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Finiteness, Universal Grammar, and the Language Faculty[1]

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This is excellent research, but it's so terribly boring.

Dan Slobin, p.c.

KANTIAN QUESTIONS

Die menschliche Vernunft hat das besondere Schicksal in einer Gattung ihrer Erkenntnisse: daß sie durch Fragen belästigt wird, die sie nicht abweisen kann, denn sie sind ihr durch die Natur der Vernunft selbst aufgegeben, die sie aber auch nicht beantworten kann, denn sie übersteigen alles Vermögen der menschlichen Vernunft (Immanuel Kant, 1781).[2]

If it is indeed the fate of the human mind to be haunted by questions which, by its very nature, it is not able to answer, then the study of human language has to offer some good candidates for such questions, for instance

– *What is the origin of language?*

Our species is the only one which nature, or God, has endowed with this remarkable gift. How and when did it come into existence?

– *Is there a 'Universal Grammar'?*

Do the many linguistic systems that mankind has developed over the millenia share some properties above and beyond the obvious ones, for example, that they have a lexicon and a grammar?

– *What is the relationship between language and the mind?*

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[2] 'Human reason, in one sphere of its cognition, is called upon to consider questions, which it cannot decline, as they are presented by its own nature, but which it cannot answer, as they transcend every faculty of the mind' (Kritik der reinen Vernunft, first sentence, translated by J. M. D. Meiklejohn).

We are the only 'speaking animal'—but we are also the only one who is able to divide by 17, to compose a symphony, or to put together a *Festschrift*. How is the gift of language related to these other talents?

These questions have been with us since the days of the Greek philosophers; they have been and still are the object of vivid discussion. But we are still very far from a generally accepted answer. Are they indeed of the Kantian type—that is, questions whose answer is beyond our intellectual capacities, just as algebraic topology is beyond the intellectual capacities of the average cow? This may well be. But there may be less dramatic reasons, for example, the lack of reliable empirical evidence. This holds obviously for the first question, the origin of language; the evidentiality marker that could mark the weakness of the evidence on this issue must still be invented. Maybe just this fact renders the question so popular. When the Societé de Linguistique de Paris was founded in 1866, it stated in its constitution:

> **Article 2**. La Société n'admet aucune communication concernant, soit l'origine du langage, soit la création d'une langue universelle. [The society does not admit any discussion on the origin of language or on the creation of a universal language]

But more than a century later, discussions are as vivid as ever, and the evidence is almost as thin as ever.

It is less obvious but no less true that our empirical knowledge about most of the world's about 6000 existing languages is quite limited. For how many of these do we have reliable descriptions? Let us assume that three grammars and three dictionaries suffice for a reliable description. Over the years, I have asked numerous colleagues how many languages meet this criterion. Estimates vary, but they go hardly beyond 100. This means that at most, 3 percent of the world's languages are well-described, 97 percent are not. Therefore claims about universal traits of human languages must be considered with caution.

But the main problem with the linguistic 'Kantian questions' are fundamental conceptual unclarities. What is 'language,' whose origin, whose universal properties, whose relation to the mind are at issue? Saussure once made a three-fold distinction, which is found in a great deal of later linguistic work. There is, first, 'la faculté de langage'—the language faculty, with which, pathological cases aside, we are all born. Second, there is 'la langue,' that is, the individual linguistic system such as Tzeltal or Chinese. And finally, there is 'la parole'—the product of linguistic knowledge in actual communication. Obviously, the question of the origin of language varies considerably with the notion of language at stake. It may well be that the necessary changes in our brain and other parts of our physiology occurred many thousand years before the first linguistic systems were created in some complex social activity. Similarly, very different components of the mind come into play, depending on whether we relate the mind to the 'language faculty,' to a particular linguistic system, or to actual communication.

In fact, the situation is more complicated. Consider the 'language faculty' whose study is considered by many to be the core task of linguistics. Under this view, it is not the structural or functional properties of specific linguistic systems which are at the heart of our endeavors, but the language faculty behind those properties. But does it really make sense to speak of the language faculty? It appears to me that here, too, at least a three-fold distinction must be made. There is, first, the capacity to construct a linguistic system—and that's what our ancestors had to do in the first place, as soon as their brain and other parts of their body, eyes, ears, larynx, hands, were ready for it. This capacity is not the same as the capacity to copy a linguistic system—and that's what we have to do in first or second language acquisition.[3] These two capacities are related but surely not identical. The types of social activities in which they operate are partly different, and so are probably the parts of our brain that are involved in them. It is one thing to learn that [rir] means 'to give audible

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[3] Note that this is not the capacity to copy 'the input' but the regularities of the linguistic system which underlies the input.

expression to an emotion (as mirth, joy, derision, embarrassment, or fright) by the expulsion of air from the lungs resulting in sounds ranging from an explosive guffaw to a muffled titter and usually accompanied by movements of the mouth or facial muscles and a lighting up of the eyes' (according to *Websters' Third*), and another thing to invent a sound sequence or a gesture which among a group of people evokes a certain idea, a certain concept. There is, third, the capacity to use a linguistic system, once stored in the head, for communicative and other purposes. Note that we speak here of the capacity to use a linguistic system, not the actual use itself—'parole' or 'performance.' This capacity involves, for example, the integration of information encoded by the system and information that comes from context.

In other words, it is misleading to say 'There is a language faculty.' There are several such faculties—at least what we might call the Construction Faculty, the Copying Faculty, and the Communication Faculty. They share many characteristics, but they also differ in essential respects. They may well have different origins in the history of our species, and they may well bear different relations to what we consider to be the mind.

They also give rise to different interpretations of the notion 'Universal Grammar.' It may have taken the Construction Faculty a long time to develop particular structural devices, for example, subordination or, at a still later stage, extractions from subordinate structures. Should we understand by 'Universal Grammar' the set of structures which is shared by all linguistic systems developed up to a certain time, or should we rather see it as the set of features which are, so to speak, in the reach of the Construction Faculty, even if they are not found in all linguistic systems—perhaps not in a single linguistic system existing right now? In the words of the Scholars, does Universal Grammar consist of 'universalia actu' [an operative universal] or of 'universalia potentia' [a potential universal]?

How can all of this be related to the mind? The heated debates about the modularity of mind some years ago often give the impression that people know what they speak about when they argue that the mind is modular or not. But what, then, is the mind? The *Encyclopedia Britannica* 15th edition characterizes the human mind as 'the complex of faculties involved in perceiving, remembering, considering, evaluating, and deciding.' If it is correct, then 'the mind' is surely not something specifically human: cats and mice, too, perceive, remember, consider, evaluate, and decide. It appears to me that any attempt to determine the relationship between 'language' and 'the mind' is a hopeless enterprise. What we can do, perhaps, is to look at characteristic properties of linguistic systems, in particular, properties which are shared by all known linguistic systems, and ask how these are related to other capacities that appear to be unique to our species.

In this chapter I will have a look at such a property—finiteness, in the sense of 'finite' vs. 'non-finite' verb forms. This is perhaps an unexpected choice. Finiteness is not among the foremost candidates for a linguistic universal; in fact, a number of languages are generally considered to have no finite verbs, and hence no finiteness at all. But this reasoning may be premature. There are four reasons why I have chosen finiteness, rather than, for example, the distinction between nouns and verbs or recursive devices.

1. Finiteness is not what one might call a 'trivial universal,' such as the fact that all linguistic systems (a) couple sounds or gestures with meaning in (b) either elementary expressions ('lexicon') or complex expressions (brought forth by grammatical rules). These are indeed observed in all human languages, but they are also found in programming languages or flag codes.
2. All attempts to define non-trivial syntactic universals, for example, universal constraints on transformations, have not turned out to be very successful so far.
3. It is not trivial how finiteness could be related to other 'parts of our mind.' All known languages can express temporal and spatial relations, and all known languages have devices to relate the meaning of many expressions to the here-and-now of the speech situation. But temporality, spatiality, or deictic anchoring are also found in other domains of our cognition. It is also clear that compound linguistic expressions exhibit a 'hierarchical' structure, as described in terms of parts of speech, constituent structure, etc.; but other areas of human

cognition and action exhibit hierarchical structures as well, for example, composing a string trio or preparing a seven-course dinner. This is not true for finiteness, and therefore it might indeed be a purely linguistic universal.
4. Recent work in language acquisition has shown that the finiteness distinction plays an important role in the structure of early utterances in first as well as in second language acquisition (e.g., Dimroth & Lasser, 2002).

FINITENESS

Finiteness as an Inflectional Category

The notion of finiteness goes back to Priscianus' *Institutiones grammaticae*. He distinguished between expressions (verbs as well as nouns) which only specify general properties of objects or actions—bare lexical items, as it were—and expressions which apply to a concrete case. The meaning of these latter expressions is somehow 'delimited', whence the term *finitum*. The original distinction is not particularly clear, and 1500 years of research has not really changed this, except that the term is no longer used for nouns. Finiteness is one of those notions that is used by everybody and understood by nobody. David Crystal (in Bright, 1992, IV, 299), for example, characterizes it as follows:

> **finite** Characteristic of a verb or construction that can occur on its own in an independent clause, permitting formal contrasts of tense and mood; contrasts with a **non-finite** verb or construction, which occurs on its own only in a dependent clause, and which lacks tense and mood contrasts; examples are infinitives and participles.

This definition mirrors the common understanding that finiteness is an inflectional category of the verb. Typically, it is not defined but introduced by means of some characteristic examples: *amor, amabis, amavisti* are finite, whereas *amare, amata, amavisse* are non-finite; and then, the intelligent student is supposed to generalize. And the intelligent student normally concludes that finiteness is an inflectional category of the verb.

This idea faces at least two substantial problems. First, the distinction between finite and non-finite is also made for languages in which it is hardly ever marked on the verb. English, the drosophila of linguistics, is a good example. With very few exceptions, such as *has* or *swam*, all finite forms can also be non-finite; and similarly, with the exception of the present participle and some irregular forms, such as *swum*, all non-finite forms can also be finite. Nevertheless, everybody considers *left* in *He left* as finite, and as non-finite in *He has left*. Some modal verb forms, such as *ought* or *can*, are unfailingly considered as finite, although they are not inflected all. Hence, finiteness cannot just be an inflectional category of the verb. Verb morphology is just one way to encode it.

Second, there are numerous syntactic, semantic, and pragmatic phenomena which go with finiteness. The most obvious of those is the 'Finiteness restriction':

(1) Finiteness restriction
A syntactically complex verb form can contain several non-finite forms but maximally one finite form.

In German, for example, it is possible to say *Er muss tanzen können*, whereas the English counterpart *He must can dance* is strictly forbidden. The restriction is not semantic: *He must be able to dance* is easily possible. But *can* is finite, and *must* is finite, and hence, the combination *He must can dance* is impossible. What is the reason for this restriction?

There are many other 'finiteness phenomena', and in what follows, I will go through some of them. Examples are mostly from German because it has a relatively clear and consistent marking of finiteness.

Syntactic Properties of Finiteness

There is a long-standing discussion about the basic word order in German—is it SOV or SVO? The facts are relatively clear and can, minor complications aside, be described by three rules:

(2) Basic word order
    a.   In declarative clauses, the finite verb is in second position.
    b.   In subordinate clauses, the finite verb is in final position.
    c.   In yes/no questions and in imperatives, the finite verb is in initial position.

Since the basic word order is usually determined with respect to declaratives, immediate observation speaks for SVO. But note that all three rules in (2) are only correct with reference to the finite verb: a sentence can have many verbs, but only one finite verb, and this one is decisive. Now, a finite verb such as *kam [came] or schlief [slept]*, merges a finite component, abbreviated fin, and a lexical component, abbreviated V (the latter specifying its argument structure and its descriptive properties). When fin and V are separated, then it is easy to see that fin is relevant for word order:

(3) a. *Gestern ist Isolde zum ersten Mal gekommen.*
      Yesterday has Isolde for the first time come.
   b. *..., obwohl Isolde gestern zum ersten Mal gekommen ist.*
      ..., although Isolde yesterday for the first time come has.
   c. *Ist Isolde gestern zum ersten Mal gekommen? Sei nicht traurig!*
      Has Isolde yesterday for the first time come? Be not sad!

Hence, German is neither SOV nor SVO—it is 'fin-second'; the verb as a carrier of lexical information is irrelevant in this regard. Similarly, subordinate clauses are 'fin-last'; yes-no-questions and imperatives are 'fin-first'.[4] This points to another important fact: there appears to be a close connection between finiteness and the illocutionary role of the clause: A sentence can only express an assertion when fin is in second position.[5]

A second syntactic property that goes with finiteness is 'licensing', i.e., the fact that some element can only show up if some other element is present. In German, finiteness functions as a licensor for the grammatical subject as well as for expletive elements.[6]

(4) Licensing
    a.   No explicit grammatical subject without finiteness.
    b.   No expletive element without finiteness.

There are a few exceptions to (4a), for example:

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[4] Note that this entire reasoning applies analogously under the assumption that, on some deeper level of description, the word order is SOV, and then V is 'moved' into its various positions. In this case, what is moved is fin, and if it so happens that fin and the lexical component of the verb are realized in one morphological form, then both components are 'moved'.

[5] This does not mean that sentences with fin in second position are necessarily assertions. First, there may be other markers (such as a wh-word) that lead to a different illocutionary role, and second, the position of fin must be accompanied by an intonational fall at the end.

[6] Neither the term 'subject' nor the term 'expletive' is clearly defined across languages (in fact, not even within languages); therefore, the following two constraints should be read with some caution: there may well be items called 'expletive' which need no such licensing (Nigel Duffield pointed out this problem to me). This, incidentally, is a very general problem of cross-linguistic claims. Consider, for example, the 'Binding principles' of generative grammar, which, subject to parameterized variation of the notion 'governing category,' are supposed to be universals. Thus, binding principle A states that anaphors are bound by their governing category. In English, anaphors are words such as himself or each other. But I am not aware of a language-independent definition of 'anaphor' (except that it is an element which is bound by its governing category—which would render the principle circular).

(5) *Ich eine Krawatte tragen—niemals!*
  I wear a necktie—never!

Sentences like (5) have a peculiar flavor. They describe a state of affairs without either taking a stand on its truth, as in an assertion, or challenging someone else to do this, as in a question, or instructing someone to do something which would make it true, as in an imperative: They raise a topic but lack an illocutionary role.

How could finiteness be related to the presence of an expletive element or a grammatical subject? It could be a matter of the argument structure, i.e., finiteness introduces a new argument variable that is required for the subject or for the expletive; or it could have to do with the informational status of expletives and grammatical subjects. At least in the case of the subject, the first hypothesis is not plausible: the grammatical subject clearly fills an argument variable provided by the non-finite component of the verb, for example, the agent, if the lexical verb is agentive. But typically, the grammatical subject not only matches one of the verb's argument slots, it also has *topic status* in the utterance. Similarly, expletive elements typically lead to a particular information structure. Thus, the two licensing constraints appear to be connected to what counts as 'topic information' in the utterance: there is no 'topic slot' without finiteness.

We may sum up these observations in two points:

1. Finiteness is not just an issue of verb inflection; it is deeply rooted in the way in which utterances are structured. We must distinguish between the 'finiteness' and the way in which it is encoded in a particular language, e.g., by verb inflection.
2. Finiteness is connected to the 'illocutionary status' of the sentence and the 'topic-status' of constituents.

Semantic Properties of Finiteness

Specific and Non-Specific Interpretation of Noun Phrases   Indefinite noun phrases such as *a castle, three castles* can have both a specific and a non-specific reading. Some verbs enforce a specific reading, when the noun phrase is in object position; other verbs do not resolve the ambiguity regarding specificity:

(6) a. *Marke kaufte ein Schloss.*
       'Marke bought a castle.'
    b. *Marke suchte ein Schloss.*
       'Marke looked for a castle.'

In (6b), Marke may have tried to find a particular castle, for example, one in which he suspects Tristan and Isolde are hidden; or he may have tried to find something which meets the properties of being a castle. In (6a), only the first reading is available. Since the two utterances only differ in the lexical meaning of the verbs *kaufen* 'buy' and *suchen* 'search,' the difference in the NP interpretation is usually related to the difference between these two lexical verbs. Quine, who first studied this phenomenon, dubbed verbs of the type *kaufen* as transparent, and verbs of the type *suchen* as opaque. Note now that *kaufte* and *suchte* in (6) are finite, hence, they include V, the carrier of lexical content, as well as fin. When the verb is not finite, the difference disappears:

(7) a. *Es ist teuer, ein Schloss zu kaufen.*
       'It is expensive to buy a castle.'
    b. *Ein Schloss zu kaufen, passiert einem ja nicht selten.*
       'To buy a castle, does not happen very often to you.'

Here, the direct object has a specific as well as a non-specific reading, although the verb is transparent. The difference shows up again, if the indefinite noun phrase is in the scope of some 'higher' transparent or opaque finite verb (note that the lexical character of the non-finite verb, here *kaufen*, is irrelevant):

(8) a. *Marke gelang es, ein Schloss zu kaufen.*
       'Marke succeded to buy a castle.'
    b. *Marke wünschte, ein Schloss zu kaufen.*
       'Marke wished to buy a castle.'

In other words, finiteness is somehow crucial for specific interpretation of indefinite noun-phrases. Consider now (9):

(9) a. *Dreimal hat Marke ein Schloss gekauft*
       'Three times has Marke a castle bought.'
    b. *Marke hat ein Schloss dreimal gekauft.*
       'Marke has three times a castle bought.'

In (9a), three different times in the past are talked about. About each of them, it is said that Marke bought a castle at that time. There is a t_1-castle, a t_2-castle, and a t_3-castle bought by Marke. It could be the same castle, but it need not. This means that 'specificity' is relative to the times about which something is said—it is relative to 'topic times,' in other words. We may state this as a restriction on the interpretation of indefinite noun phrases:

(10) Indefinite specificity reading
    'Specific' means 'unique with respect to a topic time.'

In (9b), the adverbial is in a different position. The assertion relates to a—possibly very long—time in the past, which is assumed to include three castle-buying situations. But there is only one topic time, and therefore, the castle is normally understood to be the same: Since 'specific' means 'unique with respect to the topic time,' there is only one entity since there is only one topic time.

How is this connected to finiteness? Non-finite constructions such as *to buy a castle* selectively describe a buying situation (omitting the buyer). But they do not link this situation to some topic time, and no assertion is made that such a buying situation obtains at such a time. Hence, the term *a castle* is not confined to a specific reading: it is not 'topic time unique'. In brief: No finiteness—no topic time, and no topic time—no specificity. Somehow, finiteness links the descriptive content of the entire sentence to the topic time.

Tense   Traditionally, tense is often connected to finiteness. But what is tense? Under its received definition, it is a deictic time-relational category of the verb, whose function is to locate the situation described by the clause to the time of utterance. Thus, in *The Pope was ill*, his being ill is placed into the past; in *The Pope is ill*, it is said to encompass the time of utterance; and in *The Pope will be ill*, it is in the future. This seems so obvious that one is almost embarrassed to mention it. But in fact, it cannot be correct in general. Consider (11):

(11) *(Why didn't the Pope give an audience yesterday?)—He was ill.*

This does not assert that his illness precedes the time of utterance; it could as well include it, that is, he could still be ill. And in *The Pope was dead*, it is almost certain, even for the Pope, that he is still dead at the moment of speech—a function which is normally assigned to the present tense.

The function of the preterite is rather to assert (or to ask) something about some particular time span in the past, and about this 'topic time,' it is said that he was ill. The 'time of the situation'— the

time at which the state of affairs described by the non-finite component obtains—can be much longer; but nothing is said about that. In other words, tense serves to mark whether the topic time precedes, contains, or follows the time of utterance. The time of the situation in turn may precede, contain, or follow the topic time. I think it is this relation between topic time and situation time that underlies the traditional notion of (grammatical) 'aspect.'

If finiteness introduces a topic time, and if tense imposes a temporal restriction on how the topic time is situated relative to the here-and-now, it should not be surprising that tense and finiteness can be clustered in one form, and this is indeed what happens in many languages.

Prosodic Properties of Finiteness

If we want to describe what some expression contributes to the meaning of the entire construction in which it appears, then it often helps to contrast this expression to some other expression by intonation. What happens when the highlighted expression is a finite verb, which merges V with fin:

(12) *Tristan LAG auf dem Sofa.*
   'Tristan was lying on the sofa.'

Intuitively, the contrast can go in three directions:

(13) a. *(Er saß nicht auf dem Sofa). – Er lag auf dem Sofa.*
        'He was not sitting on the sofa.' 'He was lying on the sofa.'
   b. *(Er liegt nicht auf dem Sofa). – Er lag auf dem Sofa.*
        'He is not lying on the sofa' 'He was lying on the sofa.'
   c. *(Er lag nicht auf dem Sofa). – Doch, er lag auf dem Sofa.*
        'He was not lying on the sofa.' 'Oh yes, he was lying on the sofa'

In (13a), the highlighting targets the lexical meaning of the bare verb *lieg* 'lay'-, in contrast to *sitz* 'sit'-. In (13b), the highlighting targets the tense component of *lag*; the topic time is in the past, rather than right now. The most interesting case, though, is (13c): the contrast is between 'his lying on the sofa is not asserted - is asserted'. Thus, fin is the carrier of tense and of assertion: it relates the descriptive content of the sentence, as described by its non-finite part ('Tristan lay on the sofa') to a topic time, and it asserts that this descriptive content—the mere proposition, so to speak—obtains at that time.

Not all sentences with a finite verb express an assertion. Other illocutionary roles may come into play, for example, questions or imperatives, in which, as we have seen, fin has a different position and perhaps a different intonation. Or else the assertion is somehow overruled by higher functional elements, which give the clause a different status, for example, in temporal clauses or in relative clauses. These important issues will not be pursued here. Instead I will try to put the core notion of topic time into a somewhat wider perspective. So far, it has been assumed that fin relates the 'bare proposition' to the topic time: is it just the topic time, or are there other topic components which play a role in connection with fin?

The Topic Situation

Is the following assertion, uttered here and now, true or false?

(14) *Es gab keinen Wein mehr.*
   'There was no more wine.'

Even if you know German perfectly well, and even if you know what the world is, was, and will be like—maybe even what all possible worlds are like—you are not able to answer this question. To

achieve this, you must know about which situation the person who utters (14) is talking. Depending on this information, the answer is 'yes' or 'no,' Every assertion is relative to a topic situation. The topic time is but one of the parameters which fix this topic situation; others are the place talked about, the entity talked about (often encoded as grammatical subject), or even the world talked about (real world vs. some fictitious world). The necessary information about the topic situation may come from context, but also from the utterance itself; in this case, the 'topic-hood' is often marked, for example, by position, by special particles, or perhaps by other devices.

Finite Utterance Organization

Our observations so far lead to an incipient picture of the role of finiteness. For an utterance to fulfill an illocutionary function, such as making an assertion, it must encode three meaning components:

1. A topic component. It minimally includes a 'topic time'; it is plausible that it also contains a 'topic world' and a 'topic place.' Optionally, other elements can be added, for example, a 'topic entity,' typically realized by the grammatical subject.
2. A (non-finite) sentence base. Minimally, this is a (non-finite) lexical verb, whose argument slots are filled appropriately. Other elements, such as adverbials, particles can be added.
3. A linking component. It relates the sentence base to the topic component, for example, by indicating that the former holds at the latter. This is the function of 'finiteness.' The exact type of linking requires additional means, for example, the choice of a particular position or intonational cues.

These components can be encoded in different ways. In many languages, finiteness and topic time are jointly expressed by verb inflections. Similarly, finiteness and the 'topic world' can be brought together by verb inflection—resulting in the category of mood (cf. Crystal's definition from page 498). But languages may have very different devices, grammatical as well as lexical, in which they encode this overall structure.

If this picture is essentially correct, then it suggests explanations of a number of facts which initially seem unrelated and which otherwise are completely mysterious, such as the reason why subjects and expletives typically must be licensed by finiteness, or why specific readings of noun phrases depend on finiteness. It is also completely in line with the 'finiteness restriction' stated on page 499: there is only one such linking between topic component and descriptive content in a sentence. It also raises a number of problems, for example, about the role of finiteness in subordinate clauses. I will not follow up these problems here but return to the Kantian questions from page 494.

FINITENESS AND UNIVERSAL GRAMMAR

Finiteness is a not a peripheral property of some inflectional systems; it is a fundamental organizational principle of human languages with numerous important consequences in syntax, semantics, and pragmatics. This principle can be 'language-specific' in one of two ways: it is either

(a) specific to linguistic systems, in contrast to other manifestations of the human mind, or
(b) specific to particular languages or universal.

As was pointed out in the first section, there is no agreement on what the human mind is and what its various manifestations are. But we can look at some other activities, which we feel are uniquely human, and ask whether they involve a similar organizational principle. In all cases I can think of, the answer is negative. Consider, for example, the ability to divide by seven, the ability to cook pea soup, the ability to design a tuxedo, the ability to play straw poker (whatever this is), and so on. I see

no evidence that organizational principles similar to finiteness are found in these activities. There is one potential exception—pointing, in the sense of intentionally directing another person's attention to some object or action in the environment and thus somehow introducing a 'topic.' But pointing alone does not have the organizational power of finiteness. As an organizational principle, finiteness is specific to linguistic systems.

Is it found in all human languages? Most structural universals are fairly trivial: linguistic systems consist of expressions, which combine sounds, gestures, or some other 'carrier' with meaning that can be simple or compound. There are other, less trivial candidates like recursion and, as a consequence, the possibility of constructing infinitely many sentences. I think that this possibility may be a bit overrated: after all, each apple tree is 'recursive', because each branch can have another branch. But recursion is often considered to be a highlight of human language, in contrast to other communicative systems. Imagine now a language English*, which is exactly like English except that it lacks subordination and other recursive devices. Would we say that English* is not a human language? I think not: it is still a product of the human language faculty, although its structural and communicative potential is reduced. In fact, it may have taken many millenia in the history of mankind before the first devices that make recursion possible were created. Thus, recursion, finiteness, and perhaps other principles are something like 'universalia potentia'—organizational principles which the human language faculty is able to construct, copy, and process.

The notion of Universal Grammar can be construed in at least two ways. It can be a set of structural or functional properties that are found in all linguistic systems; or it is a set of constraints that state which properties are excluded from such systems, that is, which are beyond the range of what our language faculties can construct, copy, or use. Both notions of Universal Grammar lead to serious problems as soon as we go beyond the trivial. I think we should therefore stop the quest for Universal Grammar and be happy to look for non-trivial and 'interesting' principles which underlie the design of linguistic systems—interesting in the sense that they are not marginal properties of a particular language but have numerous consequences for the syntax, semantics, and pragmatics of many linguistic systems. Finiteness is such a principle.

We may call such principles elements of 'Universal Grammar,' because they are somehow fundamental to the structure of human languages. Or we may simply call them 'important principles of linguistic systems'.[7] In any case, this is only a matter of terminology.

UNIVERSAL GRAMMAR AND THE HUMAN LANGUAGE FACULTY, OR: THE PROPERTIES OF THE BREAD ARE NOT THE PROPERTIES OF THE BAKER

Suppose that there are indeed principles of Universal Grammar beyond the obvious, of which finiteness may be one. What does this mean for our understanding of the human language faculty? The answer, I believe, is: close to nothing. There are two reasons. First, there is not one language faculty—there are several, and the question of how universal, language-specific principles are related to the 'language faculty' is a different one, depending on whether we mean the Construction Faculty, the Copying Faculty, or the Communication Faculty.

The second reason why non-trivial universal principles do not tell us very much about the human language faculties is very different. In linguistics, it has become common to set 'Universal Grammar' and the 'language faculty' in parallel. In Chomsky's words:

> the language organ is the faculty of language (FL); the theory of the initial state of FL, an expression of the genes, is universal grammar (UG); theories of states attained are particular grammars; the states themselves are internal languages, 'languages' for short, (Chomsky 2002, p. 64).

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[7] Other 'important principles' are, as we have argued in Klein and Perdue (1997), for example, 'Focus last' or 'Agent first.' In contrast to finiteness, they are already found in very elementary learner systems.

This is what one might call the 'Structural Analogy Fallacy.' Universal properties of linguistic systems, just like specific properties of linguistic systems, are a product of our linguistic faculties, and we must never confuse the properties of a product with the properties of its producer. Here, as elsewhere, the relation between product and producer is one of causation, rather than of structural similarities. This also applies when the product itself is a capacity that can be used to bring forth other products. Thus, the capacity to process linguistic knowledge and to use it for communicative and other purposes—the Communication Faculty—is a product of the Construction Faculty and the Copying Faculty, and at the same time, it allows these faculties to do more of their job.

My mother's apple pie, an old-fashioned wig, and Michelangelo's 'David' have something in common—they all are hand-made. No analysis of all of these and similar objects tells us much about the shape of the hands, or the neural mechanism that controls them. In this case, the products are artifacts. But the same considerations apply to 'natural' products. Chlorophyll is green, but the genetic information which leads to its production in plants is not green. Linguistic systems share properties of artifacts and natural products, and opinions are at variance as to how the relation between both sides should be seen; but in any case, they are products. Finiteness is a property of these products. It is neither in the mind nor in the brain, although the human brain brings about linguistic systems, which, in turn, make finite constructions possible. It is a property of utterances, brought about by the ability to integrate the expressions into the flow of discourse and to invent or copy grammatical and lexical devices which encode this integration.

CONCLUSIONS

When we say that our species is the only one born with the 'language faculty,' then this means that there are several components in the human brain, whose joint effort allows us

– to construct systems of linguistic knowledge,
– to copy linguistic knowledge from others, including its storage in the brain, and
– to integrate this knowledge into the flow of ongoing information.

Each of these capacities involves many subcomponents, such as memory access and motor control, and each of these may be affected, with specific results for the interaction.[8] They also may change in different ways over the life span. Adult second language learners maintain the ability to pair sounds or gestures with meanings, and they maintain the ability to form complex expressions—at least for a long time. But their ability—and perhaps their willingness—to do this in exactly the same way as is done in the input diminishes over time. Adults do it, but like Frank Sinatra, they can say 'I did it my way.' Age appears to affect the Copying Faculty much more than the Construction Faculty. This suggests that to some extent, different parts of the brain are involved in both faculties. It is even more obvious that the Communication Faculty requires different neural activities, for example, all of those that are needed to monitor and integrate contextual information.

All three language faculties are products of our brain—products which in turn bring forth other products, namely, linguistic systems or, in the case of the Communicative Faculty, utterances that are integrated into the flow of discourse. Many of the brain components, which produce these three capacities, are also involved in other tasks which our species is able to achieve, such as playing dominoes, creating religions, and frying eggs. Each of these non-linguistic abilities is a product of the

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[8] Thus, if a subcomponents drops out, for example, due to a genetic deficit, then this does not say very much about the three language faculties in their entirety. If a spark-plug does not work, then the car does not work, or does not work properly. But the spark-plug is but a little component in a complex machine.

human brain. It appears to me that it is not only an ill-defined but also a relatively fruitless task to compare these products of the human brain with one of its other products—linguistic knowledge.[9]

These considerations have a number of substantial consequences. First, it should be clear that principles of Universal Grammar tell us practically nothing about the human language faculties, just as little as the in-depth and comparative study of bread and cake tells us little about the brain and the hand of the baker. Even if it could be shown that all breads have a crust, this does not mean that the baker has a crust.

Second, just as the study of the baker's hand and brain tells us little about the bread and the cake, physiological research, in particular brain research, tells us little about the structure of human languages. It is interesting in its own right, but it sheds no light on the way in which finiteness, or whichever important organizational principle, helps to structure utterances, let alone on questions such as how Chinese argument structure or Inuktitut verb inflection is organized. This does not mean that research on the 'language side' of the brain is irrelevant. It is just a different issue. It can tell us where certain types of linguistic knowledge are stored and how they are activated under specific conditions. But it cannot tell us anything about this linguistic knowledge itself. Religious systems are also stored somewhere in the brain, and they are accessed under specific conditions; but studies on location and processing of religious beliefs in the left temporal lobe, or wherever else, do not really inform us about these beliefs. It is one thing to believe whether Virgin Mary went straight to heaven, the only infallibility decision of a Pope so far, and another to know where this belief is stored in the cells and how it is processed as need arises.

Third, if we want to understand the various human language faculties, the 'producers' rather than their products, then we should investigate them 'on the job'—that is, when they create linguistic knowledge, a case that is rarely observed in our times; when they copy linguistic knowledge, a case that is regularly observed in language acquisition; and when they integrate linguistic knowledge into the flow of information, and that's what we do every day when we speak and listen.

In the first place, however, the linguist should be pleased to study the many structural and functional properties of linguistic systems, what they have in common and what they do not share, how they are processed, and how they are acquired. And in view of the little we really know about all of these issues, studying any of these issues should be enough of a challenge.

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[9] I believe, incidentally, that 'real' languages such as Latin or Yiddish are only a special case of the many manifestations of the human language faculties. The normal cases are 'learner varieties', i.e., much less elaborate systems. Most people all over the world develop several such systems, and the fact that they are not counted as 'languages' because they are imperfect replications of what is spoken in their environment is no reason to exclude them from the linguistic systems which the human language faculties are able to bring about.