Miscellanea Phonetica II

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The International Phonetic Association has brought out the second issue of *Miscellanea Phonetica*. I hope that the re-appearance of *Miscellanea Phonetica* at this time is an indication that the Association intends to publish further issues in the not too distant future. Students of speech will be grateful to the Association for this additional source of information.

The four articles in the present issue deal with problems of speech primarily from a linguist's or phonetician's point of view. The first three articles discuss details of English phonetics (D. Jones "Falling and Rising Diphthongs in Southern English") or fairly subtle points of linguistic theory (A. Martinet "Accent et ton" and E. V. Pike "Phonetic Rank and Subordination in Consonant Patterning and Consonant Change"). The fourth article, on the other hand, Eli Fischer-Jørgensen's "Acoustic Analysis of Stop Consonants," treats of problems that have been frequently discussed in meetings of this society and on the pages of this journal. I shall, therefore, devote the rest of the review to this article.

The article is a summary of an investigation of Danish stop consonants. The basic information was derived from 1368 wide-band Sonagrams of Danish words spoken by 9 different subjects. Supplementary data were obtained from "sections" (frequency vs. intensity displays produced by the Sonagraph), from intensity vs. time curves produced by means of a special Sonagraph attachment, and from oscillograms.

In analyzing this large body of material the author always focuses on her main task which is to find the properties ~~which~~ *that* would enable us to differentiate from one another the six stops of the Danish language. She envisages these properties as belonging to two classes: (1) those differentiating $p\,t\,k$ from $b\,d\,g$ and (2) those differentiating among the labials (p/b), the alveolars (t/d) and the palatovelars (k/g). She looks for these distinguishing properties in the duration, intensity and frequency spectrum of the stop burst and of the aspiration following the burst, in the length of the "closure" period preceding the burst, and in the behavior of the formants of the adjacent vowels.

She concludes that the differences between $p\,t\,k$ and $b\,d\,g$ lie primarily in the aspiration (the former being heavily aspirated, the latter being either completely unaspirated or very slightly aspirated). In addition there appear to be small but consistent differences in the length of the "closure" which is relatively shorter for $p\,t\,k$ than for $b\,d\,g$. Voicing does not play any role in Danish (cf. pp. 44–45).

The author formulates the second set of differences in the following terms: "p/b, neutral explosion, relatively low resonances; t/d, high explosion, relatively high resonances; k/g, strong concentration of explosion round a frequency bound to adjacent sounds, varying resonances with tendency to mutual attraction." (p. 59).

To determine the nature of the stop explosion Miss Fischer-Jørgensen investigated the location of the maxima in their spectra. The schematic Sonagrams on p. 51 notwithstanding, wide band Sonagrams are notoriously poor sources of information on the intensity relationships among the various frequency components. The determination of what constitutes a maximum in the spectrum is impossible without a fairly detailed picture of the intensity relations. For this reason I am somewhat skeptical about the data presented on the location of spectral maxima (pp. 48–50), particularly for $p\,b\,t$ and d, less so for k and g, where at least one maximum is very prominent.

Because of the great difficulties encountered, recent investigations of the acoustical properties of speech have, with a few notable exceptions, tended to deal somewhat summarily with consonants, preferring instead to concentrate on the vowels. We owe Miss Fischer-Jørgensen a debt of gratitude for her work, which fills an important gap in our knowledge.

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