平成３０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　　専攻分野

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次の英文を読んで、設問に答えなさい。

An accompanying chapter in this volume (Berwick et al., 'Poverty of the Stimulus Stands', henceforth *POTSS*) discusses some of the problems that arose in the 1950s when the study of language began to try to address more directly the core issue of natural language: how the internal system that each normal person has mastered (I-language) determines the infinite array of structured expressions that yield interpretations at the two interfaces, the sensory-motor system SM and the system of thought Cl (conceptual-intentional). At once numerous puzzles arose, in ways rather reminiscent of the earliest days of the modern scientific revolution, when scientists chose no longer to be satisfied with the conventional explanation for why stones fall to the ground and steam rises to the sky: i.e., that they are seeking their natural place. Willingness to be puzzled by what seem to be obvious truths is the first step towards gaining understanding of how the world works.

As soon as this stance was adopted, it was quickly discovered, in a sharp departure from the prevailing mood of the time, that very little was understood and that conventional accounts were grounded in concepts far too obscure and indeterminate to bear the burden of explanation: for example, that **[A]**<u>the capacity to produce and comprehend novel utterances, perhaps the most elementary feature of normal language use, is simply a matter of induction and analogy</u>, concepts left unanalyzed, and known for centuries to be highly problematic.

In particular, it quickly became apparent that little was understood about the huge gap between data available and state attained, a feature of all growth and development. In the study of language the problem was given a special name: Poverty of Stimulus (POS). *POTSS* discusses one of the simplest of the innumerable POS problems that came to light as soon as puzzlement was entertained and many of the efforts to deal with it: the problem sometimes called *Aux-fronting*. To repeat, in (1),

(1)　can eagles that fly swim

we see that the auxiliary *can* is associated with *swim*, not *fly*, as is evident from interpretation and many other properties: for example, morphology ('are eagles that fly swimming', 'have eagles that fly been swimming'). Other examples show that the pre-posed auxiliary is actually a bare inflectional element T (bearing tense and agreement features in a manner depending on morphological properties of the language in question) with whatever verbal element is attached to it, as we see in 'do eagles that fly swim'. Accordingly, any solution that merits consideration will associate T and what is attached to it with two positions, as in the abstract form:

(2) can eagles that fly can swim,

with the rightmost (embedded) occurrence of *can* unpronounced.

Adopting the conventional (and well-motivated) assumption that a clause is introduced by a complementizer C that indicates at least *force* (declarative, interrogative, etc.), we can say that in (1), the structurally less prominent (and unpronounced) occurrence of *can* is in the T(ense)-position, and the most prominent (pronounced) occurrence is in the C-position.

The C-T relation is particularly close in other ways as well. The most obvious is the requirement of strict adjacency, unlike, say, the relation of C to wh-phrases, as in (3), with the same convention for pronunciation.

(3) which book has the teacher has told the students that they should read which book

The interpretation is roughly 'for which book x, the teacher has told the students that they should read the book x'.

And there are other properties as well, among them shared features.

As discussed in *POTSS*, **[B]**the simplest account, which satisfies the overriding principle of Minimal Computation (MC), takes the two occurrences of 'can' in (2) to be copies formed by Internal Merge (IM), a special case of the simplest combinatorial operation Merge, followed by externalization processes that conform to Minimal Computation (MC), hence deleting all copies apart from one that is needed to indicate that the operation took place, the hierarchically most prominent one, yielding (1). Quite generally, such processes yield the structures required for straightforward semantic interpretation, including quite subtle cases, but at the sensory-motor SM output they yield structures that pose problems for processing (hence communication as a special case). This is one of many illustrations of conflict between computational and communicational efficiency. In cases that are at all understood, computational efficiency wins out, dramatically in fact, with implications for the general architectural design of language as well as its evolution, topics discussed briefly in *POTSS* and in more detail elsewhere (Berwick and Chomsky 2011).

That leaves the question why structural distance between C and T is selected as the operative mechanism, not linear distance between the two, which is far easier to deal with computationally (in parsing, for example). Furthermore, why do we find the same property—informally called 'structure-dependence'—universally in relevant structures, in a wide range of constructions and cross-linguistically? The principle of Minimal Computation (MC) is presumably a 'third factor' property, not specific to language or probably even to biological organisms, so it can be presupposed here. We would have a principled solution to the POS problem if it could be shown that linear distance is not available to the computational system that generates structures and assigns them interpretations at the interface. One possibility, mentioned in *POTSS*, is that linear order is a reflex of the SM system, where it is required for externalization (with conditions varying depending on the mode of

externalization—speech vs sign for example, and with further complexities not relevant here). Hence it would not be accessible to the operations that generate structures and map them to the conceptual-intentional CI systems (where, it seems, they play no role for core semantic properties). Here numerous interesting questions arise, but it seems a plausible direction to pursue.

As discussed in *POTSS*, this very simple POS problem has a curious history. There have been extensive efforts to account for the facts on purely computational grounds. To the extent that these efforts even address relevant problems, they are complete failures, irremediable it seems. Furthermore, it would not much matter if some such procedure were to work for a particular language, or even for Aux-fronting generally. Similar procedures would (generally) work just as well for a non-human language in which Aux-fronting was based on linear rather than structural distance, and might even be simpler, since the concept is so much simpler in general computational terms. The significant question is why linear distance procedures are never chosen. The question is ignored or begged in this kind of work, without exception to my knowledge. It appears that we are left with only one proposal, the earliest one: linguistic operations are based on structural not linear distance, the principle of 'structure dependence'.

In the final section of *POTSS* **[C]**<u>a new POS problem is raised</u>, one that has gone undetected, another case of insufficient puzzlement. Consider a simple subject-predicate construction such as (4), more generally (4'), with pred the phrase merged with T(ense) (*fly, fly planes, feel angry*, etc.). The corresponding interrogative is (5), not (6) (with the same convention for deletion):

(4) [young eagles] [T fly]
(4') [young eagles] [T pred]
(5) do [young eagles] [<u>T</u> pred]
(6) eagles [young <u>eagles</u>] [T pred]

The facts are entirely obvious, just as obvious as the fact that stones and steam move to their natural places, down and up respectively. But why?

The answer provided by Phrase Structure Grammar and its descendants (henceforth *PSG+*) is on a par with the Aristotelian explanation for motion down or up. The answer is stipulated by taking (4) to be a TP, with T the most prominent (*projected*) element, and taking the NP subject to be the *specifier* of TP, subordinate to T. But in the simplest system conforming to MC, (4) is of the form [Subject-Predicate] ({XP, YP}), with the nominal head of the subject and the T head of the predicate equally prominent. So we are left without any argument for choosing (5) over (6) in terms of minimal structural distance; and the other C-T properties suffer the same fate.

[D]<u>This puzzle would be resolved very simply if the Subject is not actually present at the stage of computation at which relations between C-T are established, including Aux-fronting.</u> The structure at this point would therefore be (7):

(7) C [T pred]

The Subject is introduced later. It cannot be introduced by External Merge EM, which would violate MC (which entails, in this case, the No Tampering Condition NTC). The Subject can, however, be introduced by Internal Merge IM, and in fact that has been generally assumed on different grounds for some years (the *Predicate-Internal Subject Hypothesis*, *PISH*). The considerations adduced here seem to me to provide a much sounder argument for the conclusion. One consequence is that **[E]**the duality of semantics, which appears to be an important semantic principle that probably derives from the Conceptual-Intentional (CI) interface, is captured in a narrow form by the EM-IM distinction, the former determining theta roles and the latter discourse-oriented and scopal properties (not an exhaustive classification, but an important first approximation).
[Adapted from Noam Chomsky (2013), "Poverty of the Stimulus: Willingness to be Puzzled," in *Rich Languages from Poor Inputs*, ed. by M. Piattelli-Palmarini and R. C. Berwick, Oxford UP.]

問 1　下線部[A]について説明しなさい。

問 2　下線部[B]を日本語に訳しなさい。

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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]について説明しなさい。

問５　下線部[E]について説明しなさい。