Idiomatic Blocking and the Elsewhere Principle

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Abstract

I introduce the phenomenon of idiomatic blocking and discuss how the Elsewhere Principle could be a reasonable way of explaining the phenomenon. Unfortunately, the Elsewhere Principle does not apply to most versions of formal grammar. A remedy is sought by couching grammars as systems of generation rules. If the generation starts from a pragmatic goal which gets enriched within the generation process, it can indeed be shown that a suitable specificity hierarchy would give the blocking effect. However, in view of the problem of reverse blocking, it seems that this solution must be given up in favour of a theory in which generation and interpretation both play an essential role but where linguistics itself is after all the definition of a form-meaning association serving as a resource for both algorithms. The two forms of idiomatic blocking are then meta-linguistic phenomena arising from the generation and interpretation process.

1 Problems in Idiom

The treatment of idioms raises a large number of issues for linguistic theory and natural language processing. These include the need for lexical look-up of expressions larger than a single word; the difficulties in distinguishing proper idiom from regular expressions; and, last, the participation of the closed part of the idiom in combination processes. Idiomatic blocking —

the problem I am concerned with in this chapter— seems to challenge more fundamental assumptions in processing and indeed in linguistics than the other ones. After all, it seems that the ideas that would allow solutions to the other problems are there. We know how to set up theories that operate with basic expressions longer than a single word (see, e.g., Van Noord (1993)) and advances have been forthcoming with systems that allow a more flexible application of linguistic processes to expressions, where the effects can be within an expression rather than on the expression as a whole.

1.1 Blocking

A familiar experience of a beginning translator is to come up with translations that match the source text quite well but that do not feel proper in the target language. These translations are not syntactically ill-formed nor do they mean different things[1], but they do not reflect the way in which one speaks in the target language. Texts that have been produced by such translators make difficult reading, and the translator has to mend his ways quickly if he wants to stay in the trade. For nonnatural language learning that aims at perfection, this has the consequence that much time needs to be devoted to idiomatic expression. We are dealing here with an incorrectness notion concerning language, and the purpose of this chapter is to discuss a possible linguistic explanation of why nonidiomatic expression is wrong. To ask in English for the time, one uses one of the expressions in (1):

(1) a. What is the time ?
b. What time is it?

(2)is not used in English, but is in Dutch[2].

(2) How late is it ?

as one would in Dutch Grammatically and lexically both languages are sufficiently similar for the other form with the same meaning to be present in the syntactic and semantic combination rules.

[1] By their markedness, they of course sometimes lead to misinterpretation.

[2] This is a common translation mistake for Dutch students of English in the initial phase. The reverse mistake can be spotted in English-speaking students of Dutch.

English has syntactic structures of the form *how ADJ is it*, and the meaning of Dutch *laat* as the opposite of *early* can be found in expressions[3] like (3).

(3) It was late in the afternoon.

The combination of positively oriented gradable predicates with *how* then leads in English and in Dutch to a degree question. In both Dutch and English it would be *late* rather than *early* that would fill this role, and to use the other form is somewhere between unacceptable and highly marked. In English, intentional parallelism is the only factor that would allow *How late is it*, for instance, as a further enquiry after (4).

(4) It is rather late.

The property is not peculiar to *late* but seems to be shared by other gradable adjectives that allow a precise numerical answer to the question (5).

(5) How ADJ is SUBJ?

In all these cases, English seems to prefer the equivalent combinations in (6).

(6) a. What NOUN is SUBJ?
b. What is SUBJ's NOUN?

Compare, for instance, the examples in (7) which seem to be marked, with the examples in (8) for which the alternative question is not available.

(7) a. How tall is he?
b. How old is he?
c. How high is this building?

(8) a. How smart is he?
b. How drunk was he?

[3]This meaning is sufficient for correctness. The other meaning of *late*: late exceeding some norm could never combine with *how*, as it is not gradable.

There is also a lack of parallelism between these questions and their answers. The answer (9)

(9) It is five (o'clock).

seems to presuppose a question (10).

(10) How much o'clock is it?

Similarly, the Dutch (11)

(11) Het is 5 uur.(*It is 5 hour*)

seems to presuppose the incorrect (12).

(12) Hoeveel uur is het? (*How many hour is it?*)

My object in this chapter is not so much to explain why a given expression is used (it has no special semantic or syntactic properties), but to explain why the syntactically and semantically sound alternatives are somewhere between unacceptable and highly marked. I explore the consequences of the view that we can use the same type of explanation we use for morphological and phonological blocking, and enquire what consequences this has for the form of linguistic theories in syntax, semantics, and pragmatics. The explanation for the morphological cases is nowadays often couched in terms of a default rule system or default logic (For a recent treatment, see Calder(1989)). I use the perhaps old-fashioned linguistic terminology of rules with exceptions simply in order to remain neutral with respect to the many proposed formalisms. At the same time, it may be that linguistic defaults have properties that are not found in, for instance, common sense reasoning or biological classification.

In morphology and phonology blocking is a well-known phenomenon. The existence of the plural *kye* in Lowland Scottish prevents the existence of a regular plural meaning 'cows'. Dutch *zeelui* or *zeelieden* (sailors) prevents in a similar way the existence of the regular *zeemannen*. The phenomenon

has been noted from the earliest days in the study of linguistics and its explanation is due to Panini: In linguistics, a more specific rule can always override a more general one. Thus the plural *-lui*, for a singular *-man*, is a more specific rule that overrides the general rule that would assign a *-en* plural to this class of Dutch nouns.

Kiparsky quotes Kielhorn's translation of Panini's formulation: "A rule which is given [in reference to a particular case or particular cases to which or to all of which] another [rule] cannot but apply [or in other words, which all already fall under some other rule] supersedes the latter" (Kiparski (1973), p.94). Kiparsky's own interpretation of blocking is close to this formulation, unlike formulations that employ a priority of rules (an explicit one or one derived from their ordering in a list of rules). Two elements are important in the Elsewhere Principle. First, it inactivates rules in particular cases as a property of the rule system as a whole. Second, it does so in virtue of a logical relationship between rules: entailment between application conditions. The rule that is inactivated by a second rule applying to the same case applies to all cases to which the second rule applies.

The English plural is formed by adding a morpheme *-s* to the end of a stem. A number of words have special plurals, such as *goose*, which has the plural *geese*. The existence of the nonregular plural (a remainder of an older plural formation by means of vowel shift) rules out the regular form **gooses*.

The rule that assigns *geese* has the application condition $stem = goose$, which is more specific than the application condition $stem = X$[4] for the regular plural formation. It follows by the Elsewhere Principle that the regular rule for plural formation does not apply to *goose*.

There is an important *caveat* with the Elsewhere Principle: It does not always lead to the right conclusion. It is sometimes possible for the irregular form to coexist with the regular form, and sometimes there is neither an irregular nor a regular form. In these cases the Elsewhere Principle would predict the absence of a regular form or the presence of a regular form, respectively, predictions that are not borne out by the facts. It follows that

[4]Here and in other places I prefer to use a particular notation rather than a non-specific description of some notation system. Such a choice does not imply any stance on the usefulness of the notation system

for these cases another explanation needs to be sought.

The first problem may be dealt with at a formal level by the postulation of optional rules and the second, by the postulation of idiomatic rules of nonexistence. The optionality of a rule would make it an exception to the Elsewhere Principle, whereas idiomatic nonexistence rules would use the Elsewhere Principle to block the application of regular processes. But even if a formal solution is available, a further explanation is still required.

2 The Elsewhere Principle and Idiom

The application of the Elsewhere Principle to idiom raises a number of problems. The most important of these involves the format of rules in syntax, semantics, and pragmatics. These are related to the general architecture of linguistic frameworks. In order to compare the use of idioms with that of regular syntactic expressions we must consider the use of these expressions. That means that we need to compare the intentions of the user of the expression which must be available in some syntactic format. Only then do we have the basis for a specificity order. Many linguistic theories, deriving from Montague grammar, have an architecture that derives the semantics from a syntactic representation. If a pragmatic theory is developed at all, it is derived within this conception from the semantics.

In an autonomous syntax, about the application of a combination rule, one can at most state syntactic restrictions on the items to be combined and on their respective ordering. It is impossible on this level to compare the intentions associated with the derived expressions. As an example, compare what happens in Montague grammar.

A syntactic rule in Montague grammar combines one or more expressions of categories $C_1 \ldots C_k$ into a new expression of category C. The application condition is stated purely in terms of the categories of the input expressions. Because the notion of subcategory is not available, it does not make sense to speak of certain rules being more specific than other rules. But if we would add subcategories[5] and a specificity order over rules, this

[5] As happens in unification grammar, where a sign can be arbitrarily abstract or in-

would not help us with our problem. The problem is that the rule as such has an application condition that is stated in terms of the elements that have to be combined and not in terms of the message that the combination has to convey.

The problem is a difference between the interpretation that systems embracing syntax, semantics, and pragmatics allow versus the way in which a system of morphological or phonological rules can be interpreted. A morphological component (like a phonological component) is generally conceived as the definition of a correspondence between an abstract and a concrete representation of words or sequences of words. Thus it is a direct model of a process in speakers: A speaker is intending to use the plural form of a word meaning 'sailor', and out comes *zeelui*, not *zeemannen*. The correspondence between the intention and the result is fairly direct. There is no problem in seeing the rule as a quasi-causal description of the process whereby a speaker turns his abstract intention into a concrete form. This is very different from the situation in syntax, where the object is to describe the set of all syntactically well-formed expressions of a language. Though there are forms of syntax (generative semantics) that can be interpreted as supplying both a theory of speaker intentions (deep structure, semantic representation) and a theory of their realization in surface form, it seems that the theories of speaker intention supplied are less useful by their fixation on semantic representation, rather than on the intention of the speaker with his utterance. But in principle, generative semantics could allow realization rules with an application order, which could thereby model certain aspects of the blocking process.

The closest that we could come in a standard syntax is to use the empty rule mechanism introduced earlier and to have a rule that would map *how late* and *is it* into the improper expression of category t. Being idiomatic, this rule would then block the rules that make the concatenation of the two expressions into a proper question. An alternative is to build the exception into the syntactic function belonging to the operation mapping WH-adjectives and t/APs into questions by letting it be undefined for these particular values. Both solutions, however, require a special stipulation or a special rule for dealing with *How late is it*, and they do not derive blocking

stantiated and unification gives rise to the subsumption ordering.

from the existence of the idiomatic way expression.

The problem is that there is no way in Montague syntax to link the two alternative formulations. Their obvious relation is that the meaning and pragmatic function of the two questions are the same, whereas syntactic derivability is not stated in terms of pragmatic function or semantics. So maybe we would have to approach the problem in terms of semantic rules. Semantic rules in Montague grammar map syntactic derivations into semantic objects, presumably both alternatives (under a standard derivation) into the same semantic question. (A meaning postulate is required.) But it does not help to have a specific rule for *What time is it*, because that rule does not have any relation to the regular rule that maps *How late is it* into the same question. (We could again consider an idiomatic rule mapping *How late is it* to some improper semantic object, but it is again not an explanation of the absence on the basis of the presence of an idiomatic expression.) The problem is that the application condition of semantic rules is stated in terms of derivations, not in terms of semantic objects. For a pragmatic component that derives pragmatic properties from derivations and semantic properties, a similar situation obtains.

There are some theories of syntax and semantics that do not have this problem. The clearest case is generative semantics, where syntax is stated as a mapping from semantic representation to surface form. Presumably it would not be a problem to include pragmatic properties in that notion of semantics. Then we could have a specific rule mapping the semantic structure of *What time is it* into those very words, and the Elsewhere Principle will do the blocking. My first proposal is in that spirit.

3 Generation grammar

The aim of this section is to give some more body to the knowledge of a speaker of language, when it is assumed that this knowledge forms a set of generation rules. My only claim here is that we can describe a small fragment of a natural language using a generation-rulebased system like the following.

3.1 Input

Why do we speak? We utter assertions to communicate to other people the existence of certain states of affairs and the occurrence of events. We utter questions to elicit the expression of assertions. The assertion we want to elicit is related to the question in that it asks for an object that is specified in relation to another object.

The input to a generation system can thereby be taken as an object that is specified, with respect to the context, in the course of a generation system. The specification uses knowledge about the object, about the language, and about the context, as resources by means of which the specification can proceed.

The putative objects from which the process starts can be states, events, physical entities, and abstract entities. These objects have some degree of reality for the speaker, and he or she has information about them. This information is of two kinds: First of all, the speaker attributes a sort to the object; that is, he or she knows what kind of object it is. Second, the subject can relate the object to other objects: The object is the agent of some event, for instance, or its theme.

For the first kind of knowledge I require a partial order of sorts. An object always has one maximal sort. If it has two sorts without one sort being more specific than the other, the sort ascription is incoherent.

To capture the second intuition, I assume a set of thematic roles[6]. To fix ideas, let us assume the following set of roles: agent, theme, goal, experiencer (exp), instrument, location (loc), temporal position (temp). These are functions mapping events and states to the objects that fill the thematic roles associated with them. In addition, we assume a set of other functional notions that map nontemporal objects to other objects (birth, father, etc).

I assume a connection between sorts and these functions. If an object

[6]This is mainly in order to have a convenient terminology for talking about the various entities involved in an event or state. It is important that they have a functional character. It is not important that their semantical import can be stated independently of the type of event to which they are applied. The kind of semantics I am proposing is similar to Parsons (1990).

has a certain sort, certain functions will be defined for the object. This does not entail that a subject familiar with x for which f is defined needs to be familiar with the object $f(x)$ as such. When a subject is not familiar with $f(x)$, $f(x)$ identifies the object for the subject. The object is not known, but $f(x)$ is a concept that can be used as the input to a generation process leading to a question that asks for an identification of $f(x)$.

Last, we need the concept of a class. A class can be obtained as an object with a sort and some relations conceived as something that can possibly match a real object and that is completely given by what we know about it. I will indicate classes typographically by using *a, b, c,...* rather than *x, y, z, ...*. Classes can, like other objects, be the basis of concept formation.

The aim of the mental ontology given here is to have a maximum of uniformity. Objects that the subject assumes exist will be the input from which assertions are derived: the assertions report the existence of the object. Concepts of existing objects are the typical input that maps into a question. We know the cake was eaten and now ask: Who ate the cake? Similarly classes will be the input to quantified, negative, and hypothetical assertions.

Because concepts, classes, and concepts of classes are still given by a mental object with a sort over which functions are defined, it is possible to assume the same mechanism for generating each of these different kinds of objects. In the following, I do not go into the problems connected with generating logically complex assertions.

3.2 Generation

Basically, in producing language, we describe and refer to objects. It is necessary to distinguish these two functions as acts of reference (in contrast to descriptions) may be very brief or even realized by complete silence. I assume three modes of description, triggered by the conversational context and the common ground between speaker and hearer, following familiar ideas about how to generate NPs (Dale (1988), Reiter (1990).

1. If an object has been referred to in the same clause by an NP in a c-commanding position, a reflexive is used.
2. If it was mentioned in the focal context, a pronoun can be used.
3. If it was mentioned earlier, it can be mentioned by a short definite description; or if it is functionally related to a focal object, it can be referred to by a bridging definite.
4. If it is definable from given material, a long definite can be used.
5. Otherwise, an indefinite is the appropriate means.

Now there is hierarchy of specificity here. We can let indefinite reference be governed by an empty condition. All that is required is that we are dealing with an object. For all conditions, it holds that the higher condition entails the lower. Being in the same clause and in a c-commanding position entails being in the focal context; being in the focal context entails being in the context. Both being in the local context and being functionally related to a high focus object entails being recoverable. Being recoverable finally entails being there. This is illustrated in Fig. 13.1.

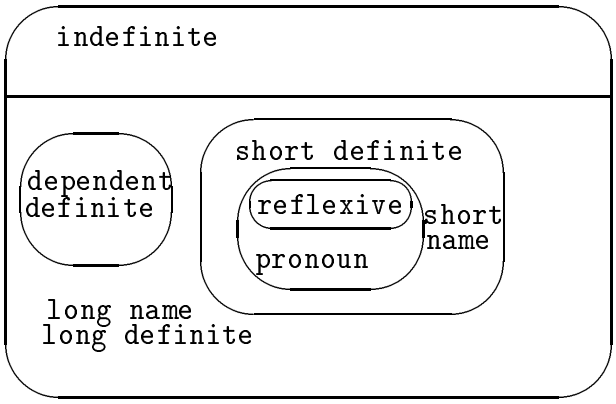

Fig.13.1. Specificity Hierarchy for NP Generation.

A similar picture could be drawn for the selection of tenses, again leading to a very substantial reduction in the complexity of the description.

The one complication is that specificity does not entail an order between the use of bridging definites and that of other short definites. On the

general assumptions I am defending here, this should entail that there is a free choice here, as indeed there seems to be.

The important consequence is that there are three grades of description. There is the full form, used in long definites and definite descriptions; there is the short form used by bridging and anaphoric definites and finally there is the proform where a syntactic relation is employed to avoid the business of describing.

These grades of description can be found for sentences and VPs as well. For proforms, compare short answers such as *Yes, Mary Sue*, and *John* . Though these answers tell us things such as (13a-c) , they rely on the earlier full expression of the question to omit descriptive material.

(13) a. The Bolingers have accepted our invitation.
b. Mary kicked Sue.
c. John ate the cake.

Other examples involve VP-ellipsis and gapping.

The short form occurs when material is repeated without the original mention entering into a direct relationship with the repetition. Compare *he ate* in (14).

(14) John started to chew a hamburger. As he ate, he smiled at Mary at the other side of the table. His smiling upset her.

Typically, presupposing contexts allow for such reduced phrases. (The fact that in both instances in the example the antecedent is in high focus is an accident of the example.) Full assertive sentences, as they purport to report new material, typically use the full form.

I use as the topmost procedure for building an assertion a procedure *refer*. It takes an input object and a list of parameters and delivers an output expression. The list of parameters encode the syntactic environment (case and category), holds the local c-commanders, contains a feature *long* or *short*, and, crucially, enforces the realization of otherwise optional arguments and PPs. The parameter list passes on the purpose of the description (it is

realizing, for instance, a subject), the results of inspecting the context (short or long) or the global purpose of the description (we are generating a *when*-question and should not forget to put the Wh-element).

The procedure starts by inspecting the possibility of using a pro-form. For this it has to inspect the context of utterance and computes the right form on the basis of the found antecedent, the parameters, and the sort of the input object x. If the pro-form has obligatory arguments, these must be generated before proceeding.

It then considers the possibility of using a short form. For this, the sort of the object is matched to the lexicon, and the set of tasks associated with the arguments is computed. Out of the lexicon comes a schematic form of the description which will be further determined by carrying out the tasks the lexicon associated with the schematic form and the tasks deriving from the parameters.

The full description operates in much the same way, except that the scheme and the associated tasks may be more elaborate. Some complicated reasoning may be part of the tasks here. Full description needs a greater precision in the linguistic expression of the sort and will realize optional arguments and adjuncts if the value cannot be predicted or in case contrary expectations exist with respect to the filler of the role.

For questions, the input is some concept $f(x)$ of an object. The task can be schematically described as (a) referring to the known object, (b) determining the syntactic relation of the Wh-phrase in the description, and (c) generating the Wh-phrase and inserting it into the scheme.

This description is rather sketchy. It is also rather global in that it does not seem to involve any particular rules. But this is not really the case. What corresponds with rules are lexical schemata that associate schematic forms and further tasks to sorts under conditions. The format I use is given in (15).

(15) Sort:Conditions → Schema:Tasks

Both the set of conditions and the set of tasks can be empty. The specificity order obtains between the application conditions $S_1 : C_1$ and $S_2 : C_2$ of two

rules R_1 and R_2 iff $S_1 \leq S_2$; and if $S_1 = S_2$, then C_1 entails C_2.

Some possible entries are listed below in (16).

(16) a. man:profession=butcher → butcher:[]
b. kill:illegal → X murder+Y Z: [refer(agent(E),X), refer(tense(E),Y), refer(theme(E),Z)]

It is on this level that we can account for homonymy; express linguistic generalizations; and, especially, have a partial specificity order over associations.

As an example, consider the generation of the sentence (17):

(17) He met a friend there.

The procedure *refer* is invoked with some event-object e and an empty list of parameters. Inspection of the context tells us that the e has not been mentioned before, and we obtain a lexical item such as the following as a good match for the sort of e.

(18) [S V O PPS]:
find(agent,e,A),
find(theme,e,T),
tref(E1),
tense(meet,V,X,E1,e,P),
refer(A,S,[nom]),
refer(T,O,[acc,A]),
treat(P,PPS,[A]).

The tasks associated with the schema tell us to identify the agent and theme of E and the reference event. In terms of these we compute the tensed form *met* of *meet*, which in this case should be the explanation for the extra locative (this indicates that the meeting took place at some time during the reference event rather than after it). Subsequent calls to *refer* generate the subject and object, and the inspection of P by the procedure *treat* will invoke a further call to *refer* ending in *there*.

As a second example, consider the generation of the question (19).

(19) Where did Bill go?

The question is invoked by the $refer(goal(e), Q, [])$. This call finds a task (20):

(20) $refer(e, S, [question, nogoal])$

It returns a scheme $[where, S]$. Another task returns *did Bill go* by a process analogous to the one we saw earlier.

The Elsewhere Principle will perform well under this scheme. It will regulate the choice of a pronoun rather than a definite description or an indefinite description for the subject in our first example. Notice here that the other choices are indeed less acceptable, if the antecedent is in high focus. Also, we can account now for idiomatic blocking by stipulating special rules for idiom. Let us go back to our first example. The goal for the question must be a concept, here the time of the utterance state or event. Let's assume that this is an object n.

For $time(n)$ we can have a schema (21):

(21) $time(n) : [] \rightarrow [What, time, is, it] : []$

For the other construction, we have the schema (22):

(22) $R(n) : [] \rightarrow [How, ADJ, is, it] : [degree + (R, ADJ)]$

As $R(n)$ is a less specific sort than $time(n)$ (if something has sort $time(n)$ it thereby has sort $R(n)$), the Elsewhere Principle will allow the generation only of the idiomatic question.

4 Reverse Idiomatic Blocking

What I have proposed would be fine if the Elsewhere Principle were active only in the way we have so far considered. All that we would be facing would

be the reworking of grammar in a generation format. Unfortunately, it seems that this is not the only use we want to make of the principle, because there are cases where a special semantics —instead of a special syntactic form— is produced by a blocking mechanism.

Here it is not the semantics that gets a specific but regular shape, but a normal expression that would have a normal meaning that is pushed aside by an idiomatic meaning that is not predictable from the syntactic form. An application of the Elsewhere Principle produces this semantics instead of the semantics that is obtained by combination. It is not easy to come up with examples, as we need a conflict between the combinatory meaning and the idiomatic meaning. It must not be an expression that is a frozen metaphor, as it can be argued that these still add to the meaning and so form a different case. Indeed, *kick the bucket* and similar idioms do not block the combinatory meaning. It cannot be an expression that lacks a combinatory meaning. But the Elsewhere Principle appears to work the same way in the opposite direction in the following example.

With the verb *talk* and other verbs of communication, the preposition *about* marks the subject of the conversation. Generally, this idiomatic use of *about* wins out over the nonidiomatic uses.

(23) John and Bill talked about the tree.

It is hard to get a reading for (23) in which *about* has a locative meaning, as in (24):

(24) John and Mary danced about the tree.

(In the blocking case, the semantics does not predict that a certain syntactic form is ruled out.) In the generation perspective, it is necessary to have an association between the special meaning m and its syntactic form s. (It is problematic how we can immobilize the Elsewhere Principle to prevent an automatic choice for the idiomatic form. A reduction to frequency statistics would lead here to the same results.) The problem is how to rule out that a false choice is made for the standard meaning. Unfortunately, it is almost immediately clear that if we let the generation algorithm sketched earlier

be the content of linguistics itself, we are in trouble. The trouble is that if we give the combinatory meaning to the generation algorithm we have not ruled out that the idiomatic form is going to result, so we would predict that the interpretation is possible. This is of course not completely wrong, as these meanings are marginally available and can be reinforced by contextual support. But we need to explain the preferential status of the idiomatic meaning.

I believe the solution should more or less follow the same road. If we have an association R between syntactic forms and objects, R can be used, given a suitable form, for an interpretation algorithm as well. Here we would match the lexical schemata with the surface forms and perform the tasks in the reverse direction. This would then lead to objects with sorts and meeting conditions, whereas the reverse versions of the tasks give useful information on the occupants of the thematic roles. Because the matching would use the specificity order — this time on schemata-tasks — it follows that the idiomatic interpretation will be preferred over the interpretation associated with the less specific form. In our example, we would have a rule interpreting *about* as indicating the topic for combinations of verbs of telling with *about* and as indicating an object characterizing the location of the action for verbs combining with *about*.

We should then, moreover, have a principle that uses interpretation as a filter over generation: S is a good way to refer to X given parameters P, if the generation algorithm associates S to X and the interpretation algorithm brings us back to some object sufficiently like X. Similarly, X would be a good interpretation for S, if M is produced for S by the interpretation algorithm and the generation algorithm would bring us back to S or a sufficiently similar syntactic form.

So what has happened is more or less the reverse of my original plan. I started out with the idea that a generation format for linguistic rules is better suited to deal with certain aspects of idiom, as it is for certain other phenomena. We have seen that this is borne out. But at the same time we have seen that, given our explanation strategy for these aspects of language, we are forced to invoke an interpretation algorithm as well to deal with other closely related problems. Though I believe it is unavoidable that we invoke these two algorithms both separately and in combination to deal with the

linguistic correctness notion occurring around blocking by idiom, it is nevertheless not implausible to think of the association between types of object and syntactic schemata as the true rules of linguistics. From this perspective then, idiomatic blocking in generation and semantics is a meta-effect caused by eager matching in interpretation and generation, eager processing that helps to convey and extract meaning in a more efficient way, given shared knowledge of the association relation.

A comparison with the conclusions of van der Linden (1992) is useful at this point. He considered an extension of the Lambek-calculus to deal with an ordered lexica and the positive effects that can be achieved not just for idiom but also for disambiguation. The effect of subordinating the idiomatic *kick the bucket* to 2-place *kick* is that the idiomatic reading will be obtained by default by the parser. This then explains what I have called reverse idiomatic blocking, as the combinatorial meaning of *kick the bucket* is reached only when the idiomatic interpretation fails for some reason or other.

In his conclusion van der Linden rightly claimed that the same technique can be used to deal with generation and in particular for obtaining a treatment of what I call idiomatic blocking. As van der Linden stated, this would necessitate using an ordering over the semantic features of the signs. It is questionable —at least at first sight— whether this new ordering can just be added to the lexicon with parsing information as it may be that a regrouping is necessary and that consequently a completely different lexicon needs to be used for generation.

This brings me to my one point of dissent, the nature of the ordering. It seems that for both kinds of idiomatic ordering we are not dealing with primitive facts that need to be coded by a lexicographer. The idea is that the other things that are in the lexicon by themselves are responsible for blocking in virtue of subsumption relations. The ordering operator is not needed, as the ordering can be derived from the lexicon as such. If I am right in assuming that generation would need a totally different lexicon, it would seem the business of the ordering operator can be done by suitable subsumption routines or (as is preferable) by computed subsumption tables over the phonological and semantic features keying into the proper lexicon.

In this chapter, we have arrived at an unusual construction of the

notions of competence and performance. The association R (or some axiomatization of it) can be equated with the competence of the speaker of the language. It is what he or she knows about the language. Understood use of language offers direct evidence of the fact that some form is related to some meaning. It is fairly immaterial for these purposes how we think this information is stored, as a huge annotated corpus (Bod (1992)), as a huge lexicon (Categorial Grammar), as a highly structured axiomatization as in Government-Binding theory, provided of course that the information offers a feasible decision procedure for the relation. What is important is that this knowledge is not the complete theory of performance. Performance, both in producing and in interpretation, involves a reference to the eager algorithms and their mutual validation. Idiomatic blocking is a part not of our language competence but of our competence as language users, our ability to use the system of language to generate expressions and interpret them.

Can the Elsewhere Principle be reduced to the advantages of eager processing in general? Some reflection on the morphological and phonological examples reveals that this may be the case. The idiomatic form gives extra support to the recognition of the stem and of the phonological environment and thus helps recognition. Likewise, exceptions and exceptional rules have a beneficial effect on the time complexity in analysis, and idiomatic ways of expressing oneself allow less work for the generator (at the price of space economy). So we may have found a way to reconcile ourselves with what has been called the unreasonable complexity of natural languages and the long hours in school devoted to exceptions to exceptions to exceptions: Exceptions speed up verbal communication. *Acknowledgements* I am grateful for comments on this chapter by various colleagues, especially Jo Calder and the referees of this volume. All its imperfections, however, remain entirely my own responsibility.

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List of Index Terms

generation
idiom
elsewhere
blocking
reverse blocking
grammar
competence
performance
lexicon
Lambek-calculus
interpretation
schema
idiom
meta-linguistic
syntax
semantic
pragmatics
morphology
phonology
unification
Montague grammar
thematic role
definites
anaphora
indefinites