PHONETICS AND PHONEMICS
IN FOREIGN LANGUAGE TEACHING

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Though few linguists or phoneticians would doubt the usefulness of their subjects in the teaching of a foreign language, there is nothing approaching general acceptance of this view among teachers. Even where the principle is accepted there is great diversity in the extent to which it is understood and applied, as the methods and textbooks in use in schools and universities show. If foreign language teaching is to measure up to the urgent requirements of the world situation, greatly increased attention must be paid by both theoreticians and practitioners to the concrete details of application. Both would profit by a much freer exchange of information and a mutually sympathetic understanding of each other's aims and needs (most strikingly absent where, as is often the case, would-be theoretician and de facto practitioner co-exist in the same individual). It is by such considerations as these that the following observations are prompted.

Recent work in language contact studies[1] has convincingly shown that we must always reckon with interference at all levels from the native language (L1) in a learner's acquisition of a foreign language (L2) and in his performance in it. No method of teaching or presentation which fails to take full account of this interference can be maximally efficient. Whilst everyone knows that good teachers with less than ideal teaching materials will produce better results than bad teachers with ideal materials, and whilst it is true that eminently successful courses are conducted in various parts of the world where the diversity of L1 backgrounds in the learners makes it impracticable to pay systematic attention to mother-tongue interference, there is no reason to suppose that the same courses would not produce even better results if such consideration were possible.

Wherever the teaching situation permits, then, L1 interference ought to be taken into account: what requires discussion is the detail of how this can best be done. The currently orthodox approach – if we confine ourselves now to the phonetic/phonemic aspects of the question – prescribes a phonemic analysis and comparison of L1 and L2 following a prior phonetic examination. On the basis of this interlingual comparison, errors in L2 are "predicted" and then avoided or corrected by

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[1] See in the first instance Uriel Weinreich, *Languages in Contact* (New York, 1953); also the reports of Charles C. Fries, Uriel Weinreich and Einar Haugen, with bibliographical references, in *Proceedings of the VIII International Congress of Linguists, Oslo 1958.*

weighting of the materials and drills used in teaching. This approach, both in principle and in application, seems to me to require comment.

First of all, we cannot strictly speaking compare whole phonemic systems one with another except in general terms of limited practical reference. What we can do, and what we do in practice, is to select subjectively such sub-systems of the two structures as contain substantially (i.e. phonetically) similar items and contrast them. We can for instance contrast the different distributional patterns of the discrete items established for each language: the lack of initial consonant clusters in non-onomatopoeic native Finnish words compared with their frequent occurrence in English will lead us to predict confidently and correctly that Finnish learners have some difficulty with this feature of English. An examination of distinctive features which reveals the absence of the voiced-voiceless opposition in Finnish will similarly lead to an accurate prediction of difficulties for Finnish learners faced with this kind of opposition in other languages. Vowel systems within a certain range can profitably be contrasted with each other: it is easy to predict which R.P. English diphthongs will be substituted by English learners for which French monophthongs; or parts of consonant systems may be compared and substitutions predicted of the order of Finnish /s/ ([ʂ]) for English /s/, /z/, /ʒ/ and /ʃ/, together with /ts/ for /ts/, /dz/, /dʒ/ and /tʃ/.

However, it is by no means always easy to predict the precise substitution or set of substitutions which are likely to be made. For instance, an analysis of English and Urdu stop consonants shows the following patterns (I leave aside the question of whether the Urdu aspirated stops are each one phoneme or two):

	Urdu				English	
p	ph	b	bh		p (including [pʰ], [p])	b
t	th	d	dh		t (including [tʰ], [t])	d
ṭ	ṭh	ḍ	ḍh		k (including [kʰ], [k])	g
k	kh	g	gh			

We may also note that there are no Urdu fricatives of the order of English θ and ð. Confronted with these facts it is safe to say that some substitutions will be made by Urdu-speaking learners of English and vice-versa – but which? In fact, we find that Urdu-speaking learners regularly render the English voiceless stop phonemes by the unaspirated voiceless Urdu series, excluding Urdu /ṭ/. The only aspirated stop used is /th/, which renders English /θ/, whereas Urdu /d/ is used for English /ð/. Urdu /ṭ/ and /ḍ/ are substituted for English /t/ and /d/.

Where, as with English in the sub-continent of India and Pakistan and in many other parts of the world, there is already a well-established tradition in the teaching and/or use of a secondary medium, it is far more expedient to observe, collect and classify errors than to predict them (perhaps vaguely or inaccurately). The systemic nature and origin of these errors can then be sought in L1–L2 comparison and

remedies devised.[2] In the situation outlined above, key-words like "tick", "thick" in a dictated R.P. English test series are frequently misheard as "thick", "sick" respectively, and further observation shows that the series "tie, thigh, die, thy" is regularly pronounced by Urdu-speaking learners with ṭ—, th—, ḍ—, d— respectively. Evidence of this kind is enough to give the analyst some idea of the kind of systemic interference he is dealing with. From the practical point of view, it is sufficient to know that certain substitutions are made rather than others which seem on the face of things equally likely.

Feedback from practice to theory raises such questions as why initial English voiceless stops, which are certainly aspirated at the phonetic level (though not so strongly as the Urdu aspirated voiceless stops), are rendered by the unaspirated rather than by the aspirated Urdu series (how would, say, the acknowledgedly heavily aspirated voiceless stops of Swedish be rendered by Urdu-speakers?) and why the strongly retroflex alveolar /ṭ/ and /ḍ/ of Urdu, rather than dental /t/ and /d/, are substituted for non-retroflex alveolar English /t/ and /d/. We cannot with any confidence suggest answers to such questions until systematic work has been done towards the solution of related problems which arise at both the practical and the theoretical level. In principle: does the substitution of Urdu /th/ and /d/ for the English fricatives /θ/ and /ð/ preclude the use of Urdu aspirated stops as a whole to render English (phonetically) aspirated stops, and the use of Urdu dentals as a whole to render English alveolar, non-retroflex stops[3]? If so, can we say that in general one L1 phoneme will do service for more than one L2 phoneme[4] only if there are no otherwise uncommitted L1 phonemes available in that area? In practice: what happens to the overall pattern in situations where certain standard items of interference have become established by teaching practice and spoken performance over generations, as in India? And what is the effect of standard orthographies (English is an extreme case) where most new items of L2 are encountered for the first time visually rather than orally?

Where interference items have become institutionalised, the task of the speech diagnostician is difficult. In some cases he may be dealing with an inherited and no longer operative substrate influence rather than with individual substitution. In present circumstances there is no immediately apparent synchronic reason why Northern Urdu-speakers should regularly substitute Urdu /a/ for British English /ɒ/ (cot) and /ɔ/ (caught) as well as for English /a/ (cart) when they have available in the local variety of Urdu a near-monophthong /ɔ(ə)/, which to the English ear

[2] Haugen, op. cit., pp. 779-780, briefly mentions that in the investigation of bilingual interference in general the observation of interference items may precede linguistic comparison. In the special case of the language teaching situation, observation of errors and their analysis can often with profit precede formal linguistic comparison not only in time but also in importance.

[3] It is a fact that if Urdu-speakers can be persuaded experimentally to use Urdu /ph/, /th/, /kh/ instead of Urdu /p/, /t/, /k/, for English /p/, /t/, /k/, and Urdu /d/ instead of Urdu /ḍ/ for English /d/, the effect is more acceptable to the English ear.

[4] – as in the substitution, mentioned above, of Finnish /s/ for four separate English phonemes.

sounds a much more acceptable substitute for the first two. But there may be a good historical reason. The picture is also complicated by the re-importation of loan words: how can we tell whether *ḍakṭər* or *gɔˀrmənṭ* in an English text are regular examples of phonological interference or merely unassimilated Urdu words? Even semantic evidence, as when *ṭıkəṭ* is used in English to mean "postage stamp" as well as "ticket", cannot decide the issue, for the phonetic interference may be systematic and the semantic interference specific – or both may be jointly specific.

Nowadays, interference from standard orthographies is perhaps truly systematic only in extreme cases (like the various national pronunciations of Latin); but even where learners are introduced from the beginning to L2 in a genuine spoken form, they cannot be isolated indefinitely from contact with the standard orthography. Perhaps its influence is then restricted to the reinforcement of substitutions already made at the phonemic level. Hence, English spelling reinforces the substitution of Urdu /th/ for English /θ/, but does not lead to Urdu /th/ for English /ð/. Similarly, we get German /s/ and not /t/ for English /θ/ – in e.g. *smis* (Smith), in spite of the spelling, and in spite of the obvious lexical similarity. On the other hand, English /z/ is extremely common for initial German /ts–/ among English learners of German who in other positions (where there is no phonological inhibition from English) use /t/ plus /s/.

This brings us to the question of phonetic scripts, which receives separate treatment at this Congress by Nils Enkvist: I am in general agreement with the points he makes. However irrelevant it may be in theory which particular set of symbols is used, it is certainly not pedagogically irrelevant. Economy of symbols should not be the main aim, nor need the system be on a strict one-phoneme-one-symbol basis – some difficult allophones may require separate representation (e.g. German [ç] and [χ]). Pedagogical criteria should be to the fore – a full phonetic transcription seems to me unnecessary for teaching Finnish, for example, but essential for, say, English. It is most important that the segmental transcription used should be supplemented by some form of notation for suprasegmental features.

Traditionally, the main emphasis of phonological analysis has been on the establishment of the segmental phoneme inventory. Important though this is, it has diverted attention in interlingual comparisons from stress, rhythm and intonation, the importance of which for comprehension cannot be exaggerated. The amount of attention devoted to suprasegmental features at this Congress is a hopeful sign that our resources and techniques for analysing, describing and contrasting these subsystems will continue to improve, and that the information obtained will receive a prominent place in the structural description of languages. In English, an Urdu-type sentence-rhythm with even stresses is sufficient to throw an English listener off balance even if segmental interference is minimal. Urdu-English [əsṭil] or [səṭil] for "still" is not a unique type of systematic interference and need not of itself unduly interfere with comprehension. But when the extra syllable receives what to the English ear sounds like a main stress, it can wreck a whole sentence. One further example:

an Urdu-speaking pupil once gave me directions which involved passing, as I understood it, an empty park. This turned out to be an M/T (motor transport) park.

To what extent is interference substantial (i.e. phonetic) and to what extent systemic (here, phonological)? This question is of both practical and theoretical interest. We know, for instance, that some learners show more, and stronger, interference phenomena than others of the same mother tongue and the same age, and this is hardly explainable except in terms of differing degrees of perception at the "-etic" level. On the other hand, substitutions, where made, seem to be "-emic" in character. For instance, when English learners substitute L1 voiceless stop phonemes both for the Urdu aspirated and for the unaspirated series, the allophonic distribution of aspiration is then on the same pattern as in English. Learners appear seldom spontaneously to take advantage of L1 allophonic variants to render separate, positionally less restricted L2 phonemes: Italian-speakers have to be taught how to mobilise the Italian allophone [ŋ] in *banca* to render the English phoneme /ŋ/ in *singing*. Nor do learners spontaneously adapt positionally restricted L1 phoneme sequences (e.g. English /t/ plus /s/) to render phonetically similar L2 unit phonemes in unwonted positions (e.g. German initial /ts–/). All this, of course, is strong support for the phoneme as a psychological reality.

Leaving aside here the question of which variety of the target-language should be taught (essentially it will be the teacher's own), a great deal more attention should be paid, in the diagnosis of faults and their remedying, to regional varieties of the source-language involved. The great majority of learners are not native speakers of the particular variety of L1 (often a literary standard) which has formed the basis for the structural analysis upon which teaching materials have been prepared. Worse still, many of them assume that they are, and cannot think consciously about their speech except in terms of the standard (traditional schooling is responsible). Most educated Glaswegians use a fronted variety of /u/ in their English, but as a result of exposure to other varieties of English have developed a wide range of passive tolerance for this phoneme. In learning German they substitute it for the German phonemes written as *u* and *ü* (long and short). Panjabi politicians take great *plejər* in introducing new *mejərz*. And at least one Viennese exile of my acquaintance is waiting anxiously for the construction of the Chandle Tundle [tʃændl tʌndl]. None of these items of interference are explainable except in terms of a regional variety of L1.

As distinct from its use as a tool in the preparation of materials and methods, how much actual phonetics – as a subject – should the learner be taught, not in order to pass some examination which requires it, but in order to learn the language efficiently? Here opinions differ widely. Some are in favour of practical drills alone, with no explicit reference to articulatory production, others require an introduction to general (mainly articulatory) phonetic concepts. The age of the learner is important here – the younger he is, the less conscious phonetic knowledge he requires to overcome L1 interference. As for the teacher, assuming he is a native speaker of the language he teaches, he can hardly have too much theoretical knowledge, if he is to participate in

the sorely needed systematic collection and evaluation of the error material of which we have spoken. He should know at least enough to recognise that only half of the foreign accent lies in the L1-distorted performance of his pupil, and the other half in his own L1–distorted perception: that, for instance, an Urdu-speaker who appears to an Englishman to be unnecessarily reversing the correct lexical distribution of English /v/ and /w/ and saying "wery vet", is in fact merely substituting Urdu /β/ for both.

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