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Grundriss einer Phonetik des Deutschen mit einer allgemeinen Einführung in die Phonetik.

HANS-HENRICH WÄNGLER, N. G. Elwert Verlag, Marburg, 1960. Pp. vii+156 and a 45 rpm record of speech samples. Price DM19.80.

As its title indicates the book attempts to present the essential facts of the phonetics of German and at the same time to introduce the reader to phonetics, in general. The author promises in particular to provide information about the developments in phonology and acoustics and their effects on phonetics.

The introductory chapter of the book includes, in addition to some general comments, a survey of the fundamental problems of phonetics as well as a brief history of the science. It is followed by a chapter on the sounds of speech consisting of a general section, a discussion of the physiological and physical mechanisms involved in speech production, an articulatory description of the German speech sounds in isolation and in connected discourse. The third and final chapter briefly reviews some problems of intonation. The book is well printed with clear figures, many of which reproduce tracings of x-ray stills of the vocal organs articulating individual German speech sounds. The author also had the felicitous idea of supplying the book with a phonograph record offering acoustical illustrations of the sounds that in the text are described in articulatory terms.

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These considerable merits are unfortunately offset by a number of shortcomings. In the description of the articulations of German speech sounds (pp. 62-109) very little use is made of the x-ray stills which accompany the text. The author misses thereby an important opportunity to amplify the traditional account of German phonetics, which he has chosen to follow quite closely. Wängler might have pointed out, for instance, the striking variations in the pharynx, which are so prominent in his figures and which hitherto have gone almost unmentioned in the German literature on speech.

The relationship between phonology and phonetics, a topic in which—in his foreword—the author promises to orient the uninitiated reader, is covered in exactly one page (pp. 12-13). It is hardly surprising that this single page falls far short of providing the promised orientation.

The account of acoustics (pp. 56-62) makes inadequate use of the work of the past 30 years. It is surprising that Wängler should have decided to pass over in silence the work of Fletcher, the numerous studies by F. Trendelenburg, and Thiemehaus and Barczinsky's determination of the formant frequencies of German vowels [*Archives néerlandaises de la phonétique expérimentale* 11, 47 (1935)].

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Even more puzzling than these omissions are some of the statements in this section. On p. 56 we read that "sound is essentially a psychophysiological phenomenon... one can speak of sound only when... air disturbances are transduced psycho-physiologically into *sound sensations*..." Yet on the very next page it is asserted that "not every sound can be heard." Or, on p. 61, the author flatly asserts that "true resonance reinforces, however, only a single frequency, that of the natural mode of the resonator," overlooking the fact that a given resonator—e.g., a bottle with a

neck—may have several natural modes.
 Finally, Wängler presents (p. 60) the following values for the
 formant frequencies of German vowels:

i-4400; e-3700; e-3000; a-1200; a-1000; o-750; o-450; u-300.

Since these values differ radically from ~~published~~ ^{data} that has ~~been~~ ^{been} published, I thought it useful to check them against the
 formant frequencies of some of the vowels on the phonograph
 record accompanying the book. The values which I obtained (see
 Table J) are in substantial agreement with the data in the litera-

TABLE I. Formant frequencies of German vowels measured on record
 accompanying H. H. Wängler's *Grundriss einer Phonetik*...

	F1	F2	F3
i (<i>Milch</i>)	200	2300	3000
i (<i>ih</i>)	200	2400	3000
e (in isolation)	400	2250	2900
e (<i>eben</i>)	400	2300	2750
ɛ (in isolation)	650	2000	2750
ɛ (<i>Ebbe</i>)	650	2000	2750
a (in isolation)	850	1250	2750
a (<i>Abernd</i>)	900	1400	2600
α (in isolation)	800	1500	2750
α (<i>harte</i>)	900	800	2900
o (in isolation)	500	800	2900
o (<i>Oh)</i>	400	700	2500
o (in isolation)	350	650	2500
o (<i>ober</i>)	300	700	2300
u (in isolation)	300	750	2250
u (<i>Uhr</i>)	300	750	2250

ture. The differences between them and Wängler's data are obviously in need of an explanation, which unfortunately is not to be found in the book.

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