S. K. Šaumjan, Problems of Theoretical Phonology.

(Trans: A. L. Vanek) Janua Linguarum, Series Minor 41.

This book sets out to define the scope of theoretical phonology within the "two-level" theory of language developed by Šaumjan(1). After some general remarks on the nature of phonology in the Preface (pp.5-9), the first half of the book is taken up by Chapter I, in which Šaumjan discusses the "relational-physical" theory of the phoneme, "as it has been presented by N. S. Trubetzkoy", some of the problems to which this theory gives rise, and their proposed solutions. The remainder of the volume is an expansion of the principles already put forward: Chapter II is an exposition of "the rules of correspondence for the paradigmatic and syntagmatic identification of phonemes"; Chapter III deals with patterning in phonological systems, and the binary nature of phonological oppositions; and Chapter IV discusses the structure of the syllable in the context of Šaumjan's theory. The book ends with a summary of the principle of duality on which the author claims his theory is based.

Regrettably, one must note the poor quality of the translation and a large number of printing errors, which I will not enumerate here.

In the following, I would like primarily to summarise Šaumjan's arguments, and examine one or two of their applications.

Linguistics, Šaumjan claims, must follow other sciences in basing itself on the hypothetico-deductive method (pp.28-31); linguists are to construct hypotheses to explain certain data, consequences are deduced from these hypotheses and are tested for their agreement with further data. Šaumjan goes on to claim the necessity for a strict demarcation between the level of constructs and the level of observation: constructs are "concepts of unobservable objects of science" (p.46), whereas elementary concepts on the level of observation are "concepts denoting observable qualities and relations". The failure of the three 'principal' theories which Šaumjan allows to exist (p.16) to (1) the relational-physical theory of the phoneme, (2) the theory of micro- and macrophonemes, and (3) the glossematic theory of the phoneme to attend to this distinction gives rise to certain difficulties.

Before dealing with these difficulties, Šaumjan (p.5) has already outlined what he considers the subject matter of phonology: theoretical phonology deals with the "nature of phonological reality", general phonology "is concerned with the typology of concrete phonological systems" and therefore relies on the results of theoretical phonology. Descriptive phonology "concentrates on the actual technique of phonological description", and is thus analogous, Šaumjan claims, to the phoneme level of American descriptive linguistics. It too assumes theoretical phonology.

The case of Šaumjan's argument is his strict demarcation between the two levels of observation and construct within theoretical phonology. Examining the hypotheses deduced from the "relational-physical" definition of the phoneme, he argues that the contradictions, "antimonies", which arose from it may be avoided by "splitting" the concept of phoneme into two. Following Trubetzkoy's definition of the phoneme as a "member of a ("phonologically" distinctive) opposition which cannot be further subdivided into smaller distinctive 'phonological' units"(2), we may state that:
"1. phonemes are elements whose function is to differentiate between significants;

2. phonemes are acoustic elements."

Autonomy no.1 (of transposition) arises from the fact that graphic substances may serve to represent the 'elements' of (1). (1) and (2) are therefore mutually contradictory. (Analogue arguments are stated for distinctive features (p.62-63) and prosodic features (pp.77-78).

Further, it follows from (1) that "phonemes which occur in different positions can be altered in respect to their phonation as sharply as desired as long as they do not get confused with one another". Furthermore, phoneme A in position P₁ may be identical "in respect to phonation" to phoneme B in position P₂, while differing from phoneme A in position P₂. Thus, taking (2) into account, different acoustic elements may be identical, and identical acoustic elements may be different. This is the antimony of the paradigmatic identification of phonemes.

Thirdly (pp.42-44), from (1) we may deduce that two sounds [as in (ts)] may constitute a single phoneme, since such a cluster may differentiate one significant from another having a single sound in the same position. But how can an acoustic element (2) again [be composed of a sequence of different acoustic elements? This is the antimony of the syntagmatic identification of phonemes.

Śaumjan therefore "splits" the concept of the phoneme into an "elementary concept" (on the level of observation) and an abstract construct (on the level of abstraction) "with no inherent physical substance" (p.48), which are related by means of correspondence rules. The latter will define the (abstract) phoneme as any desired substance. Similarly the antinomies of paradigmatic and syntagmatic identification of phonemes are eliminated, as the "acoustic elements" are regarded as the (concrete) substrata of the phonemes. However, these substrata, a₁ a₂... aⁿ "concrete phonemoids" as Śaumjan goes on to call them, and equivalent to the "allophones" of descriptive linguistics (p.60) do not directly correspond to the phoneme a[], but "are embodied in the "concrete phonemes" a₁" a₂ "... aⁿ". The latter differ only in "their location on the syntagmatic axis of the language" (p.61) and together form the class "a", an abstract phoneme. a₁ a₂... aⁿ form the class a, that is, an abstract phonemoid:

Concrete phonemes: Abstract phoneme:

<table>
<thead>
<tr>
<th>Level of constructs</th>
<th>&quot;a₁&quot;</th>
<th>&quot;a₂&quot;...&quot;aⁿ&quot;</th>
<th>&quot;a&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level of observation</td>
<td>a₁</td>
<td>a₂</td>
<td>a niece</td>
</tr>
</tbody>
</table>

Abstract phonemoid:
This scheme derives from Šaumjan's claim that "contemporary logic of science requires the class and its members to be homogeneous and to relate to the same main abstraction level". The author produces no evidence as to why we should accept this (somewhat dubious) claim in linguistics. If we reject it, "concrete phonemes" would vanish, necessitated as they are only by the theoretical framework. In fact, Šaumjan's whole theory rests on this claim, and the theory fails because the distinction between the level of construct and the level of observation is inapplicable in this case.

Let us consider his analysis of the Spanish sound-sequence t + ŝ (pp.49-50). Spanish has an abstract phoneme š. Its "substratum" is the phonemoid t ş. German also has the sequence t ş, but this is the substratum of two phonemes, t and s. (This analysis is put forward on distributional grounds, and is clearly no novelty. None of Šaumjan's few examples, it may be remarked, result in analyses differing from the generally accepted phonemic one). "Thus", runs the argument, "it is necessarily to stricly (sic) differentiate the following three concepts: concept of sound, concept of phonemic substratum (later to be labelled "phonemoid") and concept of phoneme." But in what sense is the phonemoid observable? One would argue that in Šaumjan's hierarchy of three, it is the sound which is observed directly. Further, we might define the phoneme not as a class, but as some single element which is linked to a particular class of segments by rules (much as in contemporary Western generative phonology). The claim noted above then becomes irrelevant, and the need for a separate level of "phonemoids" disappears.

We are also left in the dark as to why two identical sound segments should be considered as belonging to different phonemes (see argument above on paradigmatic identification of phonemes). It does not follow from the author's definition of the phoneme (p.51): "if x is a sound segment and is relation of contrast to at least one sound y, then x is in relation of embodiment to the phoneme p". In other words, Šaumjan fails to provide an answer to Halle's objections to phonemic theories in general(3), and therefore his theory suffers from the same inherent defects. It would seem therefore that, as a working base, the "two-level theory of phonology" has little to offer over its rivals. Let us briefly then consider why the publication of this translation should be welcomed.

The appearance (in 1962) of the Russian edition of this book came after a decade of sterile argument(4) amongst Soviet linguists on phonology, and was one of the first attempts since 1945 to elucidate the theoretical foundations of the subject in any searching way. We may fault Šaumjan's arguments, and reject his conclusions, but at least Western linguists are in a position to follow the progress of Soviet phonology. They might well take note, also, of the emphasis on the place of linguistics amongst other sciences and their methodologies which is a feature of his book. It is all the more to be regretted, therefore, that Šaumjan presented us with so little practical illustration of theory.

Stephen J. Turrington
NOTES

(1) S. K. Šaumjan "Sovremennogo sostojanie dvuxstupencatoj teorii fonologii" in Issledovanie po fonologii, Moscow 1966.

Also see: Šaumjan Strukturale Linguistik, Munich: Fink 1971.

(2) N. S. Trubetzkoy Principes de phonologie, Paris 1949, p.44.
