

assistons tout simplement à la formation d'une habitude. Et que l'explication soit ou non acceptable, le fait reste que la parole est un ensemble d'habitudes psychologiques et musculaires, et c'est à quoi je voulais en venir. L'élève qui entend l'accent sur le *ju* de *kkju* finit, quand il a acquis un certain sens de la langue, par l'entendre normalement, c'est-à-dire comme l'indigène. C'est du moins mon expérience personnelle et il paraît difficile de procéder autrement que par introspection sur ce point. De même l'Anglais qui s'imagine entendre *me'chanically* quand on a en réalité dit *'mecha'nically* perçoit tout simplement ce qu'il aurait dit lui-même. Au point de vue du langage, considéré comme instrument de communication, et non pas comme objet d'étude plus ou moins scientifique, ce sont les images auditives qui comptent, et non pas les stimuli physiques qui les causent. Pourvu que le mot soit suffisamment reconnaissable pour faire apparaître l'image verbale, pourvu d'autre part que la forme phonétique ne soit pas si bizarre qu'elle provoque la surprise ou l'amusement, comme dans le cas d'une langue parlée avec un accent étranger inusité ou des formes provinciales peu connues, nous saisissons la phrase dans son ensemble, comme une unité logique. D'autre part, à l'image verbale auditive qui se forme, s'associe un système de réactions nerveuses et musculaires qui correspond bien à nos formes verbales personnelles, bien plus qu'à celles de celui qui parle. Il y a, comme dit ROUDET, réaction de l'image phonétique motrice sur l'image phonétique auditive. Il est presque inutile d'ajouter que ce qui est vrai des sons est aussi vrai des autres phénomènes phonétiques tels que l'accent. Celui-ci, à cause de l'importance de son aspect subjectif, est peut-être plus facilement encore sujet à des erreurs de perception.

D'autant plus que, comme on sait, l'oreille est un organe des plus imparfaits au point de vue de l'analyse quantitative. Elle n'est capable que de l'approximation la plus grossière quand il s'agit de comparer des longueurs et des intensités. En fait, elle est incapable de mesure. Et ceci est si vrai qu'il faut ramener tous les phénomènes dans le plan visuel dès que l'on veut les comparer quantitativement avec un peu de précision, ce à quoi les phonéticiens qui se servent du cylindre enregistreur pour les mesures de "longueur" (terme qui implique une impardonnable spatialisation de la durée) doivent de se faire traiter de pragmatistes par les métaphysiciens les plus incorruptibles.

Pour en revenir à nos moutons, il ressort des considérations précédentes que l'on tend à ramener, plus ou moins inconsciemment, toute parole entendue à la "parole intérieure" qui sert de critère dans presque tous les cas. J'ai même l'impression que la plupart des phonéticiens ne sont bien certains d'avoir perçu exactement le timbre exact d'une voyelle entendue pour la première fois que lorsqu'ils l'ont eux-mêmes prononcée de façon qui paraît acceptable à l'oreille indigène. Je crois avoir établi, par conséquent, que la perception de la parole est avant tout une affaire d'habitude. Les phonéticiens anglais qui entendaient GASTON PARIS accentuer la première syllabe des mots en français étaient victimes de longues

habitudes linguistiques et accentuaient eux-mêmes intérieurement cette première syllabe.

Maintenant, il est bien évident que si je prononce le mot *mechanically* en changeant le timbre de la voyelle tonique comme par exemple *mechunically* ou bien *mechonically*, il est peu probable que cette petite altération restera inaperçue. L'oreille, avec la meilleure volonté du monde, a tout de même ses limitations dans ce sens-là aussi. Elle peut ne pas percevoir certaines modifications de sons pourvu que celles-ci n'aillent pas jusqu'à empêcher la formation d'une image auditive familière, mais ceci ne peut aller très loin comme dans le cas de l'accent.

Et ceci constitue la grande différence entre l'accent et les autres éléments du langage. C'est à la fois une différence de degré et une différence de nature: de degré au point de vue acoustique, de nature au point de vue psychologique. Et il ressort de ces considérations que certains problèmes importants, comme celui du rythme de la parole, celui de certaines transformations phonétiques, comme celles qui sont décrites par la loi de Verner, ne seront réellement intelligibles que lorsque leur investigation partira d'une définition plus subjective de l'accent, l'élément probablement le plus important de ces questions.

36. Mrs E. NORMAN (London): *Some psychological features of babble in children.*

In default of a sufficient number of observations for any general treatment of the subject of babble, one child will be mainly considered whose speech development it has been possible to observe in some detail. She was a little girl of very good intelligence and her speech may be described roughly as normal. She was observed throughout the time of learning to talk, the more detailed observations relating to the period between eighteen months and two years.

Of the babble that precedes the beginnings of speech nothing will be said except to point out the pleasure that appeared when this took on a social function. When, at the age of nine months, she heard her own strings of nonsense syllables said to her by her companions, she showed real delight, and was able to repeat these syllables in turn after the adults. In this there seemed to be the first communication in the sense of a give and take of speech-sounds, or of sounds that were later to become speech, and a sharing of pleasure and interest in them.

After speech had begun, throughout the second and well into the third year, a great deal of babble was still employed by this child. As most children do, she would babble at length to herself when lying in bed or when playing. There was a certain amount of evidence in this of actual practising of syllables that were entering her speech as words. Sometimes newly acquired words occurred in the stream of unintelligible sounds. Sometimes one or more syllables that were heard frequently in the babble were heard afterwards used as words. At times also well-established words cropped up in the babble monologues. Often these related to subjects of special interest to the

child. Thus, when she acquired a puppy at the age of a year and nine months, 'dɪdɒ, her word for dog, occurred very often as she babbled to herself out of the dog's presence. During the fourth half-year, certain very intense interests showed themselves. These were going for rides in her parents' motor-car, blowing her nose, having her woolly knickers adjusted securely and shutting gates. The words connected with these operations were often heard in the course of the solitary babbling. So, too, were the names of the parents and a phrase coupling her own name with those of the parents. As the child lay in bed chattering unintelligibly to herself before falling asleep, words connected with events of the day sometimes entered the stream of sounds. Thus 'Alou 'pɪx, *Hallo, Pete*, was often heard during the evening babble after she had met a little boy called Pete on her afternoon walk.

Actual records were not kept of the forms that the babble took, but its close resemblance to normal speech in certain respects, at least during the fourth half-year, was quite unmistakable. Intonation reached a high degree of perfection. When heard from such a distance that words in any case would have been indistinguishable, the babble monologues might well have been taken for normal conversational talk, comprising quite complicated sentences and the due expression of emotion. The babble sounded, in fact, very much more like speech than the child's meaningful utterances; for these latter, until after the end of the second year, were mostly of the short and abrupt one-word-sentence type. The satisfaction that the child got from being able to produce in babble something so very much like adult speech was shown, not only in her general pleasure in the performance, but perhaps also by the way in which she used her babble in direct imitation of typically adult activities. Reading aloud was one of these. She would hold a book or piece of paper up before her face and produce endless nonsense syllables with the greatest confidence and satisfaction.

While, up to nearly the end of the second year, speech proper and babbling had developed more or less independently of each other, at this time she began to combine the two, and it was through this that she really got beyond the one-word-sentence stage of speech. In the babble she had learned to produce the forms of sentences without the words. In her speech she had learned to use words, but she could not put them together in such a way as to give any suggestion of a true sentence. Her word sequences, where they occurred, were rather series of one-word-sentences relating to the situation in hand and were quite lacking in sentence-rhythm. But now as she approached two years, the combination of babbling and speech began to be made—not as solitary play, but as an earnest effort at communication. She would use two or three real words and between them interpose a string of nonsense syllables. In doing this she gave to the whole utterance the rhythm of a sentence and by the use of the few real words conveyed her meaning. As time went on, this type of utterance became more and more common. Then, gradually the nonsense syllables used gave place to recognizable words; but

it was still many months before speech came to be composed of words and words only.

That the method of learning that has been outlined remained the one best suited to this child is indicated by some later observations on her attempts at a second language, French. At the age of five she was taken to spend a holiday in France together with a number of other children and adults. She was the only person who knew no French, the language mainly talked, and was very much at a disadvantage. Slowly and with difficulty she learned a few words: but, though not a shy child, she was extremely diffident about using them and the situation put considerable strain on her. Then she hit upon a device by which she could get very much the sort of practice that she had formerly achieved through babbling, when learning her mother tongue. She began to play "Mothers and Fathers" with another child and in this game a completely nonsensical language was talked. When asked what it was, she replied that it was rubbish—rubbish-French. The game was played on innumerable occasions, and gradually the rubbish-French came to resemble true French to a surprising degree. The characteristic intonation was caught, and some of the sounds that occur in French but not in English came into it. The real words that the child knew were not introduced, but attempts were made at a number of phrases which she had often heard said without understanding them. Once this rubbish-French was established, progress in the real language became very clear. All shyness of speaking disappeared and she and the French people began to teach each other their own languages with great enjoyment.

The value of babble as a linguistic exercise became very clear from watching this child; but almost equally clear was its social and emotional aspect. The pleasure shown when the early pre-speech babble syllables were heard from and repeated after an adult has been mentioned. The appreciation of this interchange of babble between child and adult appeared rather strikingly in the case of a little boy of four who was observed by the writer. Probably for a number of reasons—including, certainly, a great deal of mental conflict and inhibition—he hardly talked at all until he was three and three-quarters. When he had got over some of his difficulties and began to be interested in speech, he began to babble whenever his play offered the slightest excuse for it. One day the observer entered into the babble and repeated the same chains of syllables that he was saying. At this he stopped his play and ran over in huge delight to continue this much more interesting game. This incident was followed at once by a much closer attention to the observer's speech than had so far been shown.

The long babble monologues which are typical of the young child would seem to afford not only a preparation for the difficulties of actual speech but a means by which the child can take on the function of the speaking adult without the inconvenience of learning to talk. It is likely that this capacity for playing the adult rôle is of extreme importance for the child's emotional development. That the monologues are not quite without ideational accompaniment is suggested

by the occasional inclusion of words, such as occurred in the case of the little girl observed. It is noteworthy that, while her actual communications at the age in question were almost always closely related to present situations, the words included in the babble frequently referred to matters of interest that were not to hand. One is led to wonder whether, behind this babble, we have not something in the nature of phantasy, akin to the day-dreaming of adults.

While most of these features of babble could probably be observed in any child, the technique described here of combining babble and words in communications, though common, does not seem to be universal. Some children, when they come to the stage of putting words together, do so precisely and without intermixture of babble. They assemble the whole from the parts at their disposal. Children of the type described here, however, give a sketch of the whole and gradually perfect the detail. What determines these different types of linguistic development, what relationships exist between them and other mental characteristics, are problems upon which further research is undoubtedly needed.

37. Dr M. M. LEWIS (Nottingham): *The infant's approach to the forms of adult speech.*

When, in the effort to satisfy his needs, the child attempts to reproduce adult words, strange transformations occur. This is a problem of the acquisition of skill, for since a pattern of sound implies a pattern of vocal movement, the child is very much in the position of a person learning how to dance, or how to play tennis. The learner can already perform certain movements, and using this repertory attempts to produce the patterns which he has seen performed by the expert. His first crude results owe something to the movements he can already make and something to those he is trying to make. In the same way, when the child begins to speak conventional words he already has a repertory of his own forms, and the queer results which he produces owe something to these forms and also something to the new forms he is now attempting.

Sources of the data. Previous work has been mainly directed towards the observation of similarities of form among diverse children. But these could only occur if both the personal repertoires of the different children and the adult languages around them were alike. The former condition is, on the whole, present; the latter, not—for even within the same linguistic community the speech of individual adults of course varies enormously. We must therefore study individual children, not so much in the hope of discovering similarities of form, but in order to observe similarities of *process*. Here I confine myself to three detailed records: DEVILLE's account of his daughter (*Rev. de Ling.* 1890), STERN's account of Hilde (*Die Kindersprache*, 1928) and my own account of K, a boy whom I had the opportunity of observing constantly throughout his first three years. We thus have before us a French, a German and an English child.

Classification of consonants. To compare the child's consonants

with those of adults, we must be content with the broadest classification: front, middle and back. The *front* group consists of bi-labials (e.g. p, m, w), labio-dentals (e.g. f, v) and tip-dentals (e.g. t, n, θ); the *middle* group of alveolars (e.g. l, r, s) and blade-palatals (e.g. j, ç); and the *back* group of back-palatals (e.g. k, g, ŋ), uvulars and glottals (e.g. R, h).

The child's own repertory. Broadly speaking, the child comes to adult speech with a repertory marked by two main features: preponderance of front consonants and reduplication. Thus if we take the twenty-six children listed by STERN (*op. cit.* p. 172), including DEVILLE's daughter and Hilde, and add my own record of K, we find that of the first half-dozen conventional words of each child, 75 per cent. contain only front consonants, while 46 per cent. are reduplicated.

The transformations of adult speech are mainly of three kinds: elision, substitution and assimilation.

I. *Elision.* Apart from the omission of initial or final consonants, elision occurs mainly in dealing with consonant-compounds, for instance *faiʃ* for *Fleisch* (Hilde Stern), *tu* for *trou* (Deville's daughter) or *ki:m* for *cream* (K).

The first thing that we have to notice about these consonant-compounds is that the whole problem is misconceived if we ask which of the two elements is elided, the first or the second. For this is to regard the compound as a static model which the child perceives before him, whereas the fact of the matter is rather this: here is a pattern of vocal behaviour which the child undertakes, and the elements of which *he may be capable of producing separately*, but which he finds it difficult to produce in combination.

Thus, if we analyse the records of the three children here studied, we find that of a total of 266 compounds undergoing elision, 237 (or 89 per cent.) occur after the child has shown himself capable of voluntarily making both consonants separately.

We notice further that the compounds may be divided into two groups:

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| I | Front and middle or
Back and middle | e.g. <i>pl, sp, bl, br, sn,</i>
<i>kl, sk, kj, gl.</i> |
| II | Any consonant and
<i>w, v</i> or <i>ʃ</i> | e.g. <i>pw, bw, sw, fʃ,</i>
<i>dw, pʃ.</i> |

Of the 266 compounds before us no fewer than 245 (92 per cent.) belong to either of these two groups (Table I).

A simple generalization may now be made for elision in each of the two groups:

- (i) Where we have a front or back consonant together with a middle consonant, the middle is elided; e.g. *ape* for *asperge*, *bust* for *Brust*, *kəuz* for *close*.
- (ii) Where we have a consonant together with *w, v* or *ʃ*, the child produces some front consonant; e.g. *mano* for *moineau*, *fatz* for *Schwanz*, *fi:t* for *sweet*.