the level of inferences rather than that of truth-conditional propositional content, we also have to formulate the function of *so* as relative to an inferential relationship. In this case, this may even be easier to see than for *barely* and *only*, because the status of the second clause as a conclusion requires at least one more premise than has (usually) been made explicit in the text.

The reverse of *so* in English is *but*. Rather than marking the co-alignment of an explicit text segment with inferences derived from the previous discourse, it marks a discrepancy between the next segment and such inferences from the preceding discourse. For example:

- (11) Our two sons Charles and George were playing a game. Halfway through, Charles had barely 60 points. But the youngest was probably going to win again [anyway, as his brother had even less.]

While in example (7), with *barely* and *so*, we interpreted *the youngest* as referring to George in order to make the discourse coherent, we interpret it as referring to Charles in (11), also for reasons of coherence. In both cases, the first sentence invites the inference that Charles is not likely to win, the difference being that *but* in (11) signals that inferences from the preceding discourse should be cancelled (with the additional clause providing grounds for this move). Again, we have to leave it at this rather abstract characterization, because the meaning of *but* itself does not provide information about the content of the inferences to be cancelled, nor about the specific content of the discourse that is to follow.

‘How about the conjunction *and*?’, one might ask at this point. While *so* explicitly signals co-alignment of inferences in a text, and *but* a discrepancy, we can say that *and* seems to be unmarked, or neutral, in this respect. It may be that it suggests a common background, or assumed context, to which both the preceding and the following segment relate, but in many cases it is just additive, not to be interpreted in a causal, nor in a contrastive way:

- (12) He said he was sorry, and I think he meant it.

Although *and* does not impose either a co-aligned or a contrastive reading, it does occur in both types of relationships in actual usage:

- (13) He has been stealing, and now he has to pay for it.
 (14) I have been working all my life, and I never got a word of appreciation.

Given the additive character of *and* itself, the co-alignment use in (13) is less marked than the adversative use in (14), which sounds even more like a reproach than a formulation with *but*, but I will not go into that particular aspect further now. In any case, it is clear that a contrastive interpretation of a relationship marked with *and* is completely dependent on our sharing a cultural model, in this case one according to which working hard is something that should definitely be appreciated, at least at some moments in a person's lifetime. Without such an implicit but obviously shared cultural model, a contrastive interpretation is hard to impose on a relationship marked by *and*, witness (12), and the difference between (15) and (16).

- (15) This house is beautiful, and it is cheap [÷ all the more reason to buy it!]
 (16) This house is beautiful, but it is cheap [÷ perhaps there are hidden defects.]

It is only because of the presence of the explicit contrast marker *but* that we take the second clause as cancelling the inference that we should buy the house (and then look for a background assumption that can be invoked to justify this cancellation, in this case: hidden defects might explain the unexpected low price, and that would be a good reason not to buy the house, despite it's being beautiful).

2.3 *Understanding discourse*

To sum up the discussion so far, coherence between parts of a text may be crucially dependent on the inferences that the segments of the text evoke, more than on the propositional content of the segments by themselves. Scalar operators such as *almost*, *already*, *barely* and *only*,

straightforward negation, as well as connectives such as *so* and *but*, function as signals for the nature of the inferences, which ones should be strengthened and which ones cancelled in the course of 'going through' the text, but inferential coherence of a text is not dependent on them. In a text such as (5), if we know that the game is won when one player has 80 points, we will feel invited to infer that *the youngest* refers to Charles, because the game is halfway and he has 60 points.

But conversely, if we have independent evidence that *the youngest* refers to Charles, then the formulation allows us to infer something about the underlying implicit model of the rules of the game: apparently having 60 points goes a long way to winning, at least halfway through the game. Similarly, when we have linguistic evidence that two text segments are either co-aligned or contrasted, or that a text segment is to be used inferentially in an upward or downward way, this allows us to infer something about cultural models underlying the relationship between the text segments.

The cognitive approach to language use turns the observation, presumably also the philologist's daily experience, that interpretation of an instance of language use is hardly ever determined by language alone, into a fundamental theoretical principle: linguistic and in particular semantic knowledge cannot and should not be separated from general cognition. At first sight, this may seem to reduce the relevance of linguistics for text analysis, and it must, of course, be admitted that its usefulness is inherently restricted anyway. But precisely the recognition that language use involves a considerable amount of linguistically constrained, but not determined, reasoning, can help focus attention on the norms and cultural models involved in the derivation of inferences that allow us to experience a text as coherent, and thus to examine the validity of such models critically. When a text contains scalar operators and connectives of the type I have been discussing, these allow us to infer at least *some* properties of the models that should be invoked when interpreting the text (provided that we have sufficient knowledge of the rules for using the operators and the connectives, which may not always be obvious).

Moreover, such elements can also be used to, so to speak, 'test' properties of hypothetical interpretations, thus providing yet another kind of usefulness of cognitive linguistics in the practice of text analysis. When we feel that adding a certain operator or connective to a piece of a text

simply makes the interpretation clearer or more explicit, without basically changing it, then we are in a better position to examine the implicit models we have apparently been using in our interpretation. For example, consider the interpretation of the second sentence in (17):

- (17) Our two sons, Charles and George, were playing a game. Halfway through, Charles did not have 60 points. So his brother was probably going to win again.

Because of the possessive pronoun, referring to Charles, the interpretation of the last clause is now practically fixed on George's winning. The negation in the second clause makes sense in this respect, as it provides a basis for the inference that Charles is losing the game. But we can strengthen this inference by adding scalar operators such as *even* and *yet*, and this makes the text appear clearer:

- (18) Our two sons, Charles and George, were playing a game. Halfway through, Charles did not even have 60 points yet. So his brother was probably going to win again.

The idea that the coherence of (17) is essentially based on the same grounds as that of (18) can help us to clarify the nature of the implicit cognitive model that these interpretations are based on.

3. Operators on reasoning in the context of Job 28

By way of conclusion I would like to demonstrate the validity and usefulness of this idea by comparing some translations of the Job chapter that was chosen as the central text for this colloquium.¹¹ What was especially interesting to me, from the perspective of the approach I have described here, when I looked at a number of translations, were some differences in the way the vv. 20–28 were rendered. Let me use the King James Version as a reference point:

¹¹ The text contains a considerable amount of negations. It is not hard to see that they may indeed be characterized as cancelling possibly relevant inferences. Their specific rhetorical function here seems to be setting up a number of oppositions (between hidden riches of the earth being accessible to man and not to animals, material riches being accessible to man and wisdom not, the latter fact and wisdom's being accessible to God).

(19) Job 28:20–28 (KJV)

- 20 Whence then cometh wisdom? and where is the place of understanding?
- 21 Seeing it is hid from the eyes of all living, and kept close from the fowls of the air.
- 22 Destruction and death say, We have heard the fame thereof with our ears.
- 23 God understandeth the way thereof, and he knoweth the place thereof.
- 24 For he looketh to the ends of the earth, and seeth under the whole heaven;
- 25 To make the weight for the winds; and he weigheth the waters by measure.
- 26 When he made a decree for the rain, and a way for the lightning of the thunder:
- 27 Then did he see it, and declare it; he prepared it, yea, and searched it out.
- 28 And unto man he said, Behold, the fear of the Lord, that is wisdom; and to depart from evil is understanding.

In different translations, different scalar operators show up, sometimes in parentheses, sometimes not, which show something about how the text was interpreted. For example, a reader might wonder what the purpose is of the second clause of v. 21, since the fowls of the air are strictly speaking already included in ‘all living’ things. Thus, the 1951 Dutch NBG translation has added ‘even’ to ‘from the fowls of the air’, marking it as the endpoint of some scale, and thus a particularly strong argument for the first clause, constructed as a conclusion; the 1983 Afrikaans translation also has ‘even’ (unlike the 1933 and 1953 translations), while both the old and the modern German Lutheran translations have ‘also/even’ (*auch*) here.

Similarly, a question may arise as to how we are to integrate v. 22 into a coherent interpretation of the text. Again, that the way to do this is to construe it as a basis for some sort of conclusion, can be seen from several translations in which the scalar operator ‘only’ is added to ‘the fame’, so that it becomes an argument for the conclusion that Destruction and Death do ‘not really’ know wisdom, cancelling the inferential capacity it might otherwise have and thereby making it coherent with the con-

text. This was suggested in an annotation in the 1637 Dutch translation, and it occurs in the text in two modern German translations (Lutheran and ‘Gute Nachrichten’), in the 1983 Afrikaans translation, as well as, between parentheses, in the older German Elberfelder translation, and in the modern American *Amplified Bible*.

Looking at v. 23, we can imagine that cancelling any basis for the inference that men might have access to wisdom can also be performed by explicitly marking God as the *only* one with such access, and this is indeed what happens in a number of translations: in the annotations to the Dutch one from 1637, and in the text of the modern German Lutheran translation (not the older one), as well as that of ‘Gute Nachrichten’, in the 1983 Afrikaans translation, but not in the modern Dutch translation from 1951. An interesting specimen is *The Good News Bible* (The Bible Societies, published in 1976), that uses all of the operators mentioned above and more, and thus renders the vv. 20–23 as follows (italics added –AV):

(20) Job 28:21–23 (GNB)

- 20 Where, then, is the source of wisdom?
Where can we learn to understand?
- 21 No living creature can see it,
Not *even* a bird in flight.
- 22 *Even* death and destruction
Admit they have heard *only* rumours.
- 23 God *alone* knows the way,
...

Precisely these elements guide the derivation of inferences that help a reader construct a coherent interpretation without *explicitly* adding content information, and this undoubtedly contributes to the impression that these verses run smoothly.

Arguably the most telling example of how inferential coherence is constructed on the basis of implicit models, can be found in translations of the very last verse of this chapter. The dominant question is: ‘Where can wisdom be found?’, at least since this question was first formulated in v. 12. It has immediately been established that the place of wisdom is not ‘among mortals’. In v. 23, it is stated that the way to/of wisdom is known

to God. The question for mortals, the implicit agents of the passive *be found*, thus becomes: Will God let them share in the wisdom He has access to? In terms of making inferences to construct a text interpretation, the question is: What implicit models should we invoke, and in what ways should we apply them, in order to construct a coherent interpretation on the basis of the information that is provided explicitly? The explicit information turns out to consist of two things: on the one hand the characterization of the wisdom that God has access to as His understanding of the laws of nature, which He laid down Himself; on the other hand the characterization of human wisdom as the fear of the Lord and departing from evil. The question is: shall we understand these two as co-aligned or as contrasting with each other? Consider the translations of v. 28 in the King James version above with *The Good News Bible* and in the modern American *Amplified Bible*, respectively:

(21) Job 28:28 (KJV)

28 And unto man he said, Behold, the fear of the Lord, that is wisdom; and to depart from evil is understanding.

(22) Job 28:28 (GNB)

28 God said to men,
 'To be wise, you must worship the Lord.
 To understand, you must turn from evil.'

(23) Job 28:28 (AMP)

28 But to man He said, Behold, the reverential and worshipful fear of the Lord – that is Wisdom; and to depart from evil is understanding.

With the question 'Where can man find wisdom?' and the information 'God has access to the wisdom that rules the universe which He created', an inference that is at least plausible is 'Man can find wisdom with God'. The use of *but* as in the AMP-translation seems to cancel this inference, construing the fear of God and departing from evil as the maximum on the scale of wisdom accessible to man, so that the even higher wisdom of God is *inaccessible* to man. The use of *and* as in the KJV-translation on

the other hand suggests that the wisdom assigned to man is at most of another type than the wisdom of God, possibly even instrumental for man to participate in God's wisdom. Even if this would not include full insight of exactly the same depth as God's, the underlying models of man, of God, and especially of their relationship, are very different in these two interpretations, which becomes manifest in the difference in derived inferences: in one case the thought 'only God has access to full wisdom' leads to the inference 'this knowledge is forever inaccessible to man', and in the other case to the inference 'man can only have access to wisdom through the fear of God.' The GNB translation, without any connective in v. 28, seems to leave open all possibilities; given that a contrastive relationship involves more inferential work than a co-aligned one, many readers may simply tend to construe a co-aligned reading.¹² Still, leaving out a connective reduces the linguistic constraints on the interpretation—which also involves the risk of leaving readers with the feeling that the text is unclear.

The connective in the Hebrew text of v. 28 is ׀ (*waw*), which is most frequently translated simply as 'and'. In fact, most of the translations I consulted¹³ had 'and' here, rather than 'but'. It is perhaps telling that, besides the AMP-translation, the other ones in my sample using 'but' are all protestant translations, i.e. all the protestant Dutch ones since 1637, a Danish one from 1933, and the Afrikaans translations from 1933 and 1953 (though the 1983 version has 'and'). Substantiating such a correlation would require systematic examination of more translations, but for my present point, this is not necessary. The cases we have seen suffice to show that specific, concentrated attention for linguistic cues that guide ordinary reasoning can focus our attention on the underlying cultural models.

For completeness, let me mention that *waw*, although mostly translated as 'and', is also quite consistently translated as 'but' in certain contexts. A good example can in fact be found in this very same chapter, viz. in v.

¹² Notice that this translation puts the notions of wisdom and understanding into purpose clauses, and in first rather than last position in their respective sentences. This has a strong effect on interpretation (in the direction of co-alignment), but it is beyond the scope of my topic in this paper to elaborate this. For general discussion, see Thompson (1985).

¹³ Viz. ones that I had access to locally, and ones that I could find on the internet, and that I could read sufficiently well myself—not a random selection of the world's translations, but it suffices for my point here.

12, following the exposition of the power of man to extract hidden riches from the earth; in the King James Version this reads:

(24) Job 28:12 (KJV)

12 But where shall wisdom be found? and where is the place of understanding?

In the translations I looked at, this was a very common trait, while here too, the connective used in Hebrew is *waw*. Apparently, then, this element is at least compatible with some contrastive relations, although this could in principle, of course, be disputed.¹⁴ In any case, given these practices of translation, there is not really linguistic counter-evidence to the hypothesis implicit in the translation with ‘but’ in v. 28.

4. Conclusion

By hypothesis, semantics and cognition are closely related, in a cognitive linguistic perspective. In this paper, I have focussed on a few elements whose meanings are special in that they constrain cognitive operations in particular ways without contributing to the descriptive content of the discourse. As such, they actually testify to the tightness of the relationship between language and cognition; linguistic elements such as scalar operators and certain connectives presuppose cognitive content to operate on, that is not itself represented linguistically. As a consequence, such elements can help us in making inferences about properties of implicit cultural models that have to be invoked in order to construct a coherent interpretation of a text. One occasion to do this, is when such elements are present in a text; and another one, also potentially valuable, is when

¹⁴ My own understanding of the text changes rather dramatically when replacing ‘but’ with ‘and’: ‘where wisdom is to be found’ then simply becomes the next question to ask, having established that man already had great power in extracting material treasures from the earth. For the time being, I take this as a reason to consider ‘but’ a good translation here. This would imply that there is a real difference between Hebrew *waw* and ‘Standard West European’ ‘and’, as the latter is not compatible with certain contrastive relations that *waw* appears to occur in. It might have to do, for example, with the fact that in v. 12, the contrast is at the speech act level, as a question (the one in v. 12 itself) is related to a series of statements.

one wants to test the inferential nature of implicit cognitive models involved in a particular interpretation of a text.

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