

Introduction: Phonology as mental grammar

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The papers collected here adopt a range of theoretical frameworks and address various phenomena drawn from many languages. Despite this diversity, they are united by a focus on the formal properties of phonological computation, or rather by the position that in a useful sense phonology *is* just a formal computational system involving operations whose symbolic arguments (features, syllables, etc.) are transduced to and from articulatory movements and percepts in a manner that is encapsulated from phonology proper. This position is sometimes referred to as “substance-free phonology” (SFP, e.g. Reiss 2018). SFP does not suggest that the phonological symbols have no systematic relation to their phonetic “substance”, but just that a model of phonological computation should make no reference to such substance. Without quibbling over the exact meaning of “semantics”, the SFP position appears to be captured by Brian Cantwell Smith’s (1998:15) discussion of cognition and computation in general:

Because formal symbol manipulation is usually defined as “manipulation of symbols independent of their interpretation,” some people believe that the formal symbol manipulation construal of computation does not rest on a theory of semantics. But that is simply an elementary, though apparently very common, conceptual mistake.

[...]

Symbols must have a semantics—i.e., have an actual interpretation, be interpretable, whatever—in order for there to be something substantive for their formal manipulation to proceed independently of.

So, a theory of phonological rules might specify a syntax for segment deletion, but it won’t formalize the deletion of nasals differently from the deletion of laterals, aside from using different symbols to refer to these two classes of segments.

Given their concern with the formal properties of phonological systems as components of I-languages, it is not surprising that the papers all struggle with very dry, basic questions rather than the large-scale typological and phonetic tendencies discussed under the rubric of markedness theory in much of the phonology literature. Morris Halle (1978:530) points out that the formalist approach is not always appreciated, but he defends it: “the attitude that formal, theoretical work is bound to be both ad-hoc and sterile is, I am convinced, fundamentally mistaken”. The papers here all adopt the perspective that “a formalized theory may automatically provide solutions for many problems other than those for which it was explicitly designed” and that “[o]bscure and intuition-bound notions can neither lead to absurd conclusions nor provide new and correct ones, and hence they fail to be useful in two important respects” (Chomsky 1957:5).

The idea of formalization may suggest complex mathematical analysis, advanced logic or sophisticated statistical modeling, but the papers in this collection are asking very ‘old-fashioned’ questions (e.g. how should feature-filling processes be modeled) and using ‘old-fashioned’ tools (like basic set theory) to address them. In this regard, the papers gathered here

all strike me as consistent with the humble journeyman approach to the pursuit of knowledge advocated by Francis Bacon (1620: Book 61):

As the saying goes: a lame man on the right road outstrips the runner who takes a wrong one. Indeed, it is obvious that a man on the wrong road goes further astray the faster he runs. You might think that in claiming to be able to do better in the sciences than they did, I must in some way be setting myself up as brighter than they are; but it is not so. The course I propose for discovery in the sciences leaves little to the acuteness and strength of intelligence, but puts all intelligences nearly on a level. My plan is exactly like the drawing of a straight line or a perfect circle: to do it free-hand you need a hand that is steady and practised, but if you use a ruler or a compass you will need little if anything else; and my method is just like that.

The reader will have to decide if the commitment to formalization and the modest toolkits invoked in these papers do indeed pay off.

References

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