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A review of the literature pertaining to the psychology of language to determine principles that would affect the teaching of language

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A REVIEW OF THE LITERATURE PERTAINING TO THE PSYCHOLOGY OF LANGUAGE TO DETERMINE PRINCIPLES THAT WOULD AFFECT THE TEACHING OF LANGUAGE

Submitted by

Esther York

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FIRST READER Frederick Callahan

Frederick Callahan
Assistant Professor of Education

SECOND READER _____

B. Alice Crossley
Professor of Education

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CHAPTER I

INTRODUCTION

The purpose of these pages will be to examine the literature, a study of which will make it possible to determine principles to be applied in the teaching of a language to those foreign to it. As a means to discovering these principles it is proposed that an investigation be conducted on the general subject of language. This investigation will be carried on through consideration of five questions:

1. What is the origin of language?
2. Is language necessary to thought?
3. Is intelligence dependent upon language ability?
4. Does imitation in language function as an instinct or as a conditioned reflex?
5. Is language an art or a science?

The answers to these questions will be discovered by considering the judgments presented in the writings of men who have spent a large part of their lives in studying this very subject. First there will be considered the views and opinions of pioneers in the field, men who wrote in the early years of the present century of even earlier. Here will be found such names as Whitney, Muller, Palmer, Gouin, Jespersen and Sapir. Following this the contributions of contemporary

writers will be considered. Among these will be found such names as Dimnet, Langer, Whorf, Laird and Pei. Based on the total accumulation of material conclusions will be drawn which will indicate the principles to be enunciated.

Reduced to practical terms it is to be hoped that the principles to be discovered will answer among others such questions as the following:

1. When should foreign language instruction begin?

2. Should instruction be by the direct method or by some modified form thereof?

3. Should the teacher be native to the language being taught or should he be of the same nationality and background as his students?

4. To what extent should studial capacities be exploited in foreign language teaching?

5. Should aural presentation of subject matter precede visual or vice versa?

It is with a view to discovering how much they will contribute to answering these and other questions that this study proposes to consider the various volumes making up the literature on the general subject of language. There may be disappointments and surprises but it is confidently hoped that the results will be positive, helpful and eminently profitable.

CHAPTER II

ORIGIN OF LANGUAGE

As we approach the study of the psychology of language, there are a number of philosophical and psychological considerations that challenge attention. Not the least of these are the following:

(1) What is the origin of language?

(2) Is language necessary to thought?

(3) Is intelligence dependent upon language ability?

(4) Does imitation in language function as an instinct or as a conditioned reflex?

(5) Is language an art or a science?

The first of these problems has been the subject of much thought by a number of writers, notably Muller, Whitney, and Jespersen. In order, however, to understand what these three have contributed to the field of language, it is necessary to consider the theories which preceded their study and stimulated them to undertake their own research. First, there is the onomatopoetic theory to which Muller jocularly attached the title of the "bow-wow theory." This theory states in substance that speech originated as primitive man, in order to represent other forms of existence to his fellows, referred to these other forms of existence

by imitating them with his vocal apparatus. As a result a dog was a bow-wow; a cow, a moo; the sheep, a baa; the rooster, a cock; a cuckoo, a cuckoo; a whip-poor-will, a whip-poor-will. Similarly the wind whistled, the pines sighed, water splashed, ice cracked, falling trees crashed. From these root sounds, numerous other words were formed and thus language developed. Muller objects strenuously to this theory.[1/]

> Though there are names in every language formed by mere imitation of sound, yet these constitute a very small proportion of our dictionary. They are the playthings, not the roots, of language, and any attempt to reduce the most common and necessary words to imitative root ends in complete failure. Herder himself, after having most strenuously defended this theory of Onomatopoeia, as it is called, and having offered for the best essay on the origin of language, renounced it openly toward the latter years of his life, and threw himself in despair into the arms of those who looked upon language as miraculously revealed. We cannot deny the possibility that a language might have been formed on the principle of imitation; all we say is that as yet no language has been discovered that was so formed. An Englishman in China, seeing a dish placed before him about which he felt suspicious, and wishing to know whether it was a duck, said, with an interrogative accent,
>
> Quack, quack?
>
> He received the clear and straightforward answer,
>
> Bow-wow!

1/ Max Muller, Lectures on the Science of Language, Chas. Scribner & Sons, New York, New York, 1862, p. 343 ff.

"This, no doubt, was as good as the most eloquent conversation on the same subject between an Englishman and a French waiter. But I doubt whether it deserves the name of language.

"Thus the word cat, the German katse, is supposed to be an imitation of the sound made by a cat spitting. But if the spitting were expressed by the sibilant, that sibilant does not exist in the Latin catus, nor in cat, or kitten nor in the German kater. The Sanskrit marjara, cat, might seem to imitate the purring of the cat; but it is derived from the root mrij, to clean, marjara meaning the animal that always cleans itself.

"Many more instances might be given to show how easily we are deceived by the constant connection of certain sounds and certain meanings in the words of our own language, and how readily we imagine that there is something in the sound to tell us the meaning of the words. 'The sound must seem an echo to the sense.'

"Most of these Onomatopoeias vanish as soon as we trace our own names back to Anglo-Saxon and Gothic, or compare them with their cognates in Greek, Latin, or Sanskrit. The number of names which are really formed by an imitation of sound dwindle down to a very small quotum if cross-examined by the comparative philologist, and we are left in the end with the conviction that though a language might have been made out of the roaring, fizzing, hissing, gobbling, twittering, cracking, banging, slamming, and rattling sounds of nature, the tongues with which we are acquainted point to a different origin."

Whitney[1/] on the other hand, supports the onomatopoetic theory as may be seen in the following:

Onomatopoeia is raised to the rank of a vera causa, attested by familiar fact; and nothing that is not so attested - for example,

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1/ William Dwight Whitney, The Life and Growth of Language, Appleton, New York, New York, 1875, pp. 278 ff.

the assumed immediate intellectual significance of articulate combinations - has the right to stand as a causa at all; but it rests also in part, and in the main part, on the necessities of the case, as inferred from the whole traceable history of speech and its relation to thought, its use and its value. Here is just the other support which it needs: no account of the origin of language is scientific which does not join directly on to the later history of language without a break, being of one piece with that history.

"But, in the second place, it may at first seem to some that there is a break in the history; for why do we not still go on to make words abundantly by onomatopoeia? A moment's thought will show the baselessness of this objection. The office of onomatopoeia was the provision, by the easiest attainable method, of the means of mutual intelligence; in proportion, then, as it became easier to make the same provision by another method, the differentiation and new application of signs already existing, the primitive method went into comparative disuse - as it has ever since continued, though never absolutely unused.

"Bow-wow is a type, a normal example, of the whole genus 'root.' It is a sign, a hint, that calls before the properly prepared mind a certain conception, or set of related conceptions: the animal itself, the act, the time and other circumstances of hearing it, and what followed. It does not mean any one of these things exclusively; it comprehends them all. It is not a verb, for that adds the idea of predication: nor is it a name: it may be put to use in either of these two sense. What it comes nearest in itself to meaning is 'the action of barking' -- just that form of abstraction into which we now most naturally and properly cast the sense of a 'root.'

"Men began, not with parts of speech which they afterward learned to piece together into sentences, but with comprehensive utterances in which the parts of sppech lay as yet undeveloped, sentences in the germ; a single word signifying a whole statement, as even yet sometimes with us: only then from poverty, as now from economy."

Sapir[1] objects to this theory and says:

"Such words as 'whippoorwill,' 'to mew,' 'to caw' are in no sense natural sounds that man has instinctively or automatically reproduced. They are just as truly creations of the human mind, flights of the human fancy, as any thing else in language. They do not directly grow out of nature, they are suggested by it and play with it. Hence the onomatopoetic theory of the origin of speech, the theory that would explain all speech as a gradual evolution from sounds of an imitative character, really brings us no nearer to the instinctive level that is language as we know it today. As to the theory itself, it is scarcely more credible than its interjectional counterpart. It is true that a number of words which we do not now feel to have a sound-imitative value can be shown to have once had a phonetic form that strongly suggests their origin as imitations of natural sounds. Such is the English word 'to laugh.' For all that, it is quite impossible to show, nor does it seem intrinsically reasonable to suppose, that more than a negligible proportion of the elements of speech or anything at all of its formal apparatus is derivable from an onomatopoetic source. However much we may be disposed on general principles to assign a fundamental importance in the languages of primitive peoples to the imitation of natural sounds, the actual fact of the matter is that these languages show no particular preference for imitative words. Among the most primitive peoples of the aboriginal America, the Athabaskan tribes of the Mackenzie River speak languages in which such words seem to be nearly or entirely absent, while they are used freely enough in languages as sophisticated as English and German. Such an instance shows how little the essential nature of speech is concerned with the mere imitation of things . . . . Language is a purely human and non-instinctive method of communicating ideas, emotions, and desires by means of a system of voluntarily produced symbols.

1/ Edward Sapir, Language, Harcourt Brace, New York, New York, 1921, pp. 5-7.

A second theory as to the origin of language is the interjectional theory, nicknamed the pooh-pooh theory, according to which language is derived from instinctive ejaculations called forth by pain or other intense sensations or feelings. The adherents of this theory generally take these instinctive ejaculations for granted, without asking about the way in which they have come into existence. Darwin[1/] however, in The Expression of the Emotions, gives purely physiological reasons for some interjections, as when the feeling of contempt or disgust is accompanied by a tendency "to blow out of the mouth or nostrils, and this produces sounds like pooh or pish." According to this theory, again, when anyone is startled or suddenly astonished, there is an instantaneous tendency, likewise from an intelligible cause, namely, to be ready for prolonged exertion, to open the mouth widely, so as to draw a deep and rapid inspiration. When the next full expiration follows, the mouth is slightly closed, and the lips from causes hereafter to be discussed, are somewhat protruded; and this form of the mouth, if the voice be at all exerted, produced -- the sound of the vowel o. Certainly a deep sound of a prolonged oh! may be heard from a whole crowd of people immediately after witnessing any astonishing spectacle. If, together with surprise, pain be felt, there is a tendency to contract all the muscles of the body, including those of the face, and the lips will

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1/ Charles Darwin, Expression of the Emotions, Appleton and Company, New York, New York, 1873.

then be drawn back; and this will perhaps account for the sound becoming higher and assuming the character of Ah! or Ach!

Of this theory, Muller[1/] states:

> "And so we find many philosophers, and among them Condillac, protesting against a theory which would place man even below the animal. Why should man be supposed, they say, to have taken a lesson from birds and beasts? Does he not utter cries, and sobs, and shouts himself, according as he is affected by fear, pain, or joy? These cries or interjections were represented as the natural and real beginnings of human speech. Everything else was supposed to have been elaborated after their model. This is what I call the Interjectional, or Pooh-pooh, Theory.
>
> "Our answer to this theory is the same as to the former. There are no doubt in every language interjections, and some of them may become traditional, and enter into the composition of words. But these interjections are only the outskirts of real language. Language begins where interjections end.
>
> "As to the attempts at deriving some of our words etymologically from mere interjections, they are apt to fail from the same kind of misconception which leads us to imagine that there is something expressive in the sounds of words. Thus it is said "that the idea of disgust takes its rise in the sense of smell and taste, in the first instance probably in smell alone; that in defending ourselves from a bad smell we are instinctively impelled to screw up the nose, and to expire strongly through the compressed and protruded lips, giving rise to a sound represented by the interjections faugh! foh! fie! From this interjection it is proposed to derive not only such words as foul and filth, but, by transferring it from natural to moral aversion, the English fiend, the German Feind.'

1/ Muller, op. cit., pp. 366-369.

> If this were true, we should suppose that the expression of contempt was chiefly conveyed by the aspirate f, by the strong emission of the breathing with half-opened lips. But fiend is a participle from a root fian, to hate; in Gothic fijan; and as a Gothic aspirate always corresponds to a tenuis in Sanskrit, the same root in Sanskrit would at once lose its expressive power. It exists in fact in Sanskrit as pity, to hate, to destroy; just as friend is derived from a root which in Sanskrit is pri, to delight."

Whitney[1/] gives no consideration to this theory at all. He does say, supplementary to his advancement of the bow-wow theory:

> "The human capacity to which the production of language is most directly due is, as has been seen, the power of intelligently, and not be blind instinct alone, adapting means to ends. This is by no means a unitary capacity; on the contrary, it does not belong to the linguistic student to unravel and explain, any more than to the student of the history of civilization in its other departments; it falls, rather, to the student of the human mind and its powers, to the psychologist. So also with all the mental capacities involved in language, the psychic forces which underlie that practical faculty, and which, being by it brought to conscious action, are drawn out and trained and developed. The psychologist has a work of highest interest and importance to do in analyzing and exhibiting this ultimate groundwork, on which have grown up the great institutions that make man what he is: language, society, the arts of life, machinery, art, and so on; and in tracing the history of education of the human powers in connection with them; and his aid and criticism must be everywhere of great value to their student. And this is most of all the case with regard to language; for language is in an especial manner the incorporation and revelation of the acts of the soul. Out of this relation has grown the error of those who look upon linguistic science as a branch of

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1/ Whitney, op. cit., pp. 275 ff.

psychology, would force it into a psychologic mould and conduct it by psychologic methods: an error which is so refuted by the whole view we have taken of language and its history, that we do not need to spend any more words upon it here. Language is merely that product and instrumentality of the inner powers which exhibits them most directly and most fully in their various modes of action; by which, so far as the case admits, our inner consciousness is externalized, turned up to the light for ourselves and others to see and study.

Sapir[1] declares in this connection:

"Interjections are among the least important of speech elements. Their discussion is valuable mainly because it can be shown that even they, avowedly the nearest of all language sounds to instinctive utterance, are only superficially of an instinctive nature. There is no tangible evidence, historical or otherwise, tending to show that the mass of speech elements and speech processes has evolved out of the interjections. These are a very small and functionally insignificant proportion of the vocabulary of language; at no time and in no linguistic province that we have record of do we see a noticeable tendency towards their elaboration into the primary warp and woof of language. They are never more, at best, than a decorative, edging to the ample, complex fabric."

Jespersen discusses this theory as follows[2]:

"The adherents of this theory generally take these interjections for granted, without asking about the way in which they have come into existence. Darwin, however, in The Expression of the Emotions, gives purely physiological reasons for some interjections, as when the feeling of contempt or disgust is accompanied by a tendency 'to blow out of the mouth or nostrils, and this produces sounds like pooh or pish.' Again, 'when anyone is startled or suddenly astonished, there is an instantaneous tendency, likewise from an intelligible cause; namely, to be ready for prolonged exertion, to open the

1/ Sapir, op. cit.
2/ Otto Jespersen, Language, New York, New York, 1925, pp.26-29.

> mouth widely, so as to draw a deep and rapid inspiration. When the next full expiration follows, the mouth is slightly closed, and the lips from causes hereafter to be discussed, are somewhat protruded; and this form of the mouth, if the voice be at all exerted, produced . . . the sound of the vowel o. Certainly a deep sound of a prolonged Oh! may be heard from a whole crowd of people immediately after witnessing any astonishing spectacle. If, together with surprise, pain be felt, there is a tendency to contract all the muscles of the body, including those of the face, and the lips will then be drawn back; and this will perhaps account for the sound becoming higher and assuming the character of Ah! or Ach!
>
> To the ordinary interjectional theory it may be objected that the usual interjections are abrupt expressions for sudden sensations and emotions; they are therefore isolated in relation to the speech material used in the rest of the language. 'Between interjection and word there is a chasm wide enough to allow us to say that the interjection is the negation of language, for interjections are employed only when one either cannot or will not speak.' (Benfey Oesch 295). This 'chasm' is also shown phonetically by sounds which are not used in language proper, voiceless vowels, inspiratory sounds, clicks, etc., whence the impossibility properly to represent them by means of our ordinary alphabet: the spellings pooh, pish, whew, tut are very poor renderings indeed of the natural sounds. On the other hand, many interjections are now more or less conventionalized and are learnt like any other words, consequently with a different form in different languages: in pain a German and a Seelander will exclaim au, a Jutlander aus, a Frenchman ahi and an Englishman oh, or perhaps ow. Kipling writes in one of his stories: 'That man is no Afghan, for they weep "Ai! Ai!" Nor is he of Hindustan, for they weep "Oh! Ho!" He weeps after the fashion of the white men, who say, "Ow! Ow!"'

In addition, it should not be forgotten that interjections sometimes develop from other words rather than vice versa, for example consider such Americanisms as attaboy, Bravo, hot dog, hurrah, you-tell-em or the French parbleu.

Muller offers a further objection to the onomatopoetic and interjectional theories and having offered it, advances his own theory, his phonetic or as others have called it, the ding-dong theory. He declares[1]:

> "There is one more remark which I have to make about the Interjectional and the Onomatopoetic theories, namely this: If the constituent elements of human speech were either mere cries, or the mimicking of the cries of nature, it would be difficult to understand why brutes should be without language. There is not only the parrot, but the mocking-bird and others, which can imitate most successfully both articulate and inarticulate sounds; and there is hardly an animal without the faculty of uttering interjections, such as huff, hiss, baa, etc. It is clear also that if what puts a perfect distinction betwixt man and brutes is the having of general ideas, language which arises from interjections and from the imitation of the cries of animals could not claim to be the outward sign of that distinctive faculty of man. All words, in the beginning at least (and this is the only point which interests us), would have been the signs of individual impressions and individual perceptions, and would only gradually have been adapted to the expression of general ideas.
>
> "Language and thought are inseparable. Words without thought are dead sounds; thoughts without words are nothing. To think is to speak low; to speak is to think aloud. The word is the thought incarnate.
>
> "How can sound express thought? How did roots become the signs of general ideas? How was the abstract idea of measuring expressed by ma, the idea of thinking by man? How did ga come to mean going, stha standing, sad sitting, da giving, mar dying, char walking, kar doing?

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[1]/ Muller, op. cit., pp. 369-385.

"I shall try to answer as briefly as possible. The 400 or 500 **roots** which remain as the constituent elements in different families of language are not interjections, nor are them imitations. They are phonetic types produced by a power inherent in human nature. They exist, as Plato would say, by nature; though with Plato we should add that, when we say by nature, we mean by the hand of God. There is a law which runs through nearly the whole of nature, that everything which is struck rings. Each substance has its peculiar ring. We can tell the more or less perfect structure of metals by their vibrations, by the answer which they give. Gold rings differently from tin, woods ring differently from stone; and different sounds are produced according to the nature of each percussion. It was the same with man, the mostly highly organized of nature's works. Man, in his primitive and perfect state, was not only endowed, like the brute, with the power of expressing his sensations by interjections, and his perceptions by onomatopoeia. He possessed likewise the faculty of giving more articulate expression to the rational conceptions of his mind. That faculty was not of his own making. It was an instinct, an instinct of the mind as irresistible as any other instinct. So far as language is the production of that instinct, it belongs to the realm of nature. Man loses his instincts as he ceases to want them. His senses become fainter when, as in the case of scent, they become useless. Thus the creative faculty which gave to each conception, as it thrilled for the first time through the brain, a phonetic expression, became extinct when its object was fulfilled. The number of these phonetic types must have been almost infinite in the beginning, and it was only through the same process of natural elimination which we observed in the early history of words, that clusters of roots, more or less synonymous, were gradually reduced to one definite type. Instead of deriving language from nine roots, like Dr. Murray, or from one root, a feat actually accomplished by a Dr. Schmidt, we must suppose that the first settlement of the radical elements of language was preceded by a period of unrestrained growth, - the spring of speech -- to be followed by many an autumn."

This theory so elaborately phrased and expounded Muller afterwards abandoned, "wisely," Jespersen declares, and if it is to be supported as the exclusive explanation of the origin of language, one readily seconds Jespersen's judgment.

A fourth theory has been suggested, namely, Noire's theory of respiration modified by muscular effort, or more conveniently the yo-he-ho theory, which he explained by calling attention to the fact that under any strong muscular effort it is a relief to the system to let breath come out strongly and repeatedly, and by that process to let the vocal cords vibrate in different ways; when primitive acts were performed in common, they would therefore, naturally be accompanied with some sounds which would come to be associated with the idea of the act performed and stand as a name for it; the first words would accordingly mean something like "heave" or "haul."

A fifth theory is suggested by Watson's Psychology from the Standpoint of a Behaviorist. This may be called the theory of accident. It does not attempt to displace any of these other theories but rather to supplement them.

One is told that the small child learns to speak a foreign language much more easily than his parents because all the sounds of that foreign language are still in his vocal repertoire.

They have not yet been discarded as a result of their being of no use to him in his own language nor have they

become atrophied as a result of his giving greater practice to the sounds which he must employ in his own language. He has made such sounds merely for the fun of the thing as he might try any other physical stunt which it might come into his head to try. Some sounds he has repeated because of their difficulty and his consequent pleasure in the accomplishment of something difficult. Without wishing to appear to support a recapitulation theory of instinct, one nevertheless ventures the suggestion that primitive man may have done this very thing and that occasionally a given sound may have been uttered simultaneously with the experiencing of an experience, the intensity of emotion accompanying which cause sound and experience to be inseparably and everlastingly linked together.

Watson[1/] declares, concerning the early language habits of children:

> "Vocal acts or habits, however numerous they may be, do not become language habits until they become associated with arm, hand and leg activities and substitutable for them. This probably accounts in a better way than any hypothetical change in brain structure for the relatively late putting on of language habits. As long as the child remains in its crib or in the arms of its mother, or has the whole household to wait upon it and anticipate its needs, there is no necessity for it to develop language. If we examine the bodily habits of any child just prior to the beginning of true language habits, we find that it can respond appropriately to hundreds of objects and situations, for example, to its doll, bottle, blocks, rattle and many other things. Its environment is becoming complex. Abbreviated and short-circuited actions become a necessity if it is to hold its own in that environment and make progress.

1/ J. B. Watson, Psychology from the Standpoint of a Behaviorist, Lippincott Co., Philadelphia & London, 1929, pp.340-341.

> "Let us give a partially hypothetical illustration of the way true language habits grow up. We will suppose that for some reason or other a child's toys are laid away and covered up. What does he do in such a situation? Essentially what the animal does when it is hungry. The child begins general restless movements among which are movements of the language structures as shown by its making "aimless" vocal sounds. His throat formation at that stage of growth is of such a character that a particular sound is uttered frequently (let us say "tata" for illustrative purposes). He begins to utter this sound as he roams about. The attendant, knowing the child's range of toys and the frequency with which he plays with a certain one, predicts that an old rag doll is sought. She finds it, hands it to him and says, 'Here's your tata.' Repeat this process long enough and 'tata' will always be used for rag doll and will always be spoken whenever the doll is sought. This process is, of course, repeated again and again in the course of a day. The word gets tied up with the act of seeking the doll. In this way baby words grow up as the first genuine form of true language organizations."

It does not seem unreasonable to suppose that a part of our language originated in this way. Primitive man in his dealings with his companions lacking a sound with which to express his conception of a desired thing used some sound other than those already applied to other items in his experience. His companions guessed at the object of his desire whenever he made that sound until at last the sound came permanently to be associated with that object.

A further clue as to the origin of language at least so far as vocabulary is concerned, is suggested by Whitney[1/] in his declaration that:

> "The human capacity to which the production of language is most directly due is, as has been seen, the power of intelligently, and not by blind instinct alone, adapting means to ends."

1/ William Dwight Whitney, Life and Growth of Language, Appleton and Company, New York, New York, 1875.

If one is to suppose that man's humanity as distinguished from his brutality lies in his possession of reason, in his being not merely a machine but also a machinist, it is quite absurd not to conceive of his using his intelligence consciously in the development of his method of communicating with his fellows, and not merely of his having used it sooner or later but from the very beginning of his linguistic experience.

But where does this all lead? Is one not in the same case with him who

> " . . . . heard great argument
> About it and about, but evermore
> Came out by the same door wherein I
> went."

Not necessarily. To be sure, no one of the theories alone adequately explains the origin of human speech; but may it not be true that in combination they may have accomplished this result. For example, there are still many onomatopoetic words in the language seems to justify the claim of the bow-wow theory to a share in the process. Similarly the pooh-pooh, the ding-dong and the yo-he-ho, theories may give a little light. The theories of accident and of invention also make their contributions. All of these working together and the last slowly but surely working towards the minimizing, if not the complete elimination of the others, resulted in the coming into being and the development of human speech.

It is difficult to verify one's theories. Jespersen suggests an inductive method of reaching some conclusion as to the origin of language. He proposes to investigate (1) the language of children, (2) the language of primitive tribes and (3) the history of language so far as we have means of tracing it. He announces as the result of his study that primitive language must be imagined as consisting chiefly at least of very long words, full of difficult sounds, and sung rather than spoken.

Much as one would be tempted to linger over this interesting question as to the origin of language, one will better consider even though briefly the practical application of his findings to the problem of teaching a given language, say English, to those foreign to it. In view of the fact that each theory as to the origin of language may have some element of truth, the obvious principle to be derived is the principle of multiple line of approach. The special function of this principle is to weld the others into a consistent whole, to harmonize any contradictions and to answer many of those perplexing questions which have engaged the attention of students of the theory and practice of language teaching for a number of years.

A few of these questions are suggested herewith: "How is habit-forming consistent with interest? How can we combine a study of phonetics with a study of orthography? How can the development of our spontaneous capacities with that

of our studial capacities be combined? How can the principle of accuracy be observed and yet combined with other principles which are seemingly in conflict with it - such as the inhibition of the powers of analysis and synthesis? How can a keen appreciation of the classical or literary style of composition be fostered, and yet concentrate on the simple and the colloquial? The principles of gradation and of order of progression seem to reveal inconsistencies when they are compared with each other; there is more than a seeming inconsistency between the process of unconscious assimilation and the principle of concreteness. Translation is destructive, or is often considered so, of the power of 'thinking in the foreign language,' and yet it is suggested that the student should do translation work and at the same time train himself to think in the foreign language . . . . In reality is proficiency in the use of language acquired by the processes of reading and listening?

"Without the principle of the multiple line of approach there are only two ways of settling these and all similar questions. One is to adopt one alternative, rejecting the second; the other is to effect a working compromise between the two. Ought one to read intensively or extensively? "Read intensively," says one. "No, read extensively," says another; and the compromiser comes along and says, "Read neither very intensively nor very extensively." Shall one translate or shall we banish translation? "Translate by

all means," says one. "Banish translation," says another; and the compromiser says, "Translate a little occasionally, but do not be over-nice or particular." Drillwork or free work? The compromiser suggests something between the two, mechanical enough to destroy naturalness, and free enough to encourage accuracy. Shall one memorize sentences, or shall one construct them? The compromiser suggests that one should aid memory by doses of mental synthesis, in fact just enough to prevent the laws of memorizing from operating.

The principle of the multiple line of approach suggests a third and better procedure. Instead of accepting the one and rejecting the other, instead of adopting the middle course which frequently militates against the success of either extreme, this principle says, "Adopt them both concurrently, but not in one and the same operation. At times read intensively; at others read extensively. At appropriate moments, and for specific purposes, make the fullest use of all sorts of translation work; at other moments, and for other specific purposes, banish translation entirely. At times more especially during the early stages, let there be an abundance of all drill-work; later, but not before the student is perfectly ripe for it, let us introduce free work; and then let the two types alternate. At certain moments, more especially during the early stages, let the memorizing of sentences be carried out on a most extensive scale; at other moments, as a distinctly separate operation,

let us cause the student to perform exercises in constructing correct sentences himself."

This principle suggests the inadvisability of trying to kill too many birds with one stone. It not only does that, it goes farther and adds: "Find the right stone to kill the right bird," and "It is often advisable to kill one bird with more than one stone." There are many different ways of teaching a difficult point in grammar, a curious form of construction, or of causing the student to discriminate between two things which ought not to be confused. In these and in all similar cases, there is no reason why several methods should not be used concurrently; they need not be strictly co-ordinated. The cumulative effect of approaching the difficulty from different and independent angles will certainly secure the desired result. Superficial and rapid work on most points plus intensive and thorough work on certain essential specific points will generally ensure a well-assimilated whole. Either of these methods will tend to correct any disadvantages attached to the other and will be complementary to the other. The high degree of accuracy which results from intensive work will tend to spread by contagion to that portion of the work which must necessarily be done in a more summary fashion.

The principle, while it underlies all other, leaves the door open for new devices, new methods, and improvements on the old ones. It leaves us free to welcome and to adopt

all sorts of innovations, provided such innovations are likely to prove of value.

Here is one example of what may happen when we do not sufficiently realize the importance or the scope of the ninth principle.

The teacher of English may consider that a certain amount of theory is useful and helpful; he may consider it necessary to explain all manner of things to students - how certain sounds are formed, how certain verbs are conjugated, why certain constructions must be used; he may consider it his duty to give information on hundreds of doubtful or difficult points. And he is often perfectly justified in doing so; explanations of the right sort and given at the right moment are indeed valuable.

This same teacher considers also that many opportunities should be given of hearing English spoken, in order to train his student's powers of observation and of semantic association. This also is good and reasonable; passive audition, unconscious or semi-conscious assimilation, immediate understanding and expression, are processes the value of which we have always insisted upon.

But this teacher, too anxious to kill two birds with one stone, combines the two forms of work: he says, "I have a number of difficult things to explain, and I will explain them in English; the student will therefore have a double gain.' The student, however, unless already very

considerably advanced, is not a gainer but a loser; he fails to understand the explanation, and in his efforts to do so he fails to adopt the proper receptive attitude towards the actual language material.

Of course the question arises: How is the teacher who knows nothing of the student's native language to make any explanation except in English. The following answer is offered: (1) Teach as much as possible by example rather than by precept. (2) Postpone as long as possible those things that are difficult of explanation; i.e. avoid the presentation of material requiring the use of the studial capacities until the students have acquired a sufficient vocabulary to understand the explanation in simple oral English. (3) Let the instruction involving such explanations, if they must be given, come after one or two years of previous instruction given by a man native to pupil's mother tongue, or let there be such a man to act as assistant to the regular teacher and to come on perhaps one day a week to clear up difficulties that may have arisen.

One should however resort to such a procedure as rarely as possible and should aim further to minimize the amount of instruction about English given otherwise than in English. For after all, the aim is to bring the student as early as possible to the point where he can get all his instruction through the medium of the English language. It is only as they offer a maximum contribution to the attainment of this

ultimate goal that any modifications of the direct method can be justified.

A second principle which recommends itself as a result of the study of origins is the principle of ear before eye. This implies, primarily, oral instruction without written or printed texts during the initial stages. This is a principle almost universally violated. To what extent such violation is justified may be a subject for argument. Palmer declares,[1]

> "We must set out to sharpen our powers of receiving and retaining knowledge communicated to us orally. This may be difficult; we have become so accustomed to acquiring information from the written word via the eyes that we feel very bewildered and incapable when deprived of this medium. We hear a foreign word or sentence, and this auditory impression is such a rapid and transitory one that we feel that we cannot possibly retain it in our memory; we feel that we require at least one good look at the word so that we may hereafter reproduce in our imagination the written form. But we must resist this tendency; we must discipline ourselves to forego this artificial aid to memory, for ear-memory cannot be cultivated while we are visualizing. If we truly desire to tap the natural language-learning energies we must obey nature; we must train and drill our ears to do the work for which they were intended. If we make up our minds to train our ears to be efficient instruments we can do so; a little patience, a little practice, and we shall surely regain the power that we have allowed to elapse."

Theoretically one must agree with him. The practical question which to some people may seem to be involved is

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[1] H. E. Palmer, Principles of Language Study, World Book Co., Yonkers-on-Hudson, New York, 1921, p. 182.

whether, in the short time at our disposal, one can make enough progress with the student by this method to assure him of a sufficient understanding of and familiarity with this language to carry on his study in other subjects than English as such. Can the processes of nature be short-cut in the case of the individual, ten or twelve years of whose life is already passed into the ages? And, furthermore, is there not justification in so doing?

The adoption of Professor Palmer's suggestion would require at least one important readjustment in the daily schedule of the school day, viz.: instead of requiring half or three quarters of an hour spent in the classroom in the English Conversation lesson and another half hour or more spent outside in study of his textbook daily, one should, using no textbook, require twice as many classroom periods of English conversation, which, though it might not be such a bad plan, nevertheless might involve serious administrative problems.

It may be suggested that there should be a great deal of experimentation here. It does seem extremely desirable that one should give at least a half year's work to instruction without any text whatever in the student's hands. Granted that the problems of organization and administration are considerable, time spent on their solution should pay off in the English classes.

CHAPTER III

LANGUAGE AND THOUGHT PROCESSES

Turning now to the second question: "Is language necessary to thought?", one once more finds a divergence of opinion. Concerning the relationship of language to thinking, Whitney declares[1]:

> "Out of the same close relation grows another and a far grosser error, that of actually identifying speech with thought and reason. This, too, we may take as sufficiently refuted by our whole argument; nothing but the most imperfect comprehension of language can account for a blunder so radical. The word reason, to be sure, is used so loosely, in such a variety of senses, that unclear thinker and illogical arguer can comparatively easily become confused by it; but no one who attempts to enlighten his fellow-men on this class of subjects is excusable for such inability to grasp their most fundamental principles. Language is, upon the whole, the most conspicuous of the manifestations of man's higher endowments, and the one of widest and deepest influence on every other; and the superiority of man's endowments is vaguely known as reason -- and that is the whole ground of the assertion of identity. There are many faculties which go to the production of speech; and they have other modes of manifestation besides speech. And we have only to take the most normally endowed human being and cut off artificially the avenue of a single class of sensuous impressions, those of hearing, and he will never have any speech. If speech, then, is reason, reason will have to be defined as a function of the auditory nerve."

Of course, Whitney is using the word speech very loosely in this section. Language is more than merely uttered

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1/ Whitney, op. cit., p. 280.

speech. The deaf and dumb person can be taught to read and write and even to perform the motions of speech. On the other hand, it is senseless to suppose that a deaf and dumb child not so taught, is incapable of thinking or even of a certain degree of reason. Yet it may also be noted that those not so taught are incapable of the higher thought activities.

Concerning this same point, Sapir[1/] declares:

> "In the first place, it is well to observe that whether or not thought necessitates symbolism, that is speech, the flow of language itself is not always indicative of thought.
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> "The writer, for one, is strongly of the opinion that the feeling entertained by so many that they can think or even reason, without language is an illusion. The illusion seems to be due to a number of factors: (1) the failure to distinguish between imagery and thought. As a matter of fact, no sooner do we try to put an image into conscious relation with another than we find ourselves slipping into a silent flow of words. Thought may be a natural domain apart from the artificial one of speech, but speech would seem to be the only road we know of that leads to it. A still more fruitful source of the illusive feeling that language may be dispensed with in thought is (2) the common failure to realize that language is not identical with its auditory symbolism . . . . The modern psychology has shown us how powerfully symbolism is at work in the unconscious mind. It is therefore easier to understand at the present time than it would have been twenty years ago that the most rarefied thought may be but the conscious counterpart of an unconscious linguistic symbolism.
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> "We must not imagine that a highly developed system of speech symbols worked itself out before

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1/ Sapir, op. cit., p. 17.

the genesis of distinct concepts and of thinking, the handling of concepts. We must rather imagine that thought processes set in, as a kind of psychic overflow, almost at the beginning of linguistic expression; further, that the concept, once defined, necessarily reacted on the life of its linguistic symbol, encouraging further linguistic growth . . . . The birth of a new concept is invariably foreshadowed by a more or less strained or extended use of old linguistic material; the concept does not attain to individual and independent life until it has found a distinctive linguistic material already in existence in ways mapped out by crushingly despotic precedents. As soon as the word is at hand, we instinctively feel, with something of a sigh of relief, that the concept is ours for the handling. Not until we own the symbol do we feel that we hold a key to the immediate knowledge or understanding of the concept. Would we be so ready to die for liberty, "to struggle for ideals," if the words themselves were not ringing within us? And the word, as we know, is not only a key; it may also be a fetter."

Harry E. Palmer[1/] declares:

"A child of two or three years of age can use the spoken language appropriate to his age, but what does that child know of reasoning? And what is its standard of intelligence? Not enough to cause it to realize or understand that two and two make four. And yet that child observes with a marvellous degree of accuracy most of the complicated laws governing his mother-tongue. And the savage. By definition he is unintelligent, he has never learnt to think logically, he has no power of abstraction, he is probably unaware that such a thing as language exists; but he will faithfully observe to the finest details the complexities (phonetic, grammatical, and semantic) of his 'savage' language. He will use the right vowel or tone in the right place; he will not confuse any of the dozen or so genders with which his language is endowed; a 'savage' language (with an accidence so rich that Latin is by comparison a language of simple structure) will to him be an instrument on which he plays

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1/Palmer, op. cit., p. 37.

> in the manner of an artist, a master: and we are speaking of so low an order that for him that which is not concrete has no existence!"

Of course, all that this tells us is that there can be language without thought, it does not state whether there can be thought without language.

Ernest Dimnet[1/] in his Art of Thinking declares that one does not think in the languages but in images. He says:

> "All we can say is: (1) That most of our mental operations are inseparable from images, or are produced by images. We do not differ in this from the dear animals near us. (If anybody does not realize that a dog's brain registers an encyclopedia of images, sounds and odors as large as a dictionary and far better remembered, the dog's behavior will be entirely unintelligible). (2) That those images closely correspond to wishes or repulsions, to things we want or do not want, so that this wanting or not wanting seems to be the ultimate motive power in our psychology, probably in connection with elementary conditions in our being. (3) That inevitably, people will reveal in their thoughts and speeches, in their outlook on life and in their lives themselves, the quality of the images filling their minds. Investigation and estimation of these images, together with investigation and estimation of our likes and dislikes, will tell us what we are worth morally more accurately than even our actions, for they are the roots of action.
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> "We are confronted with images, images, and more images. Abstractions, being the product of images, inevitably recall them. It is difficult to think of history without visualizing great men or some great period, and I doubt if we can mention science without remembering famous experiments. Few words, surely, are as spiritual as the word Truth, but when we hear it mentioned, we associate it either with some instance of

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1/ E. Dimnet, The Art of Thinking, Simon and Schuster, New York, New York, 1929, pp. 10-13.

> devotion to truth, or with some particular search which makes us realize the beauty of truth, and once more, definite contingencies reappear. Needless to point out how closely associated with figures even geometry is. As for logic, it means nothing if it is not pronouncing on congruousness or incongruity. Why should it not be the congruousness or incongruity of two images or clusters of images, accompanied by an abstract statement? In fact, we are constantly conscious that it is so.

John Dewey[1/] however, in his How We Think, gives the clear impression that thought if not absolutely dependent upon language, is largely conditioned by it. He says:

> "When it is said that thinking is impossible without language, we must recall that language includes much more than oral and written speech. Gestures, pictures, monuments, visual images, finger movements -- anything consciously employed as a sign is, logically, language. To say that language is necessary for thinking is to say that signs are necessary.
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> "It is indispensable for any high development of thought that there should be intentional signs. Speech supplies the requirement. Gestures, sounds, written or printed forms, are strictly physical existences, but their native value is intentionally subordinated to the value they acquire as representative of meanings. (i) The direct and sensible value of faint sounds and minute attention is not distracted from their representative function. (ii) Their production is under our direct control so that they may be produced when needed. When we can make the word rain, we do not have to wait for some physical forerunner of rain to call our thoughts in that direction. We cannot make the cloud; we can make the sound, and as a token of meaning the sound serves the purpose as well as the cloud. (iii) Arbitrary linguistic signs are convenient and easy to manage. They are compact, portable, and delicate. As long as we live we breathe; and modification by the muscles of throat and

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1/ John Dewey, How We Think, D. C. Heath & Co., Boston, 1910.

> mouth of the volume and quality of the air are simple, easy, and indefinitely controllable. Bodily postures and gestures of the hand and arm are also employed as signs, but they are coarse and unmanageable compared with modifications of breath to produce sounds. No wonder that oral speech has been selected as the main stuff of intentional and intellectual signs. Sounds, while subtle, refined, and easily modifiable, are transitory. This defect is met by the system of written and printed words, appealing to the eye. Litera scripta manet.
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> "The suggestion of meanings by natural signs is limited to occasions of direct contact or vision. But a meaning fixed by a linguistic sign is conserved for future use. Even if the thing is not there to represent the meaning, the word may be produced so as to evoke the meaning. Since intellectual life depends on possession of a store of meanings, the importance of language as a tool of preserving meanings cannot be overstated.
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> "To be able to use the past to judge and infer the new and unknown implies that, although the past thing has gone, its meaning abides in such a way as to be applicable in determining the character of the new. Speech forms are our great carriers: the easy-running vehicles by which meanings are transported from experiences that no longer concern us to those that are as yet dark and dubious.

What shall one say in the face of all this discussion? Is it or is it not true that one cannot think without language? While one is inclined to agree with Sapir and Dewey, nevertheless presented here are two thoughts for the reader's consideration. In an individual's experience there have been moments of feeling, if not of actual conceptual thinking, experiences impossible to put into words, feelings suggested by a twilight hour on the banks of a little creek in the Canadian countryside, or an evening-time in an old fashioned garden in France, or by a sunset on the

Sea of Galilee, feelings of regret, of hope, of longing, or of aspiration which could not be expressed in words, yet which impressed themselves upon his consciousness as deeply as if they had been the results of a half hour's fellowship with Plato or Kant. Perhpas the very fact of their indefiniteness would lay them open to the charge of not being genuine thoughts, and if such a charge is made, perhaps no attempt at refutation should be made. On the other hand, here is an additional phenomenon to consider! There have been times when an individual finds his thoughts travelling so far ahead of his words (even silently uttered) that when he has finished, he is unable to recall them since they had not taken verbal form. Of course, this would seem to bear out Dewey's suggestion that a sign preserves a meaning. But it does not invalidate the claim that there was a meaning to be fixed before there was a sign to fix it.

There is just one further consideration which may have some bearing on the problem. In the teaching of certain grammatical principles, the use of shall and will for example, the instruction has been through the medium of exercises with blanks to be filled with the proper form. The teacher has previously given out certain counsels and is endeavoring to apply them to a specific problem. He has perhaps the following sentences in which blanks are to be filled with shall or will:

1. _____ you loan me your pen, Mr. Smith?
2. When _____ I see you again?
3. We _____ do as you say because we trust your good judgment.
4. No one _____ leave the room without permission.
5. _____ Mr. Jones come again on Friday or _____ you see him now?

The teacher's own response to these questions is almost instantaneous even in ghe case when they appear in a strange textbook. But when he endeavors to train the students to solve the difficulties, by endeavoring to lead them along the path he has traveled, and finds himself under the necessity of using words in the process, he discovers himself to be tremendously slowed up. As Sapir says, the word is not a key but a fetter. Nor is the retardation proportional to the difference between the amounts of time required respectively in the oral and the silent phrasing of the thoughts. In thinking for himself he has leaped over the barrier of language; in thinking for his students, he laboriously climbs over it.

He examines the first sentence. "What kind of sentence?" he aske himself aloud; and he answers, "Interrogative." His spoken self-questioning then proceeds as follows:

Q. When one has found what kind of sentence one has, what is the next step?
A. Discover the person of the subject.

Q. What is the subject in this sentence?
A. You.

Q. You is what person?
A. Second.

Q. In an interrogative sentence, if the subject is second person, what is the guiding principle?
A. Use the auxiliary form expected in the answer.

Q. How does one know what form is expected in the answer?
A. It will depend upon whether the person answering wishes to express volition or mere futurity.

Q. Will the speaker be attempting to express any form of volition? - determination?
A. Yes, consent.

Q. But what will be the person of the subject in the answer?
A. The subject will be I -- first person.

Q. When the subject is first person and volition is to be expressed, what auxiliary is used?
A. Will.

Q. Then what is the correct form for this example?
A. Will.

Now he did not use all these words in his own diagnosis of the situation. Did he think without language or with it? But, supposing he did not use language in his own solution, could he ever have come to find a solution without language if he had not first learned to find it with language? Or, again, is not the fact that one goes to so much trouble to put thought processes into speech forms in order to lead others into the same processes a proof of the dependence of thought upon language?

The discussion of the relationship between language and thought produces two more principles to guide the

language teacher. The first of these is the principle of the direct method in the early stages of instruction. The second is the principle of caution in the use of the pupil's studial capacities. By studial capacities are meant those capacities for learning which find expression in work requiring (1) conscious efforts of attention, (2) genuine thinking, (3) reflection, (4) exercise of one's reasoning powers. The person who exploits only his studial capacities in learning a foreign language proceeds somewhat as follows:

He learns rules in order to become proficient in analysis and synthesis; for the same purpose, he memorizes the exceptions to the rules. He becomes (or hopes to become) an expert in pulling words to pieces and in reconstructing them from roots and affixed, in sentence-making and sentence-breaking. He learns chiefly by eye, and expresses himself chiefly by the pen-grasping hand. Indeed, he becomes so proficient in converting the spoken into the written form that he cannot understand or retain the foreign words or sentences he learns until he has converted them into an imaginary written form which, in his imagination, he reads off word by word. Similarly, he finds himself only able to express himself by dint of reading aloud the sentences which he is constructing bit by bit by a complicated process of 'mental writing.' He aims at becoming (and often does become) expert in converting one language into another by a process (unknown to nature) called translating. His

accuracy is gained by rapid conversion of words from one inflected form to another; nominatives into accusatives, singulars into plurals, infinitives into participles. He attaches great importance to etymology, and the time he might spend in associating words with their meanings is often devoted to working out the family tree of foreign words. He spends little time in finding out what meanings the natives attach to their words and forms, but much time in identifying the units of etymology and in tracing them from one language to another.

This does not necessarily imply that the student is always doing the wrong thing, nor that his methods are always bad ones; we merely observe that he used (or is taught to use) all manner of studial methods at the expense of spontaneous ones, and that, in so doing, he develops his studial capacities of language-study at the expense of his spontaneous ones.

There are three distinct services which studial capacities render us: (1) They enable one to learn the artificial form of a foreign language. (2) They open the door to a knowledge of the more aesthetic literary forms of the language - poetry, drama, great prose fiction and essay. In the accomplishment of these ends they will be of great value. Since the foreign student is preparing to use not only spoken English but also written English, as well as letting printed English be a tool for the acquisition of

knowledge of other subjects, it is of extreme importance that one uses his studial capacities in attaining the results desired. The point to be borne in mind is that one should first have given him a fair amount of oral work in which he utilizes and even develops his spontaneous capacities.

The artificial element in writing is particularly evident when one considers that many if not most orthographic systems are in contradiction to the spoken form of the languages they claim to represent. English spelling is an excellent case in point; its divergences from the actual language are so numerous and so great that it may be said to possess two distinct languages, the spoken and the written. To learn and to apply the arbitrary laws and conventions which serve to bridge the gap between the two requires capacities of observation and reasoning of a special order, essentially studial.

Finally, the supreme function of studial capacities in teaching English to foreign students in their native land is in the administering of corrective courses. Due to a number of causes, among them instruction by a native teacher with only a partial mastery of English, or due to instruction by a foreign (English or American) teacher uninformed as to the psychology of language teaching, a large number of the students have acquired improper habits of study and use of English.

What are some of these bad habits? What are the most

characteristic vicious tendencies which have been encouraged by an unsound elementary stage? Some of these are positive, others are negative. In some cases the student has acquired bad habits; in others he has neglected to acquire good ones; often the two kinds are complementary to each other. One finds, for instance, that he has neglected to train his ears, he has not been shown what to observe nor how to observe. The consequence is that he is unaware of the existence of certain English sounds, and invariably replaces them by absurd or impossible imitations based on the sounds of his mother-tongue . . . . Lack of ear-training will cause him to insert imaginary sounds where there are none . . . He has formed the habit of replacing ear-impressions by eye-impressions; he believes what his eyes tell him, and his untrained ears cannot correct the tendency; he has become the dupe of unphonetic spellings . . .

The neglect of his powers of audition will cause him to rely absolutely on his powers of visualizing the written form. He will refuse to receive the language-matter by the auditory channel; he will declare with insistence that "he cannot learn a word or a sentence until he has seen it written"; he will even decline to learn a word except in its traditional (and probably phonetically inaccurate) orthographic form.

If the elementary course has not provided for the development and use of the powers of unconscious assimilation, the student will attempt the hopeless task of passing

the whole of the language-material through his limited channel of consciousness. He will seek to concentrate his attention on every simple unit of which the foreign language is composed, and hope thereby to retain every one, a feat of memory which we know to be impossible. He will therefore have formed the habit of deliberately avoiding that natural process which alone will enable him to make effective progress.

He will also have formed the 'isolating' habit, which consists in learning the individual elements of a group instead of learning the group as it stands . . . . He will have formed the habit of word-learning. Hence, instead of having at his disposal a number of useful compounds, he will endeavour laboriously and generally unsuccessfully to build up by synthetic process (probably that of literal translation) the word-group which he desires and will probably succeed in getting "Do you like to have some coffee?"

Had his elementary course included the systematic memorizing of word-groups, this would have become a habit; as it is, he has acquired the habit of not doing so.

Bad sementic habits may also have been formed. That is to say, the student may have trained himself (or even may have been trained) to consider that each foreign word corresponds precisely to some word in his own language. For him (as for example in the case of the Arab) our English "bring" is the exact equivalent of a word in his own

language that means both "bring" and "get."

If translation (not in itself a bad habit) has been carried to extremes, and if the habit of direct association has been neglected, the student will have formed the habit of translating mentally everything that he hears or reads, and this will be fatal to subsequent progress.

The principle of gradation may have been faultily applied in different ways. The teacher may have considered it his duty to over-articulate his words, to pause before each word, and to speak under the normal speed of five syllables per second. In this case the student will have formed the habit of understanding no form of speech other than this specialized type. The under-articulated speech can only be developed by exercise in listening to such speech, and he will not have had this exercise.

The elementary programme may also have been drawn up in such a way as to preclude the study of irregular forms. If this has been the case, the student, unprepared for irregularities, will not know how to deal with them, and his rate of progress will be correspondingly diminished when they occur in more advanced work.

It is in correcting such conditions that the student's studial capacities may advantageously be utilized. The student must be given a course aiming to replace his faulty material by sound material and at replacing his former methods of study by sound methods. One by one his unsound

acquisitions must be replaced by good habits through processes unknown to the language-teaching forces of nature . . . The student must be shown specifically in what respects his speech differs from that used by natives, and he must deliberately set to work to correct it item by item; one must explain things to him; one must provide him with charts, diagrams, and exercises; one must put him through courses of drill-work, and all these things will require his careful and even concentrated attention. One must also teach him how to correct his faulty methods of assimilating; one must explain to him why they are faulty and convince him that, however natural and easy they may seem to him, they are only of utility to the learner of pidgin-speech. One must teach him how to utilize the sound processes (both spontaneous and studial); he will not like to do so, he will constantly tend to revert to the processes to which he has become accustomed; one must react and cause him to react against his vicious tendencies. After a time, if fortunate, one may succeed in eradicating most of the faulty matter and in initiating the right habits of assimilation.

CHAPTER IV

INTELLIGENCE AND LANGUAGE ABILITY

Very naturally one comes to the third question: Is intelligence dependent upon language ability? Until very recently the spontaneous answer of any educator to this question would have been "Of course!" He would have supported his contention with such arguments as the following: (1) Intelligence is a man's power to think abstractly. In order to think abstractly one must have a mastery of language; i.e. one must be able to think in terms of symbols for things rather than exclusively in terms of things themselves; or (2) Intelligence is a man's ability to carry on a trial and error process in the solution of a problem imaginatively rather than actively. Hence instead of dealing with the things themselves he deals merely with symbols for them - in other words, he silently uses language. Or again. No one of poor language ability is capable of the more involved thought processes or of appreciating the results of such processes on the part of others. Since, as Dewey says, "Language is a necessary tool of thinking," a man with poor language ability cannot think intelligently without a fair amount of language ability. Finally: is it not true that those of high intelligence possess marked facility in the use of language both as a consumer's and as

a producer's good, while those who are of low order of intelligence, whose powers of judgment are inferior, are proportionately low in their understanding and use of the spoken and printed word.

The first criticism of this theory lies in a mistaken idea of the nature of intelligence. Does one as a matter of fact have intelligence or intelligences? Is there such a thing as general intelligence? John Smith has a friend who finished only the junior high school. On a number of subjects, in dealing with which Smith should be perfectly at ease, the friend would be helpless. Therefore, Smith is more intelligent than his friend. However, should something go wrong with Smith's Ford, he could take it to his friend and in five minutes the latter could diagnose and possibly remedy (provided, of course, he did not belong to the union) the difficulty which Smith might not successfully treat in five days. The question resolves itself to this: Has one the right to attribute greater intelligence to the ability to solve problems and form judgments by the use of symbols for things than to the ability to accomplish these same ends in dealing with the things themselves. In recent years the use of form-boards and picture tests as well as tests for mechanical ability has done much to clarify educators' thinking in this connection.

However, one question may be raised at this point: Even in the use of purely objective tests can one be sure

that the person tested did not use some language. This seems like a return to our previous question, Can one think without using language? But it may be of value as suggesting the possibility of their being higher and lower intelligences depending in each case upon the amount of use made of language as a tool.

It is difficult, however, to answer this question regarding a so-called **unintelligent** person's use of language in an act of thought. The only available data are those gained through introspection on his part and these are available only through his report. If he has been classified as being of inferior intelligence, then his testimony can be of only indifferent value in answering the question. Certainly the last word in this whole matter has not yet been spoken and one must await further experimentation and investigation.

Just what principles may be derived from this discussion as a guide in the task of teaching English to those to whom it is a foreign language is not easy to say. However, in view of the fact that an individual may be intelligent in fields where things **themselves** rather than **symbols** for them are dealt with, and since the principle of direct method has already been advanced, it may be suggested here that the work should begin when the child is young; this may be called the principle of an early beginning. With it must be considered the principle of concreteness. This

implies, in grammar, the repetition of numerous examples of the application of a rule rather than, or at least before the stating of the rule; and in semantics the teaching of new words or ergons by immediate association wherever possible.

A propos of this last it may be said that there are occasionally instances where translation is a greater aid to concreteness than direct association or definition by context. For example: "One of the things one must do to concretize the difference between I did so, So I did, and So did I, is to furnish the student with his respective native equivalents."

Carrying out the principle of concreteness in this discussion one may suggest the following:

1. Let the example precede or even replace the rule.
2. Give many examples to each important rule.
3. When teaching or alluding to the peculiarities connected with nouns, choose as examples the nouns which are the names of various objects actually in the room, and in each case point to or handle the object in question.
4. When teaching or alluding to the peculiarities connected with verbal forms, choose as examples verbs that can be acted.
5. When teaching or alluding to the peculiarities connected with adjectives, choose as examples such words as black, white, large, small, round, square, etc., and avoid the traditional good, bad, beautiful, idle, diligent, etc.

6. When teaching or alluding to the peculiarities and semantic values of prepositions choose as far as possible prepositions such as in, on, under, over, in front of, behind, beside, etc.

7. Choose as many real examples as possible, examples suggested by present and actual conditions.

8. In as many cases as possible cause the student to make active use of any form he has just learnt.

9. Encourage gestures.

CHAPTER V

IMITATION IN LANGUAGE LEARNING FUNCTION AS INSTINCT OR CONDITIONED REFLEX

There is a fourth question of academic rather than practical interest in the philosophical approach to the study of language. One has been told that an individual learns language largely as a result of his instinct of imitation. More lately one has been told that there is no such thing as an instinct of imitation, -- that imitation is a conditioned reflex. This is to many people a new idea. Yet experiments have been conducted which tend to verify it. For example, it used to be thought that a child smiled at its mother because it instinctively imitated the mother's smile. One is now inclined to believe at first that the mother smiles at the child in imitation of its smile. The way in which the child seems finally to imitate the mother's smile is somewhat as follows:

One day the child instinctively experimenting in the use of its facial muscles, smiles. The mother sees the smile and smiles back. The baby smiles again. This occurrence is repeated a number of times until finally the mother's smile without having been previously stimulated by the baby's smile calls forth the smile response from the baby. A conditioned reflex has been established. The writer in playing with baby nieces and nephew has personally been able to

demonstrate this theory by experiments in which instead of smiling at a child whenever it smiled, she merely pinched its cheek until finally the pinching of the cheek, when the baby was not smiling, elicited the smile response.

This leaves one question: If imitation is not an instinct how do small children learn so easily by imitating sounds in foreign languages which are not present in their own. In other words, if a small boy has not made the sound of ü in English, how can he form a conditioned reflex as a result of which he does pronounce it in German? Of course in the case of an older person, one says that by means of some artificial method he acquires the sound in response to one stimulus and then forms a conditioned reflex by which he gives that sound in response to another stimulus. For example, the teacher tells him "Shape your mouth to say oo and then say ee." In response to the stimulus of his teacher's instruction he attempts the sound and having mastered a rendering sufficiently accurate to satisfy the teacher's requirements later learns to give it in response to the sight of a ü on the printed page or to the memory of it as previously seen or pronounced. This, however, does not apply in the case of the small boy who does not pronounce the sound as the result of some artificial device. At the same time one is told that he cannot instinctively imitate it.

Mark Twain[1] tells of a Christian Science lady, who was not a very intelligent exponent of her faith, who after

1/ Mark Twain, Christian Science, Harper & Bros., New York, New York, 1907, pp. 8-11.

having declared that there was no such thing as pain, that it was only a mental condition, chanced to step on a cat's tail. The cat "yowled." Mark Twain innocently asked the lady if the cat had a mind. The lady answered, "Certainly not!" Mark then continued his questions as follows: "You say there is no such thing as pain? You say it is only a condition of the mind? You say the cat has no mind? Therefore, there being no such thing as pain except as a condition of the mind, and the cat having no mind, the cat did not, could not, feel any pain. That being the case, why did the cat 'yowl'?"

One finds himself in much the same quandary as Mark Twain. Why does the small boy "yowl" -- at least, why does he pronounce ü? As a matter of fact, the question is readily explainable. Although there is no ü sound in the English language, there is such a sound in the boy's language. Every known sound (and a few unknown ones, somebody may add) will be present in the small boy's repertoire of sounds. As he grows older and the constant use of particular sounds begins to shape and modify his speech organs, and the disuse of certain other sounds which he has found to have no social value causes these same organs to atrophy so far as the rendering of those sounds is concerned -- when this happens, it becomes impossible for him to produce these sounds at first, except by some artificial means such as has already been indicated. However, in his early boyhood he has the

sounds in his own (not his native) language and he does learn them in the foreign language through imitation defined as a conditioned reflex and not as an instinct.

Whether language learning is by a conditioned reflex or through pure instinct, there are important principles to bear in mind in this connection. The first is the principle of a sound foundation. This principle emphasizes the importance of the elementary stage in the process of learning a foreign language. Language study is a habit-forming process and the important stage in habit-forming is the elementary stage. If one does not secure habits of accurate observation, reproduction, and imitation during the first stage, it is doubtful whether one shall ever secure them subsequently. It is more difficult to unlearn a thing than to learn it. If the elementary stage is gone through without due regard to the principles of study, the student will be forced to do things which he must subsequently undo; he will acquire habits which will have to be eradicated. If his ear-training is neglected during the elementary stage, he will replace foreign sounds by native ones and insert intrusive sounds into the words of the language he is learning; he will become unable to receive any but eye-impressions, and so will become the dupe of unphonetic orthographies. If he has not been trained during the elementary stage to cultivate his powers of unconscious assimilation and reproduction, he will attempt the hopeless task of passing all the language-matter

through the channel of full consciousness. If during the elementary stage he forms the "isolating habit," he will not be able to use or to build accurate sentences. An abuse of translation during the elementary stage will cause the student to translate mentally everything he hears, reads, says, or writes. Bad habits of articulation will cause him to use language of an artificialized type.

In order to guard the student from forming these bad habits, one must train him to form good ones. To prevent his using sounds native to his own language instead of the correct English sounds, one must give him exercises in ear training. To prevent his using a literal translation of his own idiom or of laboriously arriving at the correct form through the channel of full consciousness by painful process of translation, one must teach him to think in English.

This will require first of all eternal vigilance over the teacher's own use of the language and over that of the student. Second, it will require the construction and presentation of various exercises tending to form the habits desired. This will require exercises in auditory observation, in the pronunciation of English sounds, in the immediate repetition of English ergonic units, and even in mimicry of tone and pitch. One shall need further to train students away from the inevitable tendency to think in his own language and then translate those thoughts into English. It will mean drill work before free work. It will mean a tireless

effort to prevent the student from having any opportunities for inaccurate work until he has reached the stage where accurate work is reasonably to be expected.

The second principle is the principle of psychological presentation of the generally recognized procedures of good psychology. There are two that should be given special emphasis. The first of these is the elimination of bewilderment. This can be accomplished in two ways, (1) by giving in the clearest possible way certain fundamental explanations whenever there appears to be confusion in the mind of the student, and (2) by properly grading the instruction. This introduces an additional principle which must be practiced in the language class -- the principle of effective articulation. This requires first of all a selection of subject matter to be presented as a means to our already determined ends; second, the organization of the various branches of linguistics, phonetics, spelling, inflections, sentence structure and semantics in such a way as to make each one contribute its maximum to the consummation desired without exaggerating its importance; and, third, the arrangement of the subject matter by years, months, and weeks in such sequence that the student will progress by easy stages from known to unknown and at a rate of progress increasing in proportion to his advancement.

This means of course that in the beginning, the student's progress will be slow; after ten or twenty lessons he may

not seem to have advanced very far; but if he has been laying a good foundation he has been doing good work, for it will mean that the next stage of his work will be accomplished more easily and more rapidly. During the first lessons he is not so much learning the language as learning how to learn it. During the second period his progress will be more rapid and he will assimilate more of the actual language-material, and he will then be learning in such a way that the third stage will be still more rapid, and so on through subsequent stages; his rate of progress will increase in proportion as he advances. It means also that the material will be organized and presented in observance of the rules of sound psychology. This means, in glittering generalities, among other things: oral work before written work, reception before reproduction, oral repetition before reading, immediate memory before prolonged memory, chorus work before individual work, drill work before free work. Specifically it betokens (a) learning to speak and to understand what is said before learning to read and write; (b) starting a language-course with systematic ear-training and articulation exercises; (c) making a most extensive use of the phonetic transcription, especially in the early stages; (d) teaching intonation at a very early stage; (e) memorizing sentences and learning how to construct them, memorizing words and learning how to build either inflected forms or derivatives; (f) including irregular and idiomatic forms even in the

earlier stages; (g) teaching from the outset a rapid and fluent style of pronunciation, reserving more distinct utterances to a later stage.

CHAPTER VI

LANGUAGE AS AN ART OR SCIENCE

One now arrives at the final question. Is language an art or a science?

It is interesting to note in this connection that those whose concern is chiefly with the problem of teaching others to speak a single foreign language, refer to language as an art, e.g. Francois Gouin[1] entitles his book, "The Art of Teaching and Studying Languages." Palmer likewise declares most emphatically that it is an art.

Those who are chiefly concerned with a study of language from an analytical viewpoint, who are desirous of determining origins and of discovering laws of development are equally forceful in referring to it as a science. Whitney, for example, entitles his study, "The Life and Growth of Language - An Outline of Linguistic Science."

Likewise Muller entitles his study, "Lectures on the Science of Language."

Similarly Jespersen[2] says in the first sentence of his Language:

1/ Francois Gouin, The Art of Teaching and Studying Languages, Longmans, Green & Co., London, England, 1924. Title Page.

2/ Otto Jespersen, op. cit., p. 1.

> "The science of language began, tentatively and approximately, when the minds of men first turned to problems like these: How is it that people do not speak everywhere the same language? How were words first created? What is the relation between a name and the thing it stands for? Why is such and such a person, or such and such a thing, called this and not that?"

In order to understand these divergent points of view, perhaps it were simplier to let Palmer speak for the "artist" group and Muller for the science group. Palmer[1/] declares:

> "And yet there exists an art, we are told, in which every one of us has become proficient, an art in which every man, woman, and child throughout the world is a skilful adept, an art which has been acquired without any process resembling study, without lectures or lessons or textbooks or theory, without the exercise of our powers of conscious or critical reflection, or analysis, or synthesis, or generalization, without the giving of our conscious attention, without deliberate effort or striving.
>
> "This art is the art of using the spoken and everyday form of any given language. Show me the child of three years of age, the madman, or the savage who is not an expert at it!
>
> "There is no question here of reading or writing the language, but of understanding what is said, and of expressing what we wish to say by speaking. In general our intelligence, our reasoning powers, our capacities for deduction, for analysis and synthesis, have counted for nothing in the process.
>
> "A child of two or three years of age can use the spoken language appropriate to his age, but what does that child know of reasoning? And what is its standard of intelligence? Not enough to cause it to realize or understand that two and two make four. And yet that child observes with a marvellous degree of accuracy most of the complicated laws governing his mother-tongue."

1/ Palmer, The Principles of Language Study, Yonkers-on-Hudson, New York, 1921, pp. 34-38.

In contrast to this one reads in Muller[1]:

"If you consult the works of the most distinguished modern philosophers you will find that whenever they speak of language, they take it for granted that language is a human invention, that words are artificial signs, and that the varieties of human speech arose from different nations agreeing on different sounds as the most appropriate signs of their different ideas. This view of the origin of language was so powerfully advocated by the leading philosophers of the last century, that it has retained an undisputed current even among those who, on almost every other point, are strongly opposed to the teaching of that school. A few voices, indeed, have been raised to protest against the theory of language being originally invented by man. But they, in their zeal to vindicate the divine origin of language, seem to have been carried away so far as to run counter to the express statements of the Bible. For in the Bible it is not the Creator who gives names to all things, but Adam. 'Out of the ground,' we read, 'the Lord God formed every beast of the field, and every fowl of the air; and brought them unto Adam to see what he would call them: and whatsoever Adam called every living creature, that was the name thereof.' The generally received opinion on the origin of language is that which was held by Locke, which was powerfully advocated by Adam Smith in his Essay on the Origin of Language, appended to his Treatise on Moral Sentiments, and which was adopted with slight modifications by Dugald Stewart. According to them, man must have lived for a time in a state of mutism, his only means of communication consisting of gestures of the body, and in the changes of countenance, till at last, when ideas multiplied that could no longer be pointed at with the fingers, 'they found it necessary to invent artificial signs of which the meaning was fixed by mutual agreement.'

"While fully admitting that if this theory were true, the science of language would not come within the pale of the physical sciences, I must content myself for the present with pointing out that no one has yet explained how, without

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1/ Muller, op. cit., p. 39-42.

> language, a discussion on the merits of each word, such as must necessarily have preceded a mutual agreement, could have been carried on. But as it is the object of these lectures to prove that language is not a work of human art, in the same sense as painting, or building, or writing, or printing, and I must ask to be allowed, in this preliminary stage, simply to enter my protest against a theory, which, though still taught in the schools, is nevertheless, I believe, without a single fact to support its truth."

When the doctors disagree, what is the poor layman to do? While this question might suggest an attitude of utter hopelessness on the part of the amateur student of language, the situation is not so desperate as might appear to be the case. In the first place the differences of characterization are not mutually exclusive, but merely indicate different angles of approach to the subject. In one sense, language is a science: it has developed as have other natural phenomena; there are certain definite laws of growth of language; and there are definite relationships of one language to another, some of which have already been determined (e.g. **Gumm's Law**), and others which remain to be discovered. In another sense language is an art like painting or music. The person who learns to play the piano need not know the history of music or the science of physics or even musical composition in order to play. He learns by practice. On the other hand a man might be able to give expert instruction in the theory of music and yet be unable to play a note. Similarly with language. A man might be able to speak a language with the facility of one native to that language

without ever having heard of Grimm's Law, merely as a result of practice. However, there is the ideal situation when science becomes the handmaid of art and when the linguist not merely applies unconsciously those laws which he exploits as a result of what Palmer called his "spontaneous capacities of assimilation," but when he also instinctively utilizes in an almost equal degree of unconsciousness those learned laws which result from his scientific study of language.

Since apparently language is both art and science the question now to be answered is what principle for the guidance of the language teacher is to be derived from this fact? In answer it may be stated that it gives added support to many of the principles already stated, e.g., (1) the ear before eye principle, (2) the principle of early beginning, (3) the principle of caution in the exploitation of studial capacities. However, one further principle may be suggested - the principle of mimic and meditate. Language as an art comes through mimicry and imitation. It is possible for an individual to have mastered the art of a given language, to be able to understand others and to express his own ideas without having even a casual knowledge of it as a science. For ordinary purposes this may be enough. If, however, he would be able to analyze the language, if he should desire to master its niceties, if he wishes to cultivate enjoyment of its aesthetic forms, then he must study it as a science. He must meditate rather than mimic.

CHAPTER VII

THE OPINIONS OF CONTEMPORARY WRITERS

With the exception of Dimnet, the authors who have been quoted so far were among the earlier writers on the subject of language, its origins and its development. In more recent years, however, a number of others have applied themselves to this field of intellectual and psychological inquiry. Among these one may list Suzanne K. Langer, author of An Introduction to Symbolic Logic, Benjamin Lee Whorf, author of Language, Thought and Reality, Brewster Ghiselin, compiler of a collection of essays, published under the title of The Creative Process, Charlton Laird, author of The Miracle of Language, and Mario Pei, author of The Story of Language.

Suzanne K. Langer, Introduction to Symbolic Logic, is a difficult and challenging treatise the purpose of which she exposes in her Introduction.[1]

> "The present work endeavours to be both a textbook of symbolic logic and an essay on that

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1/ Suzanne Langer, Introduction to Symbolic Logic, Dover Publications, New York, New York, 1953, pp. 18-19.

logic. It is essential that the student should learn both to 'do' logic, and to know precisely what he is doing. Therefore the exposition of method is interspersed throughout with discussion of the principles and general import of the procedure. The actual material presented should enable him, at the end of a systematic course of study, to tackle the monographic literature of symbolic logic, and pursue it either in the direction of mathematics, or of postulational theory, or of logistic. Furthermore, it should in some measure prepare students of philosophy to understand the epistemological problems which arise in contemporary philosophy of nature, as presented by Poincare, Mach, Reichenbach, Carnap, Russell, Whitehead, and others. To this end it emphasizes the principles of logical construction; the possibilities and limits of formalization; equivalent conceptions, fundamental types of formulae, criteria of clarity, simplicity, generality, and above all, the difference between fecund and sterile nations. In this connection it seeks to show the bearing of logic on natural science and philosophy of nature.

In her first chapter, The Study of Forms, she discusses ten topics:

1. The Importance of Form.
2. Logical Form.
3. Structure.
4. Form and Content.
5. The Value of Analogy.
6. Abstraction.
7. Concepts.
8. Interpretation.
9. The Field of Logic.
10. Logic and Philosophy.

The fifth of these topics is particularly significant, for here one finds the author's view as to the connection between thought and language.

"Whenever we draw a diagram, say the ground-plan of a house, or a street-plan to show the location of its site, or a map, or an isographic chart, or a 'curve' representing the fluctuations of the stock market, we are drawing a 'logical picture' of something. A 'logical picture' differs from an ordinary picture in that it need not look

the least bit like its object. Its relation to the object is not that of a copy, but of analogy.

"It is only by analogy that one thing can represent another which does not resemble it. By analogy, a map can 'mean' a certain place; and obviously it cannot 'mean' any place which it does not fit, i.e. which has not a contour analogous to the map. If two things have the same logical form, one of them may represent the other, and not otherwise.

"Perhaps the most elaborate structure ever invented for purely representative purposes is the syntactical structure of language. Syntax is simply the logical form of our language, which copies as closely as possible the logical form of our thought. To understand language is to appreciate the analogy between syntactical construct and the complex of ideas, letting the former function as a representative, or 'logical picture,' of the latter.

"In order to understand a sentence, it is necessary to have knowledge both of the constituents and of the particular instance of the form . . . Thus some kind of knowledge of logical forms, though with most people it is not explicit, is involved in all understanding of discourse. It is the business of philosophical logic to extract this knowledge from its concrete integuments, and to render it explicit and pure.[1/]

One particularly notes her declaration that "when we are really thinking, our ideas exhibit . . . a pattern . . . It is this pattern which the elaborate pattern of language reflects." By inference, at least, one may believe that the author considers language as a necessary tool in the process of thinking.

1/ Langer, ibid., pp. 29-32.

Chapters II and III discuss the Essentials of Logical Structure and at this point one finds himself considerably slowed up as the author begins her presentation of some of the symbols which are to be used in these and subsequent chapters. As one continues through the nearly 400 pages of the book one is conscious of the fact that one must proceed very, very slowly. A few chapter headings may serve to underline this. There is, for example, The Algebra of Logic (Chapter IX), from Symbolic Logic, The Calculus of Propositions (Chapter XI) from Symbolic Logic, The Assumptions of Principia Mathematica (Chapter XII) from Symbolic Logic.

One hopes that at the completion of the perusal of this volume one shall have realised the author's hopes when she declares:

> "Symbolic logic is an instrument of exact thought, both analytic and constructive; its mission, accordingly, is not only to validate scientific methods, but also to clarify the semantic confusions that beset the popular mind as well as the professional philosopher at the present time. 'Semantics' (blessed word!) is in dire need of responsible analysis and skilful handling, and symbolic logic is the most effective preparation I can think of for a frontal attack on the pathetic muddles of modern philosophical thought. It blasts natural misconceptions with every move, not by a process of 'debunking,' but by purposeful and lucid construction of ideas.
>
> "Because this book seeks to present in clear, stepwise fashion the elementary concepts of logic, it cannot encompass as much technical material as other textbooks do.

> But to-day that is not a serious embarrassment, because it may be supplemented by a standard text. One of the most useful devices now generally taught - the construction of 'truthtables' to test, the legitimacy of constructs in a truth-value system - is included in this edition as Appendix C. The reading list for further study has been brought up to date. For the rest, no revisions have been made except to correct errors, especially a major error in Chapter IV, which mysteriously escaped the several readers of the script, and has necessitated a little actual re-writing. Apart from these details, the book is unchanged -- a book for the student who has no teacher, or for the teacher who has to meet too many naive questions for his comfort. As such it is still alone in its class, at least for English readers; and in the belief that there is always a real need for at least one such book, I send my Introduction out anew."

Benjamin Whorf's Language, Thought and Reality is an attempt to determine if the same relationship between language and thought exists in the case of primitive people as in the case of more civilized groups. For purposes of investigation he compares the language of the Hopi with English and decides that the Hopi language shows a higher plane of thinking and a more rational analysis of situation than English. Be that as it may the inference is obvious -- in primitive societies as well as in the more civilized ones, language is the tool of thought.

In this connection the following may be worthy of consideration:[1/]

> "Our behavior, and that of Hopi, can be seen to be coordinated in many ways to the

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1/ Benjamin Whorf, Language, Thought and Reality, Technology Press, M.I.T., Boston, Mass., 1956.

> linguistically conditioned microcosm. As in my fire casebook, the people act about situations in ways which are like the ways they talk about them. A characteristic of Hopi behavior is the emphasis on preparation. This includes announcing and getting ready for events well beforehand, elaborate precautions to insure persistence of desired conditions, and stress on good will as the preparer of right results.
>
> "Hopi 'preparing' activities show a result of their linguistic thought background in an emphasis on persistence and constant insistent repetition. A sense of the cumulative value of innumerable small momenta is dulled by an objectified, spatialized view of time like ours, enhanced by a way of thinking close to the subjective awareness of duration, of the ceaseless 'latering' of events. To us, for whom time is a motion on a space, unvarying repetition seems to scatter its force along a row of units of that space, and be wasted. To the Hopi, for whom time is not a motion but a 'getting later' of everything that has ever been done, unvarying repetition is not wasted but accumulated. It is storing up an invisible change that holds over into later events. As we have seen, it is as if the return of the day were felt as the return of the same person, a little older but with all the impresses of yesterday, not as 'another day,' i.e. like an entirely different person. This principle joined with that of thought-power and with traits of general Pueblo culture is expressed in the theory of the Hopi ceremonial dance for furthering rain and crops, as well as in its short, piston-like tread, repeated thousands of times, hour after hour.

Ghiselin's The Creative Process is not a discussion of relationship between language and thought but rather a collection of case studies in creative activity in the realm of music, philosophy, sculpture and literature, both prose and poetry, from the moment of initial inspiration to the final completion of the creator's creation.

Thirty-eight persons have contributed to this symposium,

in which number one finds such names as Henri Poincare, Albert Einstein, Wolfgang Amadeus Mozart, John Dryden, Amy Lowell and Frederick Neitsche.

Charlton Laird's Miracle of Language[1] is a rare combination of scholarship and humor. The following quotation will serve to illustrate this statement:

> "But what happened after the Norman Conquest? English survived to become again the official language in England and all the works written in French or Latin, if they any longer had an importance, had to be translated into Middle English. Obviously most Englishmen must have gone right on talking Anglo-Saxon while they wrote French. Or at least their wives went on talking Anglo-Saxon, and little Athelwold, learned Anglo-Saxon as he learned to toddle. Little Athelwold's daddy, if he had to sue his neighbor, may have sued him in French, and he prayed to the Virgin Mary in Latin; but when he spanked little Athelwold he spanked him in Anglo-Saxon, and the evidence that he did is all over the language. The words bottom, buttocks, butt, and rump are all from Germanic roots, along with some other terms now considered vulgar."

One is further indebted to Mr. Laird for a word by which to designate a language that is not inflected (our own, for example) as contrasted with one that is, such as classical Latin. This word is distributive. The author uses it to designate a language in which the meaning is made clear not by inflections of nouns and adjectives, for example, but rather by the position of the various words (the way in which they are distributed) in the sentence.

1/ Charles Laird, Miracle of Language, World Publishing Co., New York, New York, 1923, pp. 47-49.

Having supplied this useful vocabulary item, he proceeds to discuss English grammar at great length and in such a manner as to leave the impression that its chief characteristic is artificiality and that its authority rests on shaky foundations.1/

> "Thus if students of language were to be guided only by the logic of the situation, they would find themselves neatly spitted on this dilemma, that stability and change are both imperative in a living, serviceable language. How can the difficulty be avoided? Surely not by allowing any man who can print a book to decide questions of standards by his own whim, as some commentators of the eighteenth century tried to do, and many authoritarian people would like to do yet. Surely not by appealing to Latin grammar or to some other supposed universal grammar. There may be universal principles in language, but the laws of grammar, if they can be called laws, are descriptions of what human beings do with language. They are not pronunciamenta concerning what is 'right' and what is 'wrong.' All words and ways of using words are right if the users of the language want them that way; they are wrong if the users of the language do not want them. If they are right now they will be wrong when the users of language want them no longer.
>
> "Obviously questions of standards must depend upon usage. In language, whatever is, is right - provided it 'is' enough so that enough people want it that way for a long enough time. In short, in his own small way, every man is his own Webster, deciding what language is and what it is not. Even more, every woman is her own Webster. For as we have seen, the great arbiters of language are the women who speak it in the presence of children. There is a theory that men have made all the great innovations in language. Whether or not this

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1/ Laird, ibid., pages 47-49.

hypothesis is sound -- and there might well be women who would point out that the theory was propounded by a man -- there is no question as to who preserves the language, through what medium language is handed on to the next generation, by whom some language is allowed to die and other parts saved. Mainly, women do it. What the women pass on to the next generation is 'right' and what they do not bother to pass on to their children sooner or later becomes 'wrong.'

Professor Laird[1/] also has an answer to the question concerning the relationship between language and thought.

"Of such is the kingdom of language. Without language, no humanity. Without written language, no civilization. So much for the past. Need anything be said of the present and future?

"Perhaps the most important remarks to be made about language in the world we know are the obvious ones. But the obvious is sometimes the most ignored. Language is, and since its invention or discovery always has been, the most important tool man ever devised. Man is sometimes described as a tool-using animal; language is his basic tool. It is the tool more than any other with which he makes his living, makes his home, makes his life. As man becomes more and more a social being, as the world becomes more and more a social community, communication grows ever more imperative. And language is the basis of communication. Language is also the instrument with which we think and thinking is the rarest and most needed commodity in the world.

"But these are generalities. How does language promote thinking? Very much as one might expect; since there are two main aspects to language, meanings expressed in vocabulary and relationships expressed in grammar and rhetoric, language promotes thinking by both means. Let us take the first. Brains think with words. Perhaps they need not. Supposedly

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1/ Laird, ibid., pp. 213-220.

> if we had no words, we should still be able to think. But it is the nature of human brains that they think so much better with words than with any other medium -- with mental pictures, for instance, - that, words being available, we learn to think with them, and rely upon them so much that for practical purposes most people think only about things for which they have words and can think only in the directions for which they have words.
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> "Some thinking of a simple sort we can do without words, but difficult and sustained thinking, presumably, is impossible without language, as traversing the Atlantic Ocean is presumably impossible by swimming.
>
> "Consider first the size of the vocabulary. Some of us drag our meager mental existences with only the few hundred words that we can be quite sure we have in the bank; others can be profligate with tens of thousands. How sharply our thinking may be circumscribed by our vocabularies we do not know, but this we do know, man does not think with brains alone. Psychologists find a closer correlation between intelligence quotients and vocabulary tests than between intelligence quotients and any other kind of test. Partly of course we must assume that good brains learn large vocabularies, but pretty clearly, also, good brains are in part good brains because they have large vocabularies to work with."

One sees from the above quotation that Professor Laird agrees with those who believe language is the chief tool in the thinking process.

No less scholarly than Professor Laird's Miracle of Language is Mario Pei's Story of Language.[1/] Professor Pei does not characterize language as the indispensable tool of thought but rather as the transmitter of thought.

1/ Mario Pei, The Story of Language, The New American Library, New York, New York, 1949, pp. 161 and 162.

> "Although language is the transmitter of thought, it is not enough to grant it a niche among the humanities and leave it there to serve as a tool of literature and philosophy. Although it has numerous physical manifestations, it is not enough to relegate it among the physical sciences and describe it as a branch of physics, physiology or anthropology. Although it is one of the most refined products of the mind, it is not enough to view it as a mere psychological activity. Language is the sum of all these things, and something more. It is the conveyor, interpreter and shaper of man's social doings. It is all-pervasive. It enters into, influences, and is in turn influenced by every form of human activity without exception. Its functions are as numerous as the fields in which human ingenuity operates."

He further discusses language from the point of view of its importance in relation to religion, family life, material existence, economic relations, political institutions, superstition, intolerance, literature, education. Although he nowhere expresses the opinion that it is a necessary tool in the thought process he insists that it is the indispensable vehicle of all human knowledge and the basic foundation of all human cooperation, without which no civilization is possible. He elaborates this declaration as follows:

> "All human records whereby the accumulated experience of the race is transmitted from one individual, one generation, one era, one racial group to another appear in some linguistic form,

> spoken or written, carved on wood or metal or stone. Even those records which are non-linguistic in the ordinary sense of the word, artistic, architectural, musical or even gestural, must be translated into terms of language to be fully understood. In a broader sense, they too form part of language.
>
> "But what is even more important, they could never have come into being had language not been there to permit that intelligent, full-fledged cooperation between two or more human beings which is the very wellspring of all human progress and which differentiates the activities of man from those of the animal world.
>
> "If people had not been able to communicate with one another, they could not have produced the pyramids of Egypt, the Gothic cathedrals, the cities of the ancient and the modern world. In fact, they could not have produced anything beyond the flint hatchet and the bow and arrow."

In the preceding pages first the discussions of language by the earlier writers on the subject, e.g. Jespersen, Gouin, Sapir, Muller and others, has been considered, and second the studies by some of the more recent authors, e.g. Dimnet, Whorf, Laird and Pei.

A question that comes to mind may be: Just how much have these later writers added to the contributions of the earlier writers in the field?

A casual judgment might give the answer, "Not a great deal!" But this would hardly be fair. Dimnet suggests that thought is not dependent on language, but rather on images; Pei insists that language is indispensable, but not as a tool in the thought process. These two opinions

at least invite discussion. With these two exceptions, however, there seems to be a general consensus of opinion between earlier and later writers that language is a necessary tool in the thinking process. The psychological approach of the more recent writers may be more easily understandable than was that of Muller and Jespersen, and the later writers may have a more popular appeal, but the facts set forth by these later writers substantiate and strengthen those expressed by their predecessors. The later writers substantiate and strengthen those expressed by their predecessors. The later writers continue the work of the earlier ones, supplementing it and in some instances interpreting it. There will be more of them. There is much that is edifying, much that is entertaining in the best sense of the word, still to be said on the subject and there will be many a scholar who will come forth to say it.

CHAPTER VIII

SUMMARY AND CONCLUSION

It may be stated, however, that these later writers add force to the principles suggested by the earlier ones; and by way of conclusion it should not be considered inappropriate for those principles to be recapitulated here. The reader may recall them as follows:

1. The multiple line of approach.
2. Ear before eye procedure.
3. Direct Method.
4. Cautious exploitation of studial capacities.
5. Early beginning.
6. Concreteness.
7. Sound foundation.
8. Psychological presentation.
9. Effective articulation.
10. Mimic then meditate.

These are the principles. Possibly there are others still to be discovered. It is never safe to declare that the last word on a subject has been said. Even if it were, however, there remains much to be suggested as to how these principles are to be implemented in the actual task of language teaching. Teaching machines, tape recorders, language laboratories and I.B.M. gadgets not yet

conceived of may radically alter classroom procedures in the realm of language teaching as they already have done in other fields of education. It is not beyond the realm of possibility that there may be devised a series of exercises to develop the language ability of young students. The preparation of a set of such exercises with tests on their efficacy, a procedure resembling if not paralleling that of Professor Frederick L. Callahan in his doctorate thesis "Construction and Evaluation of a Series of Exercises to Develop Organizational Ability in Children's Writing" might well constitute the subject matter of some other ambitious young pedagogue's dissertation for the doctorate. At the moment, the present writer does not contemplate being that ambitious young educator. But who knows what may happen in the next few years?

In any case, no one can foresee what the future holds in this domain. He who would make the most of what that future may bring must approach it with an open mind, a spirit of confident hope and a readiness to give a fair trial to procedures and devices still to be presented, which may at first seem strange and even unreasonable. To quote a trite truism, "One never knows what one's future holds in store for one." This also applies to teachers of language. Verba sat sapienti. (Let a word to the wise be sufficient.)

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