# 平成２９年度

## 大学院文学研究科博士課程後期３年の課程入学試験

（　春期・一般選抜　）問題

専門科目　　英　語　学

試験開始の合図があるまで、この問題冊子を開いてはいけない。

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平成 29 年度

大学院文学研究科博士課程 後期3年の課程入学試験

（春期・一般選抜）問題

専門科目（英語学）

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**次の英文を読んで、設問に答えなさい。**

In the early days of the generative enterprise, it seemed necessary to attribute great complexity to UG in order to capture the empirical phenomena of languages. It was always understood, however, that this cannot be correct. [A]UG must meet the condition of evolvability, and the more complex its assumed character, the greater the burden on some future account of how it might have evolved – a very heavy burden in the light of the few available facts about evolution of the faculty of language, as just indicated.

From the earliest days, there were efforts to reduce the assumed complexity of UG while maintaining, and often extending, its empirical coverage. And over the years there have been significant steps in this direction. By the early 1990s it seemed to a number of researchers that it might be possible to approach the problems in a new way: by constructing an "ideal solution" and asking how closely it can be approximated by careful analysis of apparently recalcitrant data, an approach that has been called "the minimalist program". The notion "ideal solution" is not precisely determined a priori, but we have a grasp of enough of its properties for the program to be pursued constructively (see Chomsky, 1995).

I-languages are computational systems, and ideally should meet conditions of Minimal Computation MC, which are to a significant extent well understood. I-languages should furthermore be based on operations that are minimally complex. The challenges facing this program are naturally very demanding ones, but there has been encouraging progress in meeting them, though vast empirical domains remain to be explored.

The natural starting point in this endeavor is to ask "What is the simplest computational operation that would satisfy the Basic Property*[1]?". The answer is quite clear. Every unbounded computational system includes, in some form, an operation that selects two objects X and Y already constructed, and forms a new object Z. In the simplest and hence optimal case, X and Y are not modified in this operation, and no new properties are introduced (in particular, order). Accordingly, the operation is simple set-formation: Z = {X, Y}. The operation is called *Merge* in recent literature.

Every computational procedure must have a set of *atoms* that initiate the computation – but like the atoms of chemistry, may be analyzed by other systems of language. [B]The atoms are the minimal meaning-bearing elements of the lexicon, mostly word-like but of course not words. Merge must have access to these, and since it is a recursive operation, it must also apply to syntactic objects SO constructed from these, to the new SOs formed by this application, etc., without limit. Furthermore, to satisfy the Basic Property some of the SOs created by Merge must be mapped by fixed procedures to the SM and CI interfaces.

By simple logic, there are two cases of Merge(X, Y). Either Y is distinct from X (*External Merge EM*) or one of the two (say Y) is a part of the other that has already been generated (*Internal Merge IM*). In both cases, Merge(X,Y) = {X, Y}, by definition. In the case of IM, with Y a part of X, Merge(X, Y) = {X, Y} contains two *copies* of Y, one the SO that is merged and the other the one that remains in X. For example, EM takes the SOs *read* and *books* (actually, the SOs underlying them, but let us skip this refinement for simplicity of exposition) and forms the new SO {*read*, *books*} (unordered). IM takes the SOs *John will read which book* and *which book* and forms {*which book*, *John will read which book*}.

In both cases, other rules convert the SOs to the SM and CI forms. Mapping to CI is straightforward in both cases. The IM example has (roughly) the form "for which x, x a book, John will read the book x". Mapping to SM adds linear order, prosody, and detailed phonetic properties, and in the IM example deletes the lower copy of *which book*, yielding *which book John will read.* This SO can appear either unchanged, as in *guess* [*which book John will read*], or with a raising rule of a type familiar in many languages, yielding *which book will John read.*

It is important to note that throughout, the operations described satisfy MC. That includes the deletion operation in the mapping to SM, which sharply reduces the computational and articulatory load in externalizing the Merge-generated SO. To put it loosely, what reaches the mind has the right semantic form, but what reaches the ear has gaps that have to be filled by the hearer. These "filler-gap" problems pose significant complications for parsing/perception. [C]In such cases, I-language is "well-designed" for thought but poses difficulties for language use, an important observation that in fact generalizes quite widely and might turn out to be exceptionless, when the question arises.

Note that what reaches the mind lacks order, while what reaches the ear is ordered. Linear order, then, should not enter into the syntactic-semantic computation. Rather, it is imposed by externalization, presumably as a reflex of properties of the SM system, which requires linearization: we cannot speak in parallel or articulate structures. For many simple cases, this seems accurate: thus there is no difference in the interpretation of verb-object constructions in head-initial or head-final constructions.

[D]The same is true in more complex cases, including "exotic" structures that are particularly interesting because they rarely occur but are understood in a determinate way, for example, parasitic gap constructions. The "real gap" RG (which cannot be filled) may either precede or follow the "parasitic gap" PG (which can be filled), but cannot be in a dominant (c-command) structural relation to the PG, as illustrated in the following:

(1) Guess who [[your interest in PG] clearly appeals to RG
(2) Who did you [talk to RG [without recognizing PG]
(3) *Guess who [GAP[admires [$_{NP}$ your interest in GAP]]

Crucially, grammatical status and semantic interpretation are determined by structural hierarchy while linear order is irrelevant, much as in the case of verb-initial versus verb-final. And all of this is known by the language user even though evidence for language acquisition is minuscule or entirely non-existent.

The general property of language illustrated by these cases is that linguistic rules are invariably *structure-dependent.* The principle is so strong that when there is a conflict between the computationally simple property of minimal linear distance and the far more complex computational property of minimal structural distance, the latter is always selected. That is an important and puzzling fact, which was observed when early efforts to construct generative grammars were undertaken. On the surface, it seems to conflict with the quite natural and generally operative principles of MC.

To illustrate, consider the following sentences:

(4) Birds that fly instinctively swim
(5) The desire to fly instinctively appeals to children
(6) Instinctively, birds that fly swim
(7) Instinctively, the desire to fly appeals to children

The structures of (6) and (7) are, roughly, as indicated by bracketing in (6') and (7') respectively:

(6') Instinctively, [birds that fly] [swim]]
(7') Instinctively, [[the desire to fly] [appeals [to children]]]

In both cases, "fly" is the closest verb to "instinctively" in linear distance, but the more remote in structural distance.

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Examples (4) and (5) are ambiguous ("fly instinctively", "instinctively swim/appeal"), but in (6') and (7') the adverb is construed only with the remote verb. The immediate question is why the ambiguity disappears; and more puzzling, why is it resolved in terms of the computationally complex operation of locating the *structurally* closest verb rather than the much simpler operation of locating the *linearly* closest verb? The property holds of all relevant constructions in all languages, in apparent conflict with MC. Furthermore, the knowledge is once again acquired without relevant evidence.

There have been many attempts by linguists and other cognitive scientists to show that these outcomes can be determined by some kind of learning mechanism from available data. All fail, irremediably, which is not surprising, as the simple example just given indicates (for a review, see Berwick et al., 2011).

There is a very simple and quite natural solution to [E]the puzzle, the only one known: languages are optimally designed, based on the simplest computational operation, Merge, which is order-free. Equipped with just this information, the child acquiring language never considers linear order in determining how to account for the data of experience; this is the only option open to the I-language satisfying the Basic Property, given that the general architecture of language established by UG satisfies MC.

The strongest thesis we can formulate about human language is that MC holds quite generally: the Strong Minimalist Thesis SMT. Not many years ago it would have appeared to be so absurd that it was never even contemplated. In recent years, evidence has been mounting that suggests otherwise.

[From Noam Chomsky (2016), "Minimal Computation and the Architecture of Language," *Chinese Semitic Studies* 12, 13-24.]

［注］ the Basic Property*[1]=the Basic Property of the human language faculty: a finitely-specified generative procedure, represented in the brain, that yields a discrete infinity of hierarchically structured expressions, each with a determinate interpretation at two interfaces: the sensorymotor interface SM and the conceptual-intentional interface CI

問 1　下線部[A]について説明しなさい。

問 2　下線部[B]について説明しなさい。

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問3　下線部[C]について説明しなさい。

問4　下線部[D]についてなぜこのように言えるのかを本文に即して述べなさい。

問5　下線部[E]の内容について説明しなさい。