



1968

Counseling: A Language-Learning Process

Michael. Murray
Loyola University Chicago

Follow this and additional works at: https://ecommons.luc.edu/luc_theses



Part of the [Psychology Commons](#)

Recommended Citation

Murray, Michael., "Counseling: A Language-Learning Process" (1968). *Master's Theses*. 2314.
https://ecommons.luc.edu/luc_theses/2314

This Thesis is brought to you for free and open access by the Theses and Dissertations at Loyola eCommons. It has been accepted for inclusion in Master's Theses by an authorized administrator of Loyola eCommons. For more information, please contact ecommons@luc.edu.



This work is licensed under a [Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 License](#).
Copyright © 1968 Michael. Murray

COUNSELING: A LANGUAGE-LEARNING PROCESS

by
Michael Murray

A thesis submitted to the Faculty of the Graduate school
of Loyola University in partial fulfillment
of the requirements for the degree
of Master of Arts

August 14, 1968

LIST OF ILLUSTRATIONS

Figure		Page
I	Diagram of thought, symbol and referent.....	9
II	Program of the speech circuit.....	15
III	The influence of language on perception.....	54
IV	Establishment of a meaning response through classical conditioning.....	60
V	Operant paradigms for the learning and maintenance of verbal responses.....	63
VI	Classical conditioning accompanying mands and tacts.....	66

LIST OF TABLES

Table		Page
I	Associations to <u>table</u>	20
II	Word associations of adults in the Kent-Rosanoff study and of children in the Woodrow-Lowell study to the stimulus word <u>table</u>	73

TABLE OF CONTENTS

	Page
LIST OF ILLUSTRATIONS.....	i
LIST OF TABLES.....	i
 Chapter	
I INTRODUCTION: LANGUAGE-LEARNING/AND PSYCHOTHERAPY.....	1
II MEANING IN LANGUAGE.....	5
<p style="margin-left: 2em;">Theories of Meaning in Linguistics</p> <p style="margin-left: 2em;">"Objective" Meaning and Meaning for the Individual</p> <p style="margin-left: 2em;">Words and Things</p> <p style="margin-left: 2em;">La Langue and La Parole</p> <p style="margin-left: 2em;">Words and Experience</p> <p style="margin-left: 2em;">Verbal Stimulus and Verbal Response</p> <p style="margin-left: 2em;">Verbal Stimulus and Deviant Verbal Response</p> <p style="margin-left: 2em;">Rational Functions of Language</p> <p style="margin-left: 2em;">Magic and Schizophrenic Distortion in Language</p>	
III HOW THE CHILD LEARNS HIS LANGUAGE.....	30
<p style="margin-left: 2em;">Piagets' Theory of Language Learning</p> <p style="margin-left: 2em;">The Motivation of Thinking</p> <p style="margin-left: 2em;">Concepts</p> <p style="margin-left: 2em;">Problem-Solving: The Manipulation of Concepts</p> <p style="margin-left: 2em;">Language and Cognition</p> <p style="margin-left: 2em;">Language and Concepts</p> <p style="margin-left: 2em;">The Role of Language in Cognitive Development</p> <p style="margin-left: 2em;">Behavioural Theories of Language Learning</p> <p style="margin-left: 2em;">Observation of Children in Naturalistic Settings</p> <p style="margin-left: 2em;">Denotative Meaning</p> <p style="margin-left: 2em;">Connotative Meaning</p> <p style="margin-left: 2em;">Meaningfulness</p> <p style="margin-left: 2em;">Association Learning and Conditioning</p> <p style="margin-left: 2em;">Meaning Internal</p>	

Chapter		Page
IV	PSYCHOANALYTIC THEORY OF LANGUAGE.....	81
	Psychoanalytic Theory of Language	
	Learning a New Language	
V	CONCLUSION: LOOKING TO THE FUTURE.....	91
	BIBLIOGRAPHY.....	95

CHAPTER I

INTRODUCTION: LANGUAGE-LEARNING AND PSYCHOTHERAPY

The purpose of this paper is to investigate the relationship of language to counseling. The paper's main point is that the client in counseling is engaged in a language-learning process similar to the process engaged in by one who is learning a foreign language. Previous to counseling he has been unable to deal with his experiences in an adequate way due to a restricted and therefore inadequate symbolic structure. In counseling he slowly learns to differentiate and symbolize those aspects of his experience about which he has been confused. It is the counselor who facilitates this process of language-learning (Rogers, 1965).

The writer was drawn to this investigation after participating in a research project conducted by Charles Curran on the use of counseling principles in learning foreign languages (Curran, 1969). Curran's research convincingly points up that not only is the learning of a foreign language hindered, and frequently excluded, by the presence of negative feelings - anxiety, shame, frustration and the like - but is greatly facilitated when these feelings are sensitively handled. What seems to happen when the language-learner is helped by his language "counselor" to deal with negative feelings is that the learner becomes emotionally involved - in a positive way - in the foreign language. Positive feelings are allowed to emerge to become the motivating power in the

learning process.¹

To compare the process of learning a language with the counseling process is not simply using language-learning as an analogy for counseling. Counseling is essentially a communication process that uses language. Both client and counselor are trying to deal with symbols. The ultimate aim of all therapy is a change in perception. We hope to demonstrate that this is also the aim of language-learning. The person who is trying to learn a foreign language is striving for a more adequate mode of existence, frequently in a foreign country. It is no romantic turn of phrase to say that the disturbed client also finds himself already living in a strange country - that of his internal and external world - and is seeking to find a more adequate mode of existence in that country. Both learners, the student of foreign language and the client in therapy, can reach their goal of adaptive behaviour only through the use of an adequate language.

¹ Curran has several publications in which he describes the experimental processes he has used in adapting counseling skills to the learning of foreign languages (Curran, 1961; 1965; 1968).

Demonstrations and theoretical discussions have been presented at a variety of meetings, among them: The Kansas State Language Teachers' Assn., April 1960; The Spanish Language Teachers' Assn., February 1963; Chicago Teachers' College; The Midwest Psychological Assn., May 1963; and two National Defence Education Act Teacher Training Institutes at Rosary College, June 1962 and Mundelein College, July 1963.

Some presentations of color films of high school classes learning Latin and Spanish were made in a week workshop devoted to study and discussion of this research and viewpoint. It was held at Barry College, Miami, Florida, February 1968 (From footnote in Curran, 1968).

Curran (1965) speaks of the "affect-cognitive intercommunication" that seems to constitute a basic aspect of counseling. One of the functions of the counseling response, he says, is to relate affect - emotional, instinctive or somatic - to cognition. We can say that the counselor understands the client's "language of affect," the feelings the client has for which he is unable to supply adequate symbolization. These he responds to in the "language of cognition," symbolizing the client's feelings for him. The client, somehow, is able to absorb the counselor's language of cognition, and, in this way, slowly learns to speak a more cognitive language to himself. This does not mean that the counselor supplies all of his symbolization to the client. The facilitating relationship may simply enable the client to find a more satisfactory language for himself. Curran has demonstrated in his research that the learning of a language is enhanced when the learning situation is such that it stimulates the counseling relationship, a relationship that aims at dealing effectively with negative feelings, so that the "client" is free to invest his feelings in learning the new language. The term new language can be applied appropriately so the student's foreign language as well as to the more adequate symbolization of the client in therapy. Both are language-learning processes.

Psycholinguistics as a science is, as yet, a relatively unexplored

field (Carrol, 1964; Laffal, 1965. But this is not to say that it is not a little controversy in psychology (Hobbs, 1962). It might be said, however, that as a science, Psycholinguistics presents us almost exclusively with hypotheses that have yet to be substantiated by research and with directions for further research (Laffal, 1965).

It would be naive, however, to suppose that the study of language in therapy is a recent phenomenon. Language, normal or idstorted, has been a central theme in Freud's psychoanalytic theory (Freud, 1891), and modern theories of psychology have recognized how important a part language has played in the psychological growth of the individual (Iazarus, 1965). It is ultimately the element by means of which the individual communicates with, and deals with his environment (Caroll, 1964). The individual's success in dealing successfully with his environment depends on the adequacy of the language he has learned.

One of the main purposes of this paper will be to investigate the theoretical foundations for stating that counseling is a language-learning process, laying down, as far as is possible, a sound basis for the theory in terms of research being done in psycholinguistics. The writer hopes to do no more than to present a coherent thesis that may, perhaps, reemphasize the directions already presented in many works, for further research in linguistics and in psychotherapy.

CHAPTER 2

MEANING IN LANGUAGE

We say that the counselor responds to the "meaning" of what the client says. But what is meaning? Linguists, philosophers, and psychologists all will define meaning in different ways, and, in psychology, there will be almost as many definitions as there are theorists. However we define meaning, it will be the focal point of any examination of language as it is related to psychology. We must therefore come to some definite understanding of the "meaning of meaning" before we can proceed to examine the language of the client in the counseling process.

Theories Of Meaning In Linguistics

A principle that the writer holds as basic to his thesis is that meaning has relevance only where we are dealing with the relationship of language to its users. For instance, when we are dealing with language not related to its users—as when studying the physical properties of vocal sound—we are not concerned with the individual who uses the sounds to communicate. Again, studies of the physiology of speech production and audition do not deal with meaning in relation to the user of language. These studies deal only with certain physical properties of sounds and with the mechanical features of language.

Some linguists, such as Hoijer (1954) and Skinner (1957), have sought to increase the rigorousness of linguistics as a science at the cost of excluding meaning. These linguists deny any relationship that language might have to a user. With them language becomes like grammar. They concentrate on language as no more than a signaling system.

Carnap (1942) divides the study of language into three parts according to how it is approached in terms of meaning. The first kind of approach is the syntactic, which deals with the formal relations of signs to each other. The second approach, the semantic, deals with the relationship between signs and the objects to which the signs are applicable. The third approach is the pragmatic. It is concerned with the relations between signs and the users of signs. Pragmatics becomes the particular area for psychological study, since psychology is most concerned with the users of language.

Another way of considering these approaches to the study of language and meaning is to apply to them the concepts of denotation and connotation. (Carrol, 1964). In semantics we are dealing only with denotation, that is, with the relation of signs to their objects (Carnap, 1942). The user of the signs is not considered. Morris (1946) has shown clearly that signification is an activity in relation to people. The user is the locus in which the sign is related to its designation. In this context we cannot avoid the idea of connotation or what the sign means to its user. Denotation, on the other hand refers to what is

the conventional or common meaning of the sign. Connotation, according to Laffal (1965), is "the cloud of associations which trail every verbalization." To understand language, and especially distorted language, we must consider this aspect.

"Objective" Meaning And Meaning For The Individual

In order to understand what his language means to the individual, we must see him as part of the community or culture to which he belongs. We must see what language means to the culture, because, especially in counseling, the cultural or "communal" use of language is going to be a criterion of normality.

One way or another, the client will be struggling to relate his own perceptions as embodied in his language with those of the community as embodied in its language. We will try to develop here the idea of common experience and see how the individual draws in his "cloud of associations" from the common language.

The study of language as a psychological phenomenon focuses on the individual as stimulated by and responding with language (Laffal, 1965). In seeking to know what language means to the individual, we must seek to know what goes on inside the individual when he uses language as well as what goes on between individuals.

We will proceed, therefore on two levels in this investigation. First, we will examine what is meant by "communal" language and, secondly,

what is meant by "individual" language. Another way of saying the preceding is to say that we will first investigate the relationship between words and things, and then go to examine the relationship between words and experience.

Words And Things

How do words represent things? Take for instance the word "horse." This word represents two things that are outside the individual, first the concept "horse," and, second, the thing to which the concept refers, the object horse. There is the sound made by the speaker, the concept or "name" the sound represents and the real object outside of the speaker and independent of the name. The object named has a separate existence from the name. The word is available to the speaker whenever he wishes to refer to the object he is talking about. There is a relationship between the name and the object, but this relationship is not independent of the speaker. It is the dependence of the word on the speaker that places the locus of meaning within the speaker. In other words, what does the name mean to the speaker apart from the real object? The following diagram will illustrate how the relationship between the word and the thing the word represents, the object, depends on the individual.

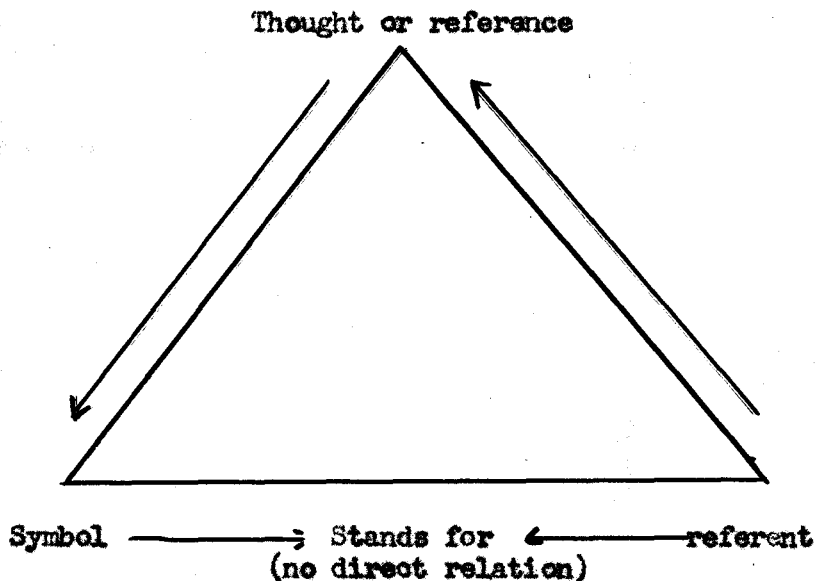


FIGURE I

DIAGRAM OF THOUGHT, SYMBOL AND REFERENT:
OGDEN AND RICHARDS (1923, p. 11)

In describing the diagram, Ogden and Richards say:

Between a thought and a symbol causal relations hold. When we speak, the symbolization we employ is caused partly by the reference we are making and partly by social and psychological factors - the purpose for which we are making the reference, the proposed effect of our symbolism on other persons, and our own attitude. When we hear what is said, the symbols both cause us to perform an act of reference and to assume an attitude which will, according to circumstances, be more or less similar to the act and attitude of the speaker.

Between the symbol and the referent there is no relevant relation other than the indirect one, which consists in its being used by someone to stand for a referent. Symbol and referent, that is to say, are not connected directly (and when, for grammatical reasons, we imply such a relation, it will merely be and imputed, as opposed to a real, relation) but only indirectly, round the two sides of the triangle. (p.12)

The word "horse," then, refers to my internal representation of "horse." It would be unsafe to say that my idea of horse, or, more accurately, my perception of the object horse fully and accurately represents what is actually standing there in the field. Similarly, when I use the word "horse" to another person, the word evokes his particular internal representation or perception of the object and I have no guarantee that he perceives what I perceive. Nevertheless we would both point to the "referent" and would agree that it was about this object we were talking.

To pursue this line of reasoning would necessarily lead us into the very complex area of perception and the question of whether we can actually perceive objective reality. We will skirt this issue by assuming that there is a real object of our perceptions, and that there is an overlapping of perception (of the object horse) for the speaker and the listener. The speaker's perception of the object will be like that of listener. This overlapping in perception is what makes language superindividual and "communal" (Saussure, 1923). What we are assuming here is that there is a basis in reality for a communal language. We are also assuming that the language of the community is a basis for judging the validity of the individuals' language usage. These of course are only assumptions, and allow for cultural distortions. We could consider, for instance the connotations, in certain communities, and at certain periods of history, of such words as "Papiso," "Jew," "Kraut," "Jap," "Communist," and "Hippie," just to mention a few. It seems to be generally

accepted, however, that the communal language is the last criterion of reality.

Freud saw this distinction between what is peculiarly individual and what is communal to language. He distinguishes what he calls the "word" and "thing" functions. This distinction played a crucial part in his descriptions of the efforts of schizophrenic patients to re-establish relations with the world. Laffal (1965) cites the case of expressive aphasia, where the patient has forgotten how to name the object "pencil," but he can use the pencil quite adequately. The aphasic patient thus demonstrates experiential familiarity with the world. This lends support to the distinction between "word" concept" and "thing concept." The "thing concept" is present to this patient, but the "word concept" is not.

The thing concept or representation refers to a direct, intuitive, experiential response to reality, while the word concept refers to verbalizations which accompany and shape this experiential response. While the aphasic patient is quite close to his experience of things, he is unable to deal with the communal aspects of language. He therefore experiences great difficulty in learning, since it is the common aspects of language by which the individual applies himself to reality.

On the other hand the word representation can be present when the thing representation is absent. This seems obvious enough in the case of schizophrenia. A schizophrenic, for instance, can imagine he

has enemies who are plotting against him. He will talk coherently and logically about his enemies and their stratagems, even though there are no such enemies. Here the thing representation is inconsistent with reality, while we might be tempted to believe his story, so good is his use of the communal language.

Even with so-called normal people we can get into some gray areas. We all have had the experience of trying to express something we are experiencing, as in counseling, and being unable to do so effectively. Here the thing representation may be very much present, while the word representation is absent. Or the word representation may be present while the thing representation is inconsistent with reality, as is the case when we feel confident we saw things happen in the manner we describe, only to discover that things really happened quite differently. In psychological theory, the defense known as projection gives evidence of the latter kind of distortion. What appears to be anger in another person may be nothing more than my interpretation of emotional cues. When I say "he is angry," the words are those associated with my own internal experience, but my experiences may be erroneous with respect to reality because of my own needs or conflicts.

To the extent that reality and an individual's experience do not match, it may be said that his word representations prevail over his thing representations and that he behaves as if a thing were so, when in reality it is not so. In more obvious reality disjunctions, as, for

instance, in the case of the psychotic, the distortions are sometimes readily perceived. But where the distortions are less severe, the break between the reality aspects of things and their representations in experience, will be much more difficult to perceive.

This is precisely the area of counseling, where people are struggling to identify and correct distortions that may be extremely difficult to pin down, areas which are not as dramatic or as extreme as we witness in the case of psychotics. It is here that it becomes so important to deal with the process of therapy in terms of learning a more adequate language, adequate in that it closes the gap between how the client perceives things to be and how they really are, between what is individual and what is communal.

These ideas of thing representation and word representation are fundamental and always implicit in discussions of language. It is all too easy to overlook the fact that, when we speak of the relation between language and things we are speaking of language as bound to the experience of things rather than as bound to things themselves (Lewin, 1936).

La Langue And La Parole

We are assuming that reality is a social phenomenon. It is determined by a consensus of individuals. It is a matter of common judgement. If an individual disagrees with the majority in some areas

at least, we are inclined to judge him as unrealistic. Language, then, does have a consensual dimension. If I should state that there is a "gryx" in the shower, people will not know what I am trying to communicate to them. If I should state that there is a horse in the shower, on the other hand, they will at least understand what I am talking about. If I should state that I am going to feed the horse, when, in reality, I am referring to the dog, then I cannot expect an adequate response from my audience. In either case my use of the terms "gryx" and "horse" are "ideosyncratic," that is, peculiar to my way of representing reality through the use of language (Saussure, 1932).

The word "ideosyncratic" was first used by Ferdinand de Saussure (1915). De Saussure used the term la langue to represent a cumulative, consensually valid common language, and la parole to represent language as used by the individual.

The diagram illustrates the speaking circuit between two speakers. It includes both the psychological and non-psychological aspects of speech. The non-psychological aspects have to do with the physiology of phonation and audition plus the physical means of transmission of sound by vibrations.

In the psychological segment of the circuit there is an active part and a passive part. The active part has an executive function in which is included everything that goes from the associative centers of the speaker to phonation. The passive or receptive part includes

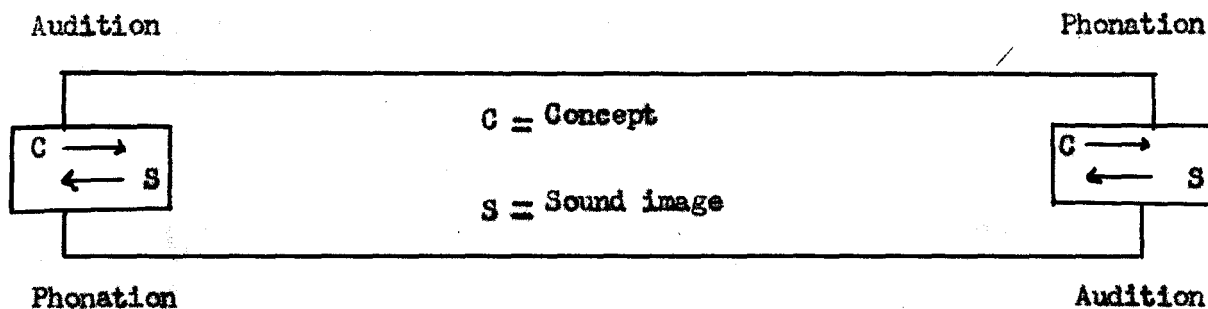


FIGURE II

PROGRAM OF THE SPEECH CIRCUIT: SAUSSURE (1915 p. 12)

every thing that goes from the ear to the associative centers. C (concept) — S (sound image) is active or executive. S (sound image) — C (concept) is passive or receptive. The executive side of the circuit is what Saussure calls la parole. The passive, receptive (and co-ordinating) side is what he calls la langue, which exists by virtue of the fact that "among all the individuals that are linked together by speech, some sort of average will be set up: all will produce, not exactly of course, but approximately, the same signs united with the same concepts" (Saussure 1915 p. 13).

Saussure distinguishes between the act of speaking on the part of the individual speaker and the phenomenon of language, a socially established set of conventions and possibilities from which the individual speaker draws in speaking:

Through the functioning of the receptive and co-ordinating faculties, impressions that are perceptually the same for all are

made on the minds of speakers. How can that social product be pictured in such a way that language will stand apart from everything else? If we could embrace the sum of word-images stored in the minds of all individuals, we could identify the social bond that constitutes language. It is a storehouse filled by the members of a given community through their active use of speaking, a grammatical system that has a potential existence in each brain, or more specifically, in the brains of a group of individuals. For language is not complete in any speaker; it exists perfectly only within a collectivity.

In separating language from speaking, we are at the same time separating (1) what is social from what is individual; and (2) what is essential from what is accessory and more or less accidental. (Saussure, 1915 p. 13)

The collective phenomenon which Saussure calls la langue is in itself not the subject matter of psychological study, but it is our subject of study insofar as the individual participates in it or shares it. We have already agreed that language is a consensual thing and the common criterion of language distortion will be its deviation from the common language.

Hall (1951) and Ullman (1962) use a term "idelect" which appears to be half way between la langue and la parole and is analogous to la langue for the individual. It stands for the totality of speech habits for a single person at any time. The idelect may contain only a portion of la langue as a social term, but if it is not distorted in the individual, it will not actually (or at least theoretically) deviate from la langue. It is necessary to make this distinction here, and we shall return to it presently.

Language, according to Saussure, consists of a set of rules and a

of potentials made up from the collection of individual phenomena. The individual, in turn, draws from this set of rules for his own use and his particular usages may be referred back to the "general rules" to check their validity in the common language. In this way the idiolect is both drawn from the common language and is validated in the light of the same. In this way also the individual has a touchstone in the common language, in which he participates. Potentially at least, he has a safe criterion against which to judge and correct distortions in his own speech.

Another distinction that Saussure makes is between "syntagmatic" and associative language. "In the syntagm a term acquires its validity because it stands in apposition to everything else that precedes it or follows it or both." (Saussure, 1915 p. 23). If I say "how are you" or "good heavens!", what I say has a fixed sequential character. There is really no other way of making these exclamations and their sense comes from the sequence of the words they contain. Associative relations, on the other hand, are not dependent on the occurrence of a sequence. "Whereas a syntagm immediately suggests an order of succession and a fixed number of elements, terms in an associative family occur neither in fixed numbers nor in a definite order.

For Saussure, a particular word is like the center of a constellation; it is the point of convergence of an indefinite number of coordinated terms. Ideally, the word horse would evoke a universally common set of associated words of animals, and, in addition, would have a

universally common set of associated words whose qualities and experiences would be involved in the meaning of the word horse. Such things as stables, wagons, riding, racing, fodder, and so on. This matrix of associations could be summarized by a set of words headed by the word horse and could include such words as stable, wagon, ride, race, hay, mane, whinny, tail, farn, cow and the like.

Bally, a disciple of Saussure (quoted in Ullman, 1962, p. 238) introduced the term "associative fields" to describe such relationships as above. "The associative field is a halo which surrounds the sign and whose outer fringes merge into their environment. The word ox makes one think of (1) cow, bull, calf, horns, ruminating, bellowing, etc.; of (2) tilling, plough, yoke, etc.; finally (3) it can evoke, in French, ideas of strength, endurance, patient work, but also of slowness, heaviness and passivity."

Such an ideal set of verbal possibilities as in the above paragraphs would be the reference dictionary against which each user would match his own particular associations and from which each user could learn more of the potential which other users might already have achieved. It would also, by exclusion, show unacceptable, that is, completely idiosyncratic associations.

Words And Experience

We have been trying so far, to establish the connection between

words and things. This kind of discussion is necessary in order to lay groundwork for a discussion of how language can be distorted. We have stated that language is a communal or consensual phenomenon. Hence we can say that the only valid criterion of when language is distorted is when it deviates from the communal language. Behaviour is considered "bizarre" when it deviates markedly from accepted norms of behaviour (Lazarus, 1965). Since language is merely verbal behavior, the same definition of what is bizarre will hold in its regard.

Verbal Stimulus And Verbal Response

Experiments have led to a word-association hierarchy representative of la langue. This hierarchy lends importance to a distinction between verbal stimulation and verbal response (Laffal, 1965).

In the typical verbal association task, the subject is given a series of stimulus words, one at a time and is required to respond to each word with the first different word that comes to mind. This task may be written or oral. Table I shows the actual responses of 1008 subjects to the stimulus word "table". In this study by Russel and Jenkins, the written form was used.

From this table we can make the assumption that, when a stimulus word such as table is presented to an individual, a set of verbal responses comparable to those obtained from the group is potentiated (made more likely to be uttered). From among the many so potentiated, the individual selects

840 chair	6 wood	1 four, spoon, lamp,
41 food	3 dinner, tennis,	bed, card, hard,
21 desk	Maple	board, huge, plate,
15 top	2 door, cup,	pool, book, maple,
11 leg	room fork,	house, sink, stable,
9 eat	round, floor,	sable, mesa, drink,
8 cloth	silver	leaf, set, black,
7 dish(es)		meat, tablecloth,
		kitchen, flat,
		study, company

TABLE I

ASSOCIATIONS TO TABLE: RUSSEL AND JENKINS (1954)
TABLE (N- 1008)

one response for utterance. Verbal stimulation refers to this potentiation of associations, representing within the idiolect of the individual, the ideal constellation of associations in la langue. Saussure described this part of the speech cycle as the passive, receptive side. Verbal response refers to the selection and utterance of a response by the individual. This as we have seen was characterized by what Saussure calls the active, executive side of the speaking cycle, la parole. Where verbal stimulation is concerned, the focus, is upon the verbal structure potentiated by the stimulus. Where verbal response is under study, matters of intention and motivation are of prime importance. It is not so much what the word means objectively or "communally" that we are dealing with, but with what it means to the individual user, and why it means what it means.

There is thus a parallelism between la langue and verbal stimula-

tion, and between la parole and verbal response. Verbal stimulation involves a stimulated individual and an idiolect, whereas la langue is a conception which, although derived ultimately from the contributions of individual speakers, transcends them in proposing an ideal linguistic possibility. For the individual, the stimulus serves to bring into play the relevant portions of la langue within his idiolect. La parole is the actual selection and utterance of a particular response from those available.

The hierarchy of responses potentiated by a verbal stimulus is the storehouse out of which the individual draws in responding. If no other variables were operating, the response selected for utterance would be determined simply by the relative strengths of the various choices. In such situations, the dominant response for an individual would be the one given commonly by the group of which he is a member. Obviously we see that in many instances, this simple condition does not apply. Especially in the disturbed language of the psychotic patient, we see responses that, by our criteria of commonality and expectancy, are extremely strange and puzzling. We must therefore reason that factors other than occasional response strength have contributed to the response choice. Under certain conditions normal subjects may also produce responses which cannot be found anywhere in the tabulations obtained from comparable subjects responding to the same stimulus word. Such conditions obtain in situations of extreme need and deprivation. In addition, the

physical setting in which the task of association is presented, if there is something striking or unusual responses. It is therefore extremely difficult to examine with any effectiveness the specific reasons for any particular deviation from the normal.

Taking the word - association task, in which a stimulus word is presented and response word uttered, as a prototype the variables which contribute to the production of a verbal response may be identified under four headings (Carroll, 1964)

1. The response hierarchy. This variable has to do with the verbal stimulation; it is the hierarchy of responses called into play by the stimulus word. The associative response hierarchy obtained from group responses is an approximation of the relevant associations in la langue from which the responding individual will draw.

2. Needs, conflicts, and psychic structure of the subject. This variable relates to the special needs, conflict conditions, and personality of the responding individual. Under ordinary circumstances, where no marked conflicts or unsatisfied needs are present, a highly common response will be uttered. However, where there is a psychological disturbance, and idiosyncratic or unusual response may be produced.

3. Reality demands. The presence of an experimenter as communicant functions as a social, reality-orienting influence and fosters implicitly a socially acceptable and pertinent response.

4. Intrusive stimuli. Physical aspects of the task situation may

foster unusual associations. Where such aspects are obtrusive, the response may be to them rather than to the stimulus word, or both. Irrelevant stimuli may intrude not only because of their accidental accentuation, but also because the psychological state of the subject may foster a division of attention.

The response hierarchy which is tied to verbal stimulation, the needs, conflicts and personality dynamics of the subject, the reality demands represented by the communicant, and intrusive stimuli are the broad classes of factors which interact in the production of a verbal response. Intrusive, irrelevant aspects of the communication situation are attended to ordinarily only by extremely disturbed individuals. The factors which usually bear most weight in the production of responses are the response hierarchy, the needs and conflicts of the individual, and the implicit demands represented by the communicant. Since the communicant's role is essentially to force the response toward a social norm, toward comprehensibility, appropriateness, and propriety, distorting influences may be attributed largely to the individual's special needs and conflicts. These lead to the hypervaluation of ordinarily subordinate or idiosyncratic associations, as is often seen in the language of disturbed individuals. Words are then used as if certain ordinarily weak meanings or associations were in fact dominant. (Laffal, 1965)

Verbal Stimulus And Deviant Verbal Response

We can begin now to see how language can take on a very peculiar meaning, depending on the perceptions of the individual, especially when these perceptions are distorted by feelings. Laffal (1965) relates the case of the institutionalized schizophrenic who was visited by his father, and, when his father offered him "a nice piece of fruit," he attacked him violently. In fact, the patient had very strong conflicts in the area of homosexuality and was extremely sensitive to any mention of the word "fruit," a word commonly used for homosexual. Ordinarily our associations to fruit have to do with edibles. For this patient, however, the word fruit evoked powerful associations in the area of homosexuality, even though the circumstances favored associations related to food. The patient's peculiar set entered into the forming of this association, and the instance shows very strikingly the incidence of idiosyncratic meaning in a verbal communication.

In the counseling process, we are therefore dealing with all four variables. We know that the combination of all four makes for a complex language structure. Every counselor is aware of this complexity and tries to deal with the variables as best he can. It is his special task to try to reconcile the needs, conflicts and psychic structure with the reality demands made upon the client. He assists, in this way, so that the client may come to a more coherent language and a more integrated symbolism.

"Coherent" and "integrated" mean simply more realistic.

Rational Functions Of Language

We are now in a better position to discuss the "meaning of meaning". We have already laid down our basic principle, that language has meaning only insofar as it has meaning for somebody. This statement does not gainsay what linguists claim as meaning. We are talking of meaning for the psychologist - pragmatic meaning. "In its broadest terms," says Laffal (1965), "meaning has to do with how language does work for its users." This statement can be taken as a preliminary definition of meaning. We will expand on this definition later. We are dealing here with language as it is relevant to counseling. Rogers (1965) stresses the subjective meaning of language in counseling. It is not enough to consider the meaning of what a client says as something in itself. We must ask what does this or that response mean to the client.

It is difficult to set down just what are the things that language does to or for people. Views of the rational function of language can help us to refine the function of language. These views tend to group around three positions: (1) that language is the means by which the user reveals or expresses his ideas; (2) that language is an instrument of interpersonal behaviour and its function is to elicit desired responses from other individuals, and (3) that language is essentially a means of incorporating the individual into an existing cultural matrix and of guaranteeing

his contribution to the needs and aspirations of the culture. This last view has achieved considerable prominence in the last few years through the wide publications of the writings of Benjamin L. Whorf (1956).

The first position mentioned is called the mentalistic tradition (Kantor, 1936; Gray, 1939; Ogden & Richards, 1956). This tradition stresses the work of making open and known to others the mental or psychological events within the individual, the expression of emotion and the evocation of attitudes and emotions in others.

Pranko (1946) Kantor (1936) and Skinner (1957) favor the second position, that language is an interpersonal phenomenon. It is the means by which the diverse activities of men are coordinated and correlated with each other for the attainment of common and reciprocal ends: Men do not speak simply to relieve their feelings or to air their views, but to awaken a response in their fellows and to influence their attitudes and acts. (DeLaguna, 1927, p. 19).

There is apparently no essential difference between this position and the mentalistic, except for a difference in emphasis. The mentalistic view emphasizes communication, whereas for the interpersonalists, the emphasis is on the manipulation of others for individual or mutual needs.

We point out these three positions in order to further clarify our own position about the work of language. There is far more involved in language as a means of communication than the fulfilling of individual needs or interpersonal manipulation. Our position, the third one ment-

ioned, has more to do with the individual as part of a culture and as being formed by it. We will see how important this becomes in the clients struggle with his culture, in an effort to deal more adequately with the demands it makes on him, or to free himself from it.

Magic And Schizophrenic Distortion In Language

We have just been looking at how language serves the rational functions of man. We can best understand this when we consider how language can serve irrational purposes in the cases of both children's phantasy and schizophrenic distortions. Perhaps from this we can also see more clearly that, even in the case of so-called normal people, language is not entirely "rational," but always has a vaguer, more global, connotative aspect.

It has been noted, particularly in the pioneering work of Piaget (1928) that children tend to use language in a "magical" way, that is, they employ language as if it were a direct manipulation of things, without further mediation. Children often use incantations to ward off unpleasant things or to obtain victory over an enemy ("Rain, rain, go away," "Everything you say flies off me and sticks to you.")

This tendency has been traced by Cassirer (1946) to a tendency to see a complete congruence between "image" or symbol and "object," between the name and the thing. Piaget (1930) has characterized the young child's construction of reality as "pure autism," or thought akin to dreams or day-

dreams, thought in which truth is confused with desire. Piaget regards this as a pseudo-hallucination which turns desire into reality and makes reality accord with a person's pleasure. How much this tendency is the property of children may be disputed. Adults' distortions and phantasies can often be discerned in speech, as if just saying something is so is going to make it so. In adults, just as in children, there is often a confusion between the self and the world which destroys logical truth and objective existence.

There is a certain parallelism between the magical attitude and the use of language by children and the schizophrenic use of language. Werner and Kaplan (1965), for instance, describe a "thinglike handling of linguistic forms" which is the same in young children and in schizophrenic uses language as the "magical incantations for thing representations which his phantasy has uniquely constructed, without regard to reality and communal usage, to fit his own needs." (Laffal, 1965, p. 35)

Freud (1915) makes the interesting observation that language in schizophrenics is a means by which the patient attempts to recover a world from which his libidinal investments have been withdrawn. His language thus becomes a highly personal effort to reestablish contact with the world around him. Words take on a magical quality, providing a conceptual world not necessarily related to anything in reality. By the same token, because he thus controls his world by the use of language, it is a constant and frightening struggle to maintain a world that is free of threat. It

this essentially different from the state and struggle of many a client in counseling? He too is trying to make sense of things around him and is bound to his own language in manipulating his perceptions of reality and he also is threatened by reality. Perhaps the difference is only one of degree between the condition of the schizophrenic and that of the "normal" client (Lazarus, 1959).

We have not yet exhausted this discussion on meaning in language. Before we can refine it to our satisfaction, however, it will be necessary to discuss how the individual learns his language. In the following chapter we will consider some of the theories on language learning in the child and the adult.

CHAPTER 3

HOW THE CHILD LEARNS HIS LANGUAGE

The individual becomes acculturated through the process of conditioning - language conditioning. In this chapter and the next we will investigate how the individual acquires his peculiar needs and how these needs are interwoven with his language. We can see only by such an investigation how the individual ingests his culture with its healthy and unhealthy aspects. In counseling the client is constantly dealing with things learned from his culture. It must be remembered, however, that the culture plays only a limited part in the conditioning process. The individual also, to a large degree, conditions himself, according as he reacts to his experiences, both cultural and internal. If we look only to the culture or the environment of the individual to explain his behaviour, then we must discount the possibility of the individual changing his perceptions and his attitudes towards his experiences. We would then have to discount client-centered counseling in favor of either conditioning the client to adjust to his environment, or of changing the environment itself. Our belief is that the counselor, in helping the client, seeks to free him as far as possible from previous conditioning, so he can be more or less autonomous and spontaneous (Rogers, 1965).

Piaget's Theory Of Language Learning

The Swiss psychologist Piaget and his associates have been responsible for an intense program of research on the development of thought in the child (Piaget, 1928); their interest in the language development of the child has actually been secondary. Piaget distinguishes four main periods in the development of the child's Thought, and since in their chief features his findings have been confirmed by other investigators, they deserve emphasis here.

The average child in Western culture passes through the following stages of development (Cf. Almy, Chittenden and Miller, 1966)

acquisition of perceptual invariants: two to years of age preoperational

intuitive thinking: two to seven years of age concrete operational

thinking: seven to eleven years of age formal, propositional

thinking: eleven upwards

The first stage lays only the foundation for thought development. It is the stage during which the child learns to identify the main features of the world around him and some of their essential properties. He has to perceive certain aspects of his environment as unchanging despite the various forms in which they may appear. These perceptual invariants may be thought of as the basis of thought and language. The child learns the "meanings" of these percepts not only in terms of their direct sensory qualities but also in terms of the way objects and surfaces react to the

various kinds of manipulative responses (touching, hitting, biting and so on) that he finds he can make to them. Toward the end of this period the child has built covert, internalized, representational responses around these perceptual invariants, for he can now delay his responses to a stimulus when it is absent.

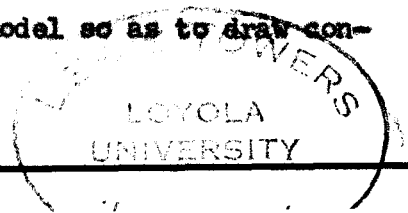
In the next stage of mental development distinguished by Piaget, the child wrestles with further problems in the interpretation of his environment, namely, the understanding of relationships among the perceptual invariants he has come to recognize. He must arrive at elementary concepts of space, time and causality, but in doing so he remains for a considerable time in the "preoperational stage" in which he makes what Piaget calls intuitive judgements about relationships. For example, if the child is shown two rows of beads, each containing four beads but with one row spaced further apart than the other, he will in this stage consistently act and behave as if the more widely spaced row actually has more beads. Likewise, the child in this stage will maintain that a tall beaker, into which water from a low, wide beaker has been poured contains more water than was present when the self-same water was in the low wide beaker. The child has not arrived at a notion of the conservation of number or quantity. He attends to only one property of experience at a time, and cannot see how two or more properties (such as height and width) can interact or trade off with each other (Carrol, 1964).

As a result of further learning through experience, the child

eventually passes into the stage of "concrete operational thinking". He has acquired concepts involving complex relationships, such as that of the conservation of amount, weight, volume, size, and number, and has attained what Piaget calls reversible thinking - that is, thinking, that can trace a physical operation back to its starting point and account for the transformations in its appearance. He can classify objects into groups of different sizes on the basis of different qualities; he can arrange objects in order of magnitude with respect to a given attribute, and he can perform such operations as substitution and the recognition of equivalences. But all this thought is bound to actual, tangible, visible materials and objects. He cannot at this stage imagine possible, potential relations among these objects, or manipulate possible relations among absent objects.

These latter capabilities develop, according to Piaget, only during the stage of formal, propositional thinking, that is, at around the start of adolescence for most children. It is during this stage that the child starts to think in terms of purely logical propositions which can be stated and tested against facts drawn from other experiences. This is the stage at which the child begins to be able to deal effectively with formally stated syllogisms.

The unifying theme in the work of Piaget is the gradual unfolding of the individual's ability to construct an internal model of the universe around him and to perform manipulations on that model so as to draw con-



clusions about the probable past history of his environment or the probable results of possible actions that could be taken upon that environment. The ability to do this is the essence of all "thinking" in the deepest meanings of the term.

The four stages of mental development listed by Piaget correspond to four stages in the working through of any process of thinking (Carroll, 1964). The prethinking stage in which "perceptual invariants" are acquired by the infant corresponds to a stage of concept formation or concept attainment in which the basic entities which function in any particular context must be identified and recognized. The preoperational, intuitive stage may correspond to a type of "incubitive" thought reported to occur even in adults when concepts involved in a problem are allowed to interact somewhat freely. The concrete operational stage corresponds to a stage when one experiments either overtly or covertly with the tangible referents of these concepts. The formal, propositional stage corresponds to the process of constructing alternative hypotheses regarding a problem, or linking together a series of inferences concerning a situation.

The Motivation Of Thinking

No process of thinking occurs without motivation, or, cause. In infancy, primary drives such as hunger, thirst, and the need for warmth provide a basis on which certain objects (such as foods, blankets) are discriminated, recognized, and built into concepts, but it is difficult to

account for all the behaviour of this period without also making reference to secondary, learned drives. In childhood, thinking is motivated not only by the need to solve problems concerned with the child's interactions with other people and with his environment, but also by a "need to understand" or to know, reinforced by experiences in which knowledge about the environment has been put to good use in solving problems of adjustment to it.

Adults' thinking is also motivated, whether very diffusely, as in day-dreaming and reverie, or very specifically, as when a particular problem urgently needs to be solved. An especially strong motivation for thinking arises from what Leon Festinger (1957) calls cognitive dissonance—a state of affairs that occurs whenever two ideas are in marked conflict, as when one is presented with an objective fact that appears to undercut one's cherished beliefs. Festinger shows that people are strongly motivated to reduce such cognitive conflict—either by changing their attitudes, seeking more information, or restructuring or reinterpreting the information available to them.

Concepts

Any analysis of thinking must give an important role to what we call concepts. In the process of growth, a person's perception of his universe will be measured by the conceptual framework with which he deals in the process of thinking.

The first concepts formed by the young child are the perceptual invariants of objects, sensations, sounds, and feelings. They are internal representations of classes or categories of experience (Carrol, 1964). As the child learns language, he learns socially reinforced names for these categories of experience. He can even shape his behavior around internal representations of concepts; for example, a child at a certain age can take a pencil and draw a square on demand.

Not all concepts are built out of raw sensations. Apparently some concepts are built out of partial similarities in the responses to sensations, and since some of these responses are internal, it can be said that some concepts may be built out of other concepts. Take the concept of "oppositeness," which must be built out of instances in which it is noticed that one extreme of any dimension of sensation is contrasted with the other extreme. Similar analyses may be made for concepts like "number," "relations," or "randomness," whose genesis has been studied by Piaget. We can now broaden our definition of concept by asserting that any concept is the internal representation of a certain class of experiences, these experiences being either the direct response to aspects of the external environment, or responses to other experiences.

In theory, an infinite number of concepts are possible, since experiences may be classified in an infinity of ways. A concept can be arbitrarily constructed by combining other concepts: "All Colorado spruce trees between three and five feet in height situated on U.S. farms of 100

acres or more". But most concepts used in daily life, are based on classifications of experience which have been found useful in some way.

That concepts play a role in interpreting experience follows from our consideration of the use of concepts in thinking. If our manipulation of our experiences is a function of conceptualization, it follows that further manipulation will be a function of the "tools" already at hand.

Our definition of the word "concept" can be stated thus: a person has learned a concept when he can, with a high degree of reliability, discriminate between instances and noninstances. This definition is usually satisfactory, but many individuals who know a concept by this definition are not able to formulate the concept verbally (or in whatever mode of communication is appropriate, for example, in visual or acoustic terms) or to communicate it to others. In fact, several experiments have shown, apparently, that it is possible to learn a concept without being aware of the basis for it; the individual simply learns a response to the significant features (that is, the "critical attributes") of positive instances of a concept without being aware of this response. In one experiment, Lorraine Bouthile (1951) had subjects memorize a series of pairs, like elephant-path and recognize-zero. She then presented them with multiple-choice items like the following:

hexameter: (1) bib (2) tax (3) fat (4) get

Many subjects were able to choose the correct answer--tax--just on a

"hunch", not realizing that the correct answer was always formed out of letters included in the stimulus word. Because such "unconscious" concept formation is possible, in some contexts, it is useful to define concept learning in terms of the ability to recognize instances and the ability to formulate descriptions, or to construct instances of the concept. The role of verbal formulations in this kind of thinking process is obvious. In fact, to think of the modes of concept attainment most commonly employed in education is sufficient to establish this role.

Research by Bruner and his associates (Bruner, J., Goodnow, J., and Austin, G., 1956) illustrates situations in which subjects develop and test hypotheses (that is, tentative internal representations of experiences concerning the concepts they are to acquire). They point out that this kind of internal process parallels, at a simple level, the behaviour of the scientist seeking regularities in the phenomena he is studying.

These are, however, kinds of concept-attainment tasks where the concepts are so difficult or the attributes so lacking in salience that learning is gradual and hypotheses seem of no avail. In such cases, subjects find they must resort to "spectator behavior", simply waiting for the presentations to suggest suitable hypotheses.

It is interesting to note that both the "scientific" process demonstrated here and the "spectator behaviour" can easily be seen in the counseling process.

The most interesting object of study in these concept-formation experiments is how the individual arrives at hypotheses to test, for testing a hypotheses is itself relatively easy. Fast learners in these experiments are those who are facile in constructing hypotheses, either on account of some general trait (intelligence?) or on account of their previous acquisition of a rich variety of patterns of response likely to be useful in such experiments. Thus, transfer of prior learning ("learning to learn") can be effective in concept-attainment tasks. As far as counseling is concerned, we might well ask if a large part of the process is not simply a matter of correcting a faulty learning system or of actually developing a more effective ability to "learn to learn".

Problem-Solving: The Manipulation Of Concepts

During a lifetime, an individual acquires a goodly stock of concepts. He may also have acquired names (words or phrases) for many of these concepts, but it is not necessary for all concepts to have names. Some remain at the kinesthetic or perceptual level: For example, the concept of the lever is utilized by a farmer when he pries up a stone, even though he may not verbalize it with either of the words lever or pry. In such a case it might be thought we could dispense

with the notion of concept and assert that the response of the farmer is a direct learned response to a particular kind of problem, namely a stone which is hard to move. Nevertheless, the fact that the farmer may exhibit considerable planful behavior -- going to get a crowbar, digging a socket for it, and finally moving it in a certain direction -- suggests that there is more than a direct overt response to the problem situation. On the other hand, the farmer might be hard pressed if someone asked him to explain how even a not-very-strong child can move, with a crowbar, a stone much heavier than himself. What we can see here is that, although much learning, particularly for the child, takes place as a direct response to the environment, higher processes can take place only through the manipulation of so-called labels. It is this kind of manipulation of labels that can account for more complex development of leverage in engineering. Likewise, as we will see later, it is the work of counseling to deal with certain kinds of primitive learning that has been incorrectly programmed, through the use of verbal manipulation, in order to more correctly conceptualize it, and more effectively program it.

All problem-solving -- that is, thinking oriented toward the solution of problems -- can be regarded as the manipulation of concepts that are evoked by the total situation and that may or may not be relevant to the task at hand. Depending on the nature of the situation this manipulation may be at one extreme wholly internal, that is, not

accompanied by detectable overt behavior, or at the other extreme, it may be almost wholly overt, directly involving relevant aspects of the environment. The former extreme would be exemplified in the solution of a numerical problem by a lightning calculator using mental arithmetic, the other extreme would be represented by the solution of a mechanical puzzle by manipulating it with guided trial and error. We must also recognize the utility of other forms of interaction with the environment, such as making pencil sketches or physical models, solving mathematical equations on paper, or verbally formulating tentative conclusions. Among the factors that may determine whether an individual will solve a problem are the following:

1. The individual's repertoire of relevant concepts.
2. The concepts evoked in the individual by the structure of the problem.
3. The individual's skill in manipulating the concepts evoked, his strategy of solution, his flexibility in changing his mode of attack, and his ability to perceive the relevance of a concept.

These points can be illustrated by reference to what is probably the most famous series of experiments on problem-solving -- Norman Maier's experiments with the "two-string problem" (Maier, 1931). A subject is introduced into a room with two pieces of string hanging from the ceiling and told that he is to tie their ends together; they

are too far apart for him to reach both ends at once. The room is bare except for a chair, a piece of wire, and a pair of pliers. Several solutions of the problem are possible; one of them, however, seems to be particularly difficult for subjects to attain. This is the solution in which the end of one of the pieces of string is to be weighted with the pliers, set swinging, and caught after the subject has moved to grasp the end of the other string. The critical concept is that of a pendulum, and success usually follows as soon as the subject sees that he must make one of the strings into a pendulum. For many subjects, however, the situation does not evoke this concept readily; hanging strings are not perceived as potentially swinging, nor are the pliers perceived as a weight rather than as a tool. S. Gelfand (1956) found that subjects who have somehow been reminded of pendulums before being introduced to this problem (for example, by doing some memory work that involves the word pendulum) will tend to solve the problem more quickly than otherwise. Yet another technique for evoking the relevant concept, noted by Maier himself, is for the experimenter "accidentally" to brush against one of the strings, setting it swinging.

Thinking, then, consists largely of the manipulation of acquired concepts. We can easily see the dependency of successful thinking (can we call this "normal" or "healthy" thinking?) upon the proper learning of complex techniques for manipulation. It seems almost

impossible to cope with experience without the properly learned groundwork. We have established the role of words or "labels" in the process of thinking. The extension of these learning ideas into the area of counseling is almost self-evident. The process of counseling is essentially a learning process - a process of learning to "think".

Language And Cognition

We will presently examine Behaviourist theories of language learning. At this point, however, we are in a position to examine more at depth the part that language plays in thinking. We will now examine the position that the more complex kind of thinking called "reasoning" requires the use of language for its existence and development. Among the ideas that we shall want to examine are these: that language may facilitate thinking allowing it to be more complex, efficient, and accurate; that language may in some cases inhibit or misguide thinking; and that the structure of a particular language may channel thinking and thus cause the users of that language to think either more or less efficiently and accurately than they would if they were to use another language, or even to arrive at different conclusions or different solutions to problems from what speakers of the other language would do.

Language and Concepts

We have already studied the processes by which children acquire concepts; we defined a concept as an internal representation of a class of experiences.

What is the relation of language responses to these concepts? It is possible, for a child to learn a language response without recognizing the underlying concept -- he may learn simply to echo a word, without understanding it, or he may use it in an inappropriate context. But learning to use a word in a meaningful way -- that is, using it in such a way that it will be consistently socially reinforced -- implies that the child has acquired the concept which underlies the linguistic response. The child who can use the word ball for the same class of experiences the members of his speech community do has, we may say, acquired a concept called ball, and he will use this word when he encounters new instances. If he shows any tendency to overgeneralize the concept -- say, to call a strawberry a ball -- he will be corrected. If he undergeneralizes the concept -- that is, fails to apply it to certain experiences -- the tendency will probably be corrected when others use it for that class of experience.

One function of linguistic forms is to provide a cue for the formation of a new concept. The adult who tells a child that there

is such a thing as a platypus, for example, alerts the child to the existence of a possible class of experiences; pictures and descriptions of platypuses then help the child to fix the boundaries of this class of experiences. Perhaps the child will never actually see a live platypus. Even the word unicorn is a name for a possible class of experiences and the child who learns this concept would at least be able to identify a unicorn if one ever presented itself! Some concepts are explicitly imaginary, like $1 = -1$ in mathematics; they refer to a conceivable and useful class of experiences that will, it is known, never occur in reality (Carroll, 1964).

One characteristic of a language that can be used in general communication is that it provides words or linguistic forms sufficient to catalog or describe all or nearly all the experiences or classes of experience that occur to the user of the language. Of course, languages vary in the sizes of their vocabularies; the vocabulary size of a language is chiefly a function of the state of advancement of the civilization which underlies it.

Many of the concepts of language are learned without the learner's being aware of them. Thus we can conclude to the kind of incorrect conditioning we encounter in the counseling process. Most grammatical concepts are learned in this way. Even though these concepts refer to certain classes of experience, many people never become aware of these classes. If presented with two sentences with

partially similar structure, many people have difficulty in identifying the analogous parts. For example, what word in the second sentence has the same grammatical function as him in the first sentence?

We showed him the way to get there.

He wanted to buy his mother a present.

It is probably at this point -- that is, the grammatical construction -- that language structure begins to be of real help in aiding thinking beyond what could happen without language. By means of grammatical constructions one can learn, remember, and manipulate more complex concepts, such as:

the boy's hat

herbivorous mammals

the top of the Rock of Gibraltar

preoccupation with litigation

excess of income over outgo

psychologist aroused over ethical problems

two right turns after each left turn

Thinking aided by language is called reasoning, and the ability to reason depends largely on the ability to formulate steps in an inferential process in terms of language, whether the language be overt or covert (Carroll, 1964). The speaking a subject does in the course of solving a reasoning problem does not seem to be identical with reasoning processes but instead a rather inaccurate and hazy report of them.

It is thus difficult to obtain evidence on the proposition that the ability to reason depends on verbally formulated inferential steps. Nevertheless, the content of reasoning processes frequently can be stated only in verbal terms, even though the end result of a reasoning process may be an action, such as a decision to buy an automobile.

The Role Of Language In Cognitive Development

Animals can perform many tasks that appear to require "thinking" or at least some internal process which is not immediately open to observation. For example, an adult monkey can be trained to perform the "double alternation problem" -- that is, to learn that, in a sequence of trials in which he can look for food under either a box at the right (R) or a box at the left (L), the sequence which will always get him food is RRLRLRL Some kind of symbolic activity appears to be involved because the monkey has to remember, or keep track of, whether he has looked under a given box before. We cannot say whether the monkey "counts" in any sense; all we can really know is whether he can learn to perform the task.

One of the methods used by psychologists in studying the mental development of young children is to give them some of the same problems that they give animals. That is, a child is introduced into

a situation analogous to what might be presented to a rat or a monkey; while the experimenter may talk to the child, he will talk only in general terms (saying something like, "We're going to play a new game") and will avoid telling the child what the experiment is about or what rules are to be followed. The advantage of this procedure is that it allows the experimenter to study the speed and accuracy with which the child can "figure out" for himself the rules or principles of the experiment. The double alternation problem described above has been tried with children. It has been found that they cannot learn to perform it until they are about three-and-a-half years old at the youngest, and from that age until about the age of five, they cannot verbalize the rule by which they perform it. By the age of five, most normal children can both learn the task and verbalize it. There is no systematically collected information about how early children can be taught to double alternation problem by verbal instruction alone.

It seems obvious, however, that if a child has already learned a concept verbally in the course of his everyday development, he would be more likely to perform successfully in any problem situation where this concept is critical. This conclusion is supported by a number of experiments. C. C. Spiker, I. R. Garjuoy, and W. O. Shepard (1956) tested a group of children aged three to five and divided them into those who could say something like "middle-sized" as the way to describe the middle-sized member of a series of three stimuli, and those who

could not. This capability was then found to be highly correlated with the child's performance in a concept-attainment experiment where it was necessary to choose the middle-sized stimulus from sets of three stimuli in which the absolute sizes of the stimuli varied. (When the absolute size of the middle-sized stimulus was constant, prior learning of the concept "middle-sized" turned out to be irrelevant because the children could learn to respond to the absolute size of the critical stimulus.)

There has been much interest in the question of whether language responses help or hinder nonverbal behavior in ways that go beyond the ones indicated above. Does having names for stimuli help one respond differentially to them? Does it help one remember them, or use them in further problems? This question has now been investigated fairly extensively, both with children and adults, although the answers we have are not always clear or convincing, and we have no settled theory to explain the results (Carroll, 1964).

One thing seems clear: Having names for things does not alter our absolute capacity to discriminate among these things when they are extremely similar. Workers in dye factories learn many more names for colors and hence become better able to discriminate colors. The latter part of this statement is not quite true, if by "discrimination" we mean the ability to detect a small difference between two stimuli when they are juxtaposed, as in a psychophysical experiment. Highly



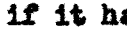
skilled workers in occupations dealing with color or taste or any other sensory dimension are on the average no better able to make psychophysical discriminations than the average person (unless they have been selected for sensory ability in the first place). But the special names they learn for colors do help in one way: They facilitate communication, and, what is more interesting for the present discussion, they enhance the ability of people to recognize and identify particular hues from memory. This has been demonstrated by R. W. Brown and E. H. Lenneberg in an experiment with American college women (Brown and Lenneberg, 1954). In one part of their experiment, they established that a series of colors differed in what they called codability. Highly codable colors were those which the women named easily and promptly, and for which there was high agreement on names. In the second part of their experiment, they showed that the codability of a color was significantly related to how well it could be recognized in a task such as the following: A subject was shown four colors simultaneously for three seconds; then after a half minute she had to find these colors in a large chart containing 120 colors systematically arranged. When the subjects were asked how they performed this task, they reported that they named the colors to themselves while the colors were exposed, and then used the names they remembered in finding the colors on the large chart.

The advantage of words in various sorts of tasks in which perceived impressions have to be "stored" and remembered in some way has

been demonstrated in numerous experiments. The superior potency of a word as a carrier of a sense impression is revealed even when an experiment is designed so that an equal amount of attention is paid to the stimuli during initial learning. K. H. Kurtz and C. I. Hovland (1953) had one group of children circle on a sheet of paper the words that went with a series of objects being shown to them, while another group circled pictures of these objects. One week later, the first group of children were better able than the second group to recall or recognize the objects that had been shown. Also, the possibility of modifying the learning of subjects by varying the "meaning" of words or other verbal responses has been clearly shown in various experiments. If two different objects (or stimuli) are assigned the same name by the experimenter, the two objects are more likely to be responded to in the same way than if the objects are given different names. Winifred Shepard (1956) found that teaching a child to call a series of red, orange, and yellow lights by the same nonsense-syllable names will cause him to generalize a button-pushing response to all these lights even though the original training was only to the red light.

If, words assigned to stimuli can modify an individual's responses to these stimuli, it is possible that the individual can be deceived by these labels, or at least, have his responses changed in ways that are not completely what he might desire if he were aware of them. This fact is the basis of certain semantic fallacies to which

we are prone. If a certain kind of payment to the unemployed is called "social insurance benefits" it is likely to be perceived favorably, whereas if it is labelled "relief" it is likely to be perceived unfavorably. Let's look, however, at experimental evidence on how verbal labels can sometimes deceive a person.






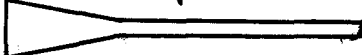

A classic experiment on this problem was done by L. Carmichael, H. P. Hogan, and A. A. Walter. They found that when subjects were briefly exposed to the figures shown in Figure III, and later asked to reproduce them, the reproductions were influenced by the labels assigned to the figures at the time of original exposure. For example, the  tended to be reproduced as something like  if it had been labelled "eyeglasses" whereas it might be reproduced  if it had been labelled "dumbbells". Further experimental analyses of this phenomenon support the conclusion that the label presented by the experimenter tends to "channel" the stimulus function of the figure in the direction of the concept represented by the label, unless the subject has prolonged opportunity to study the figure, or the delay period is relatively short, it is principally this "concept" that is remembered, rather than some direct representation (Nercross, 1958). Indeed, even subjects who are not shown any verbal label will invent their own labels and their later reproductions of the figures will often reveal the nature of these labels. It should be noted, incidentally, that the use of a label, whether

by the subject alone or also by the experimenter implies that the label refers to a concept; thus, the figure is perceived as being one of a class of similar experiences named by the concept.

A label is not particularly useful when it does not readily refer to a well-learned class of experiences. For example, efforts by several experimenters to teach people to recognize novel visual patterns better by assigning nonsense syllables to them have not been successful.

FIGURE III

The influence of language on perception (Carrichael, Hogan and Walter, 1932, p. 80). To one group of subjects, the stimulus figures were presented labelled with the words of Word List I, and to another group of subjects with the word of Word List II.

<u>Word List I</u>	<u>Stimulus Figures</u>	<u>Word List II</u>
Bottle		Stirrup
Crescent Moon		Letter "C"
Beehive		Hat
Eyeglasses		Dumbbells
Ship's Wheel		Sun
Gun		Broom
Two		Eight

An experiment conducted by Kathryn Norcross has sometimes been cited as evidence for the "acquired distinctiveness of stimuli". (Norcross, 1958). She taught children the names zim and sam for the faces in one pair, and the names wug and kos for the faces in another pair. Later she had the children learn a motor response (pushing a particular button) for each face, and found that the responses were less easily learned to similarly named faces (zim, sam) than to dissimilarly named faces (wug, kos). But since her procedure called for the child to say the correct name for each face before making his motor response, her experiment may be regarded as showing merely that it is harder to learn associations to relatively similar verbal stimuli than to dissimilar verbal stimuli. It is difficult to conceive of an experimental design for demonstrating "acquired distinctiveness of stimuli" that will not be subject to the criticism that the discrimination is made in response to words, or more generally verbal mediation, rather than to characteristics of the stimuli that are somehow invested in them by the words assigned to them. The hypothesis that discrimination responses can be made to verbal mediators seems a more reasonable interpretation of the facts.

People vary in the degree to which they notice and concern themselves with the various kinds of attributes that characterize the things and events of the environment. A forester will be more ready than the average person to notice differences among various kinds of

trees. A machinist would more readily notice the difference between right-handed and left-handed bolts than the ordinary person would. These differences in response-tendency come about through learning, but there is evidence that language can play a special role in this learning. The very existence of contrasting words for different categories or for different values of a dimension draws attention to these categories or values, and if a person has to learn to use these words in a way that is acceptable in his speech community, he must of necessity notice and discriminate the corresponding stimuli. The effect of language is thus to make the differences among stimuli more noticeable, or salient, than they would otherwise be.

The important role of verbal mediators in behavior can hardly be denied. It supplies a ready explanation for many otherwise incomprehensible changes in behavior as a child matures. In his early years, the child's responses to his environment tend to be direct -- the outcome of immediate connections that have been learned between stimuli and responses, either by classical or by operant conditioning. As the child attains concepts which he can retain and respond to internally, he is able to respond to the environment in an indirect, less immediate manner. For example, at some point in a child's development he can be taught to identify the larger of two stimuli no matter what their absolute sizes may be, whereas at an earlier stage he can respond only in terms of absolute sizes. He is presumably responding

in terms of a concept rather than in terms of direct perceptions of stimuli. If the learning of a concept is accompanied by the learning of a particular verbal response, the potency of the concept in behavior is likely to be enhanced; concept learning is more likely to be accompanied by overt verbal learning, the older the individual is.

One effect of the development of verbal mediators lies in making the individual better able to state and test hypotheses. In fact, this trend seems to be highly correlated with mental development as a whole as measured by mental tests.

Behavioural Theories Of Language Learning

We are dealing here with the way human beings learn and use language signs in a speech community. We have to investigate the different theories of learning in order to understand how a person acquires language and how language affects both the individual and the community, and, incidentally, how the community affect the individual through the use of language conditioning.

To construct a psychological theory of learning, we can make use of several kinds of information available to the psychologist:

- (1) observations of children learning linguistic behaviour in naturalistic settings;
- (2) the paradigms of learning yielded by

psychological theory and experimentation; (3) the results of experimentation in the teaching of linguistic behaviour to human beings; and (4) experimental studies of the linguistic behaviour of mature speakers of a language, that is, persons who have already acquired a system of linguistic habits based on "meaning". (Carrol, 1964.)

Observations Of Children In Naturalistic Settings

Even before he learns to speak, a baby learns to recognize a particular speech form as a sign of some stimulus or class of stimuli. The speech form may be a particular intonation contour, or it may be a sequence of segmental phonemes. In either case, the learning paradigm that seems to fit this case most directly is that of classical conditioning, where a conditioned stimulus (such as the sound of the word dog) presented simultaneously with, or just before, an unconditioned stimulus (a real dog, or a picture of one), comes independently to evoke a conditioned response similar to the unconditioned response evoked by the unconditioned stimulus.

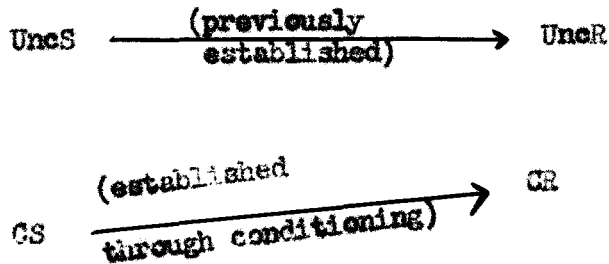
It is difficult to define what exactly is the unconditioned response to the sight of a dog or the picture of a dog. Some writers have tried to identify such a response with overt responses, such as patting, withdrawal, signs of emotion, but this line of reasoning is

unnecessary and probably incorrect. It seems sufficient to say that before a child starts to learn the meanings of linguistic signs, he learns to make pure perceptual responses to objects and events in the world around him. He recognizes certain stimuli or stimulus configurations as being similar to configurations he has experienced before. Certain faces, toys, items of wearing apparel, foods, and so on, come to have perceptual identities in the child's experience. The same can be said of qualities of experience such as colors, sizes, intensities of sound, and experiences of touch, as well as experiences of motor action (such as pulling, hitting, eating). Perceptually, these experiences are of constancies; for example, a favorite doll is recognized as a constant, identifiable experience no matter from what angle it is viewed, and no matter how it is felt or touched. It is probably true that there are, in the repertoire of young children a large number of perceptual identifying responses to common experiences. They are covert responses that are ordinarily unobservable, but their presence can be inferred from the overt signs of recognition that the child often makes. (Mednick, 1964.)

This long digression is necessary in order to understand fully what kind of responses function as the unconditioned responses when an infant is conditioned to respond to a linguistic sign by classical conditioning. But it is well known that the conditioned response is seldom precisely the same as the unconditioned response.

FIGURE IV

ESTABLISHMENT OF A MEANING RESPONSE THROUGH CLASSICAL
CONDITIONING (Carroll, 1964)



UncS: Unconditioned Stimulus, a recognizable external stimulus, e.g., a dog - live or pictured

UncR: Unconditioned response, a perceptual response to the external stimulus.

CS: Conditioned stimulus, presented in temporal contiguity with UncS, e.g., the spoken word "dog".

CR: Conditioned response, a fractional part or representation of UncR, that is, a meaning response.

Note: The joint presentation of UncS and CS must occur often enough to allow a reliable CR to occur.

So it is in learning a response to a language sign. When a child becomes conditioned to respond to a linguistic sign such as "dog", he does not have the full unconditioned response; he does not hallucinate the sight of a dog. Rather, the conditioned response is some fractional representation of the identifying response to whatever perceptual

invariant is involved in the linguistic sign. Many psychologists call it a mediating response, because it can become a stimulus to further behaviour. (Carroll, 1964.)

Thus, in a simple case, "understanding" of a linguistic sign occurs when it evokes the conditioned response related to the unconditioned response that would be evoked by the stimulus or stimulus configuration which this sign "represents". This conditioned response may be called a "meaning response". Both unconditioned and conditioned responses here may be covert and inaccessible to external observations by any ordinary means. From the standpoint of the hearer, the "meaning" of a linguistic form is the conditioned response it evokes. Even in the early stages of language learning, this meaning may be quite complex and may contain both denotative and connotative components. It may be partially "incorrect" from the standpoint of adult language. But learning the "correct" meanings of linguistic signs may be as much a matter of sharpening and revising perceptions as of learning anything about the signs. Learning that "dog" does not apply to horse is partly a matter of refining the perceptual responses involved in each case.

It should be noted that linguistic signs themselves are stimuli which the child has to learn to recognize as perceptual constancies, just as he has to learn to recognize other kinds of stimuli. A word has to be recognized no matter who says it, or how. Also, linguistic signs themselves have certain perceptual qualities (for example, the

smoothness of an m sound or the shrillness of a sibilant) that becomes associated, even if only very marginally, with meaning responses.

So far we have been discussing meaning responses in the hearer of language. We must also account for the behaviour of the speaker who utters the linguistic signs to which the child responds, and also for his learning of signs when he was first learning language.

Since speech is a motor response, the learning model that seems most appropriate for explaining it is the operant model. An operant response is one whose strength is a function of the degree to which it has been followed by rewards (positive reinforcements). In the case of speech, the reinforcement is always social, for it is provided by other persons in the individual's environment. The position taken by Miller and Skinner (1957) is that the special property of verbal behavior is that it is behaviour that is reinforced by the mediation of another person who has been conditioned precisely in order to reinforce the behaviour of the speaker. The meaning of a verbalization thus involves (1) the presence of a motivation in the speaker which brings certain operant responses into play; and (2) the conditions of reinforcement of the response through the mediations of another person. Thus, in the child, the process of language learning follows this model. The child knows what he wants (motivation), and learns by experimentation how to get it (response most appropriate to his motivation and situation). His response will likely be the one most likely to evoke the mediating

FIGURE V

OPERANT PARADIGM FOR THE LEARNING AND MAINTENANCE OF VERBAL RESPONSES

(Carroll, 1964)

	If on one or more occasions events occur as below	On later occasions the likelihood will be increased that events will occur as below
BASIC PARADIGM FOR AN OPERANT	<p>Motive₁ S₁^{rein}</p> <p>In presence of</p> <p>S^D (a discriminative stimulus)</p> <p>There occurs</p> <p>R₁ (an operant)</p> <p>Followed by _____</p>	<p>Motive₁</p> <p>In presence of</p> <p>S^D</p> <p>R₁</p>
ECHOIC VERBAL OPERANT	<p>Motive_g S_g^{rein} (approval)</p> <p>In presence of</p> <p>S₂^D = adult to provide S_g^{rein}</p> <p>and</p> <p>S₁^D = heard verbal stimulus</p> <p>There occurs</p> <p>R₁ = echo of S₁^D</p> <p>Followed by _____</p>	<p>Motive_g (generalized)</p> <p>In presence of</p> <p>S₂^D</p> <p>and</p> <p>S₁^D = any heard verbal stimulus</p> <p>R₁ = an "imitation" of S₁^D</p>
MAND	<p>Motive₁ S₁^{rein} (e.g. milk)</p> <p>In presence of</p> <p>S₂^D = adult</p> <p>There occurs</p> <p>R₁ = utterance (e.g. "milk")</p> <p>Followed by _____</p>	<p>Motive₁ (e.g. thirst)</p> <p>In presence of</p> <p>S₂^D = adult</p> <p>R₁ = utterance "manding" a stimulus that will satisfy motive₁</p>
TACT	<p>Motive_g S_g^{rein} (approval)</p> <p>In presence of</p> <p>S₂^D = adult</p> <p>S₁^D = a perceived object</p> <p>There occurs</p> <p>R₁^v = utterance which names S₁^D</p> <p>Followed by _____</p>	<p>Motive_g</p> <p>In presence of</p> <p>S₂^D = adult</p> <p>S₁^D = the object</p> <p>R₁^v = name of the object</p>

reinforcement and this response is gradually shaped and discriminated from other responses by selective reinforcement from parents and others.

We may define this process in terms of operant conditioning. An operant response is one whose strength is a function of the degree to which it has been followed by rewards (positive reinforcement). In the case of speech, the reinforcement is always social, for it is always provided by other persons in the individual's environment (Carroll, 1964). The theory involving another person as response reinforcer has generated a great deal of experimentation in verbal reinforcement. (Krasner, 1958; Salzinger, 1958), but this research has yet to be freed sufficiently from contamination to be significant (Dulaney, 1961).

B. F. Skinner (1957) has drawn attention to several ways in which a speech response may arise. It may arise as an echoic response, that is, as an imitation of a heard stimulus which the parent, say, may reward if it is sufficiently similar to the stimulus. Or it may be learned as a mand - as a response which starts out as a random speech utterance but which is adequate to cause the parent to provide a stimulus that happens to satisfy some current need of the child. For example, a parent might take a random utterance on the part of the child as sufficiently close to ball to make him think the child is asking for (manding) a ball, whereupon it is given to the child, thus

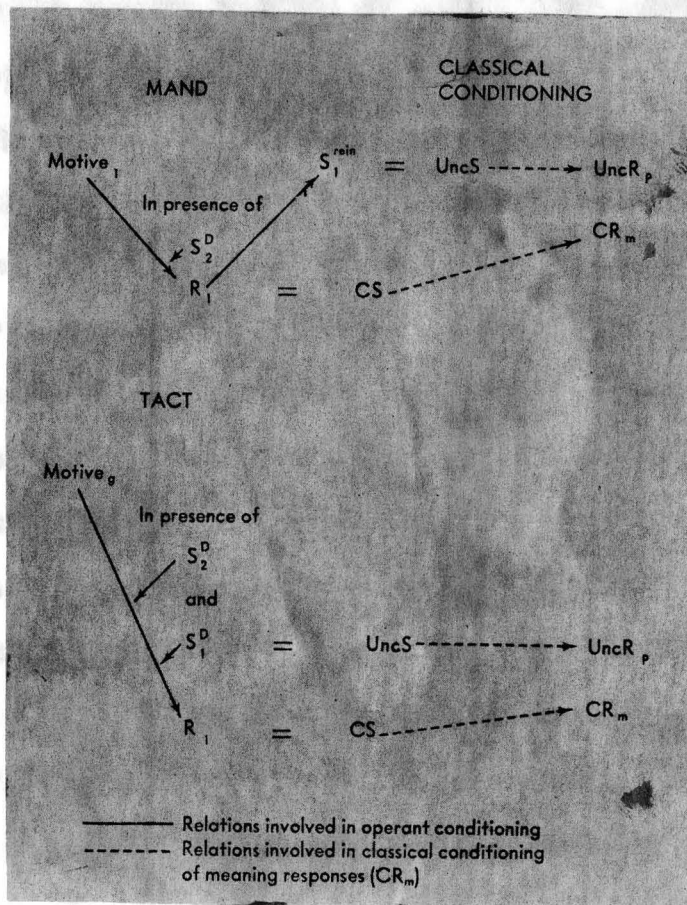
satisfying the desire that he appears to have for the ball. Such a sequence, repeated several times, may enhance the probability that ball, or something like it will be uttered by the child whenever he wants a ball. Still another way in which a verbal response can be acquired, according to Skinner, is a tact. A child who for any reason makes a particular verbal response in the presence of (in contact with) a given objective stimulus, and is rewarded for doing so, may learn to make this response, or some variant of it, whenever he experiences the appropriate stimulus.

Skinner's paradigms can be demonstrated experimentally. In fact, they are matters of common observation. With the mand paradigm one can train a child to make a certain verbal response whenever he has a particular need; and the tact paradigm can be used to train a child to name something with an arbitrary verbal response one might like. The only difficulty that might be encountered in either of these encounters is that one might have to wait a long time before the desired response occurs, to give one the opportunity to reward it in an appropriate stimulus context. This difficulty can be avoided by first teaching the child to make echoic responses, and then chaining mands and tacts to these. At a later stage of the child's development, he could be taught to make texting responses, that is, verbal responses to printed or written text stimuli, as discriminative operants, and these in turn could be chained with mands, tacts and

other kinds of verbal responses. One could thus in theory build up a quite elaborate system of verbal responses in the child. In fact, this formulation underlies the programmed instruction or "teaching machine" movement (Carroll, 1964).

FIGURE VI

CLASSICAL CONDITIONING ACCOMPANYING MANDS AND TACTS (Carroll, 1964)



It should be noted here that Skinner's formulations concern only the objective relationships between certain stimuli and certain responses. He says nothing about meaning in terms of what goes on inside the individual as he uses and responds to words. In Skinner's view "meaning" can be completely accounted for by stating the contingencies under which the verbal responses occur. But if we look more closely at the paradigms postulated by Skinner we notice that in all cases there must be covert perceptual responses to the rewards (in the case of mands) or to the discriminative stimuli (in the case of a tact). Since the meaning response is a conditioned, covert perceptual response to a linguistic sign, whether it arises in learning to speak or to comprehend language, once learned it can function in any of these contexts, and this fact would account for the transfer that takes place from one behavioural context to another.

So far we have arrived at the conclusion that in the early stages of language, "meaning" arises from the fact that many linguistic forms evoke conditioned, covert perceptual responses. Eventually a child becomes aware of or generalizes this meaning relationship. As he perceives it, meaning is a direct correspondence between words, on the one hand, and objects, events, qualities, and other states of affairs in the world of his experience. This perception occurs in what is called the "naming stage" when the child becomes aware that objects have names and that the meanings of unfamiliar words can be explained

to him. Thus he arrives at a concept of the word meaning; that is, he learns how to use expressions like meaning and to mean something.

We are now in a position to consider more accurately some of the issues concerning meaning that are of particular importance in psychology.

Denotative Meaning

In all the paradigms of verbal learning we have been considering, the child gradually learns what range of situations yields the highest probability of social reinforcement. That is, through processes of discrimination learning and stimulus generalization, a child learns what properties or patterns of stimulation are critical for social reinforcement when he utters a given linguistic form. For example, he learns what characteristics an animal has in order for it to be called a "dog". To the extent that this learning on the part of the child corresponds to comparable processes of learning on the part of other members of the speech community, we say that the child has learned the denotative meaning of the form in the speech community. We can describe the denotative meaning of the form by specifying the properties or patterns of stimulation which are essential - that is, critical - for its socially approved use in the speech community.

Dictionary definitions are successful to the extent that they can do this.

In theory, this analysis can apply to every item in a linguistic expression system - that is, not only to the words that are names of objects, events and attributes in the physical and biological environment, but also to the words that name abstractions and relationships, and to words, forms, and constructions that have a purely grammatical function.

As the uses of words and other elements of a linguistic expression system are being learned, a corresponding development of implicit mediating responses takes place. The denotative meaning of a linguistic form is reflected in a "concept" - a bundle of implicit mediating responses which are linked with the properties and patterns of stimulation that are criterial for that form in the speech community.

Connotative Meaning

As an individual accumulates experience with the patterns of stimulation corresponding to a given linguistic form, he responds to more than just the criterial attributes of these patterns. He responds also to attributes that occur along with the "denotative" patterns of words, attributes that are not necessarily factors of conditioning

by the speech community, but which, on the other hand, may be reinforced by the speech community. For example, "likeableness" may be a frequent attribute of "dogs", but it has nothing to do with the denotation of the word dog, and, in the same speech community, some people will find dogs likeable, while others will not find them so. An individual's responses to non-criterial attributes become attached, through conditioning processes, to the meaning responses or concepts evoked by a linguistic form. Fundamentally, then, connotative meaning is an individual matter because it depends on the experiences an individual has happened to have. Since the experiences of individuals in a speech community are in general rather similar, there are many similarities among the connotative meanings they have. But to the extent that people's experiences and attitudes differ, connotative meanings can also differ. Even on the assumption that people agree on the denotation of a word like Democrat, we still cannot say that they will agree widely on its connotation.

Meaningfulness

Once again we can now define meaning in language more accurately, putting together what we have just been discussing about connotation. The concept or meaning response associated with a word experienced in

a wide variety of contexts will expand in the extent of its connotative meaning, and this richness of connotation may be called "meaningfulness". One way of measuring meaningfulness, referring to G. E. Noble (1952), is based on the rate at which subjects give verbal associations to a word. Words of very rare or limited use or nonsense syllables are found to have low degrees of meaningfulness, although it is difficult to find nonsense syllables that are completely devoid of meaningfulness by this measure.

Association Learning And Conditioning

Associative hierarchies within the idiolect of the individual speaker are the products of a long history of learning, in which reinforcement, imitation, and the individual's inherent psychological capacities and structures have played significant roles. First comes reinforcement. The child utters an approximate sound pertinent to an object whose name is being learned, and this response is reinforced by parental approval and other practical consequences. The reinforcement increases the likelihood of further similar efforts in the presence of the object or when the object is needed. In addition, the reinforcement is applied selectively to the child's utterance so that ultimately he produces a correct sound. With respect to the object

"table", the child hears the word table repeatedly? Come to the table, Hold on to the table, Put the toy on the table, Sit at the table. In turn, the child is given lavish approval when he approximates the word table in the presence of "tables". Next comes the process of discrimination. The thing-word association of "table" and table also takes place with great frequency in the presence of other objects and activities associated with "tables", for example, "chairs" and "food". Furthermore, throughout the life of the individual, "chairs", "tables", and "food" constantly occur together, so that the association between the objects "table", "chair" and "food" will also be very strong. Other associations will attach themselves to these already strongly formed. The child may learn that he must eat when he sits at the table, or that he must not make noise. In all of this the child is an active participant, fitting his idea of "table" into some world view, applying his idea to parts of the world around him and organizing some small segment of his world under the rubric "table".

Two things occur in this process that are especially significant. First the individual learns to name things, or "label" them, and in a way that is very personal to him. What is perhaps more significant, his idea of "table" is in some manner influencing his perception of things. This is, of course, a highly simplified model of how things really occur. Studies of word-association tests would hardly seem to support the supposition that associations that are

formed are very complex, but perhaps there is more to these tests than seem immediately apparent. Woodrow and Lowell (1916) secured associations of 1000 children between the ages of nine and eleven to 90 of the Kent-Rosanoff stimulus words. Below is a tabulation of the most frequent responses to table for these children and for the 1000 adults from the original Kent-Rosanoff list:

TABLE II

WORD ASSOCIATIONS OF ADULTS IN THE KENT-ROSANOFF STUDY AND OF CHILDREN IN THE WOODROW-LOWELL STUDY TO THE STIMULUS WORD table: WOODROW AND LOWELL (1916, p. 93)

Response Word	Frequencies	
	adults	children
chair	267	16
wood	76	21
furniture	75	0
eat	63	358
dishes	40	126
legs	10	70

It seems obvious where the emphasis is for each of the two groups in terms of association responses to the word table. For children it is on eat while for adults the most frequent response is chair. Brown and Berko (1960) have attempted to account for such shifts in tendency to respond, by suggesting, that, with increase in age, there

is a tendency to associate words within a syntactic part of speech. According to their view, the child's associations are without regard to syntactic homogeneity. He gives a verb response to a noun stimulus. But he learns gradually to organize this vocabulary into syntactic classes, and so, as an adult, he gives a noun response to the noun stimulus table. This theory, however, does not satisfactorily account for why eat should be replaced in preeminence by chair, which occurs 16 times in the children's responses than, for example by dishes which occurs 126 times, or by dish which occurs 33 times. It seems not unlikely (Laffal, 1965) that significant needs that were prominent and readily expressed in the child by such words as eat are submerged, controlled, and less readily revealed in the adult. It is interesting that Freud made this idea central in his studies of dreams, in which he demonstrated that the most unlikely detail may be a bridge from the trivial to the essential. In his account of symbolism in dreams, Freud maintains that "table" is a symbol for the woman. He says that the relationship of eating to woman as the original source of nourishment, as well as the one who presides over the kitchen, is not to be overlooked.

From these considerations we have at least the suggestion that, even in the case of a normal adult and a common association, an intricate interplay of psychological needs and defenses is just below the

surface. The words in our crudely obtained associative hierarchies are the summarizing notation of complex experiences; at the same time they have powerful motivating and evocative force.

Meaning Internal

These considerations place meaning within the individual. They treat meaning as a mediational process occurring in the subject. Osgood, Suci and Tannenbaum (1957) have developed and used the "semantic differential" scales for testing subjects' judgement about specific concepts. The major factors involved in measuring reactions are called evaluation (good - bad), potency (hard - soft strong - weak) and activity (active - passive). Since the factors involved here do not have referential specificity, Osgood, Suci, and Tannenbaum have noted that the meaning they refer to is connotative rather than denotative. The meaning measured by the semantic differential (a set of scales of polar adjectives) is a multi-dimensional space in which any given concept is located according to the strengths of the three major factors demonstrated by the subjects scaling of the concepts.

Basic to using the semantic differential is the confidence that the specific scales from which the factors are constructed do, in fact, tap the meanings in the mediational process. This confidence

is based on the consistency of the appearance of the three basic factors - potency, evaluation and activity in various factor analysis studies (Laffal, 1965). The dimensions of the semantic space undoubtedly do pervade human judgemental activity. Of any concept we can ask is it good or bad; is it connotative of strength or weakness, of activity or passivity. Judgements along these dimensions may be readily applied by subjects to almost any stimulus upon demand. There are, however, serious limitations to the semantic differential. First of all many more than just three dimensions could conceivably be developed. Until this is done, the semantic differential will not give sharp definition to specific responses to stimuli. It rather locates a stimulus concept somewhere within the various dimensions of semantic space. The point is well established, however, that, despite its shortcomings, the semantic differential does support the theory that meaning is inside the subject and not just in the words he uses. (Laffal, 1965.)

Another view of meaning defines it as a matrix of associations (Bousfield, Cohen and Witmarsh, 1958) They express their view thus:

Suppose, for example, the word BLACK is presented to a typical subject. It appears reasonable to suppose that his first response is an implicit one which may be described as the saying of BLACK. By so reacting he makes a distinctive verbal representative response (Rvr). The subject then reacts by making a group of implicit verbal associative responses, e.g., WHITE, DARK, CAT, etc. These responses may be said to comprise the associative response composite (Rvcomp). Under appropriate conditions the subject may produce the Rvr and the Rvcomp explicitly,

by saying or writing them. Though a definition of meaning is perhaps gratuitous in this discussion, we believe it is useful to identify meaning with the Rvcomp.

Noble (1952) originally proposed that meaningfulness was defined as the average number of different associations given to a stimulus word by a large number of subjects in a specified time. This is similar to the definition proposed by Bousfield and his associates. Bousfield's index was used also by Jenkins and Cefer (1957) without it being identified as a measure of meaning, to examine the associative overlap of stimulus words presented individually and in pairs.

A number of other studies by Bousfield and his group support the thesis that learning of paired associates entails the association of the associated verbal composite of the stimulus with the learned responses. Thus the amount of generalization of learned response X to the stimulus word B, where X has been learned in response to stimulus word A, may be predicted from the partial response identities of the associated responses of word A and word B (Bousfield, Whitmarsh and Danick 1958).

Deese, (1962) corroborates these findings. According to Deese two stimuli may be said to resemble one another in associative meaning to the extent that they have the same distribution of associates. Deese has also factor analyzed distributions of associations for the purpose of finding common factors which bind different associative structure together. About associative meaning, Deese says:

"Associative meaning, in general, should predict the words that will occur in the verbal environment of a particular word... The words may appear in the same environment in two ways: (a) as substitutes for one another, or (b) as part of one another's environment." (Deese, 1962, p. 172.)

The definition of meaning upon which we are basing this work is consistent with the material presented by Bousfield, Cohen and Whitmarsh, by Noble and by Deese. The meaning of a word is defined as the hierarchy of responses, including the stimulus itself as the primary word, brought into play when a person is stimulated by a particular word. The reader should bear in mind that when we speak of words or verbal associations, we refer not to words in isolation, but as welded to "thing representations" (Freud, 1891). Language does its work by evoking experimental associations which are suggested by the pertinent words, or, to put it a little differently, by rearranging the relative strengths and likelihoods of occurrence of groups of word-thing responses. The evoked hierarchy of associations, the meaning, reflects a fundamental behavioural and attitudinal shift in the listener in response to the stimulus. Meaning refers to the stimulus side of language, that portion of la langue within each speaker which is activated upon the occurrence of a stimulus. (Saussure, 1915.)

The traditional notion that the meaning of a word is taken either as the thing to which the word refers, or as the act of referring to the thing, has been largely abandoned. That verbal meaning means the hierarchy of associated verbal responses has wider significance than might be seen from considering that the most frequent response to table is chair. Take, for instance, the stimulus word democracy or threat. Here the actual thing-reference might not be very clear, but the associations connected with these words will be consistent with our anticipations and will define the realms of experience in which such words have application. The language of the schizophrenic or of any disturbed person is best understood if one looks beyond denotation and even beyond common dominant associations to remote and idiosyncratic associations (Laffal, 1965).

Puzzling verbal responses are sometimes elucidated by considering the stimulus aspects (the hierarchy of associations) of the utterance. Where verbalization seems inconsistent with the context in which it is uttered, or irrelevant, as in the case of schizophrenic speech, the possibility arises that it is based on remote associations to what would be a more direct and relevant utterance. There may be no clear awareness of the real meaning in what he is saying for the one saying it. Very often it is the therapist who must listen with the "third ear" for this remote meaning. Only an associative definition of meaning can bring us to this kind of understanding.

We can feel well justified, then, in stating that when we talk of meaning, in counseling, we are talking about what is most central to the client's response, what we can refer to as the value-meaning of the response. In other words, the value or "weight" of a client's statement will be determined by a very complex structure of associations. This value will be very particular to the client and will be a measure and a result of the sum total of his life experiences and his "response" to life. Furthermore, the value-meaning of the response will be measured not only in terms of perceptions, but - and, we would suggest that this is primary - also in terms of feelings. And, when we speak of feelings we come back to our discussion, at the beginning of this paper, on the learning of foreign languages; where there is conflict, threat or any negative feelings, the learning process and the counseling process will both be hindered. In either case, the intervention of the counselor or therapist can facilitate the learning process.

CHAPTER 4

PSYCHOANALYTIC THEORY OF LANGUAGE

We have discussed, so far, how the learning of a language is tied in with the emotional-intellectual growth of the individual. A person's responses have meaning essentially only as related to his own experience. His language will be a factor of the client's prior conditioning, whether the conditioning be brought about by his culture or by himself. Not only does his conditioning shape a person's "hierarchy of responses" to a given stimulus, but his language, the instrument by which his responses are "programmed" will also shape his learning and his reactions to experience, further shaping his perceptions of reality and his reaction to it.

We mentioned, in Chapter 2 that it is not so much what the word means objectively or "communally" that the psychologist is dealing with, but with what it means to the individual user, and why it means what it means. It is this "why it means what it means" we are dealing with in discussing psychoanalytic theory. Again we can say that what

we are going to deal with in this chapter is the second variable we mentioned as contributing to and shaping the production of a verbal response. Psychoanalytic theory, especially as embodied in the writings of Sigmund Freud, give us a penetrating analysis of how closely perception and growth are tied to our language system. In the following pages we will examine the psychoanalytic theory of language learning. We hope to establish how important a factor a client's language is in the counseling process, and how important a part the counselor plays in the shaping of a person's language system, and hence in the person's perceptions of his world of experience.

Psychoanalytic Theory Of Language

Psychoanalysis has not essentially deviated from the early theory of Freud on language psychology (Laffal, 1965). His most systematic discussion of the subject is to be found in his "Project for a Scientific Psychology" (1895).

For Freud, language provides the distinction between a conscious and an unconscious idea. In a work called "The Unconscious" (1915), he proposes that "the unconscious presentation is the presentation of the thing alone". He distinguishes between the "idea of the thing" (object concept) and the "idea of the word" (word concept).

The "idea of the thing" refers to the simple perception of the subject without any symbolic representation. Where you have the "idea of the word", the object is presented to perception together with the word that represents it. It is the symbolic "naming" of the object that makes it the object of consciousness. (Freud, 1891.)

This is a crucial concept in the understanding of conscious thought. Freud did not limit consciousness to what could be verbally represented. Consciousness can be attracted also by auditory stimulus or imagery or kinesthetic excitation, but only verbal stimulation can account for the higher function of association of ideas that is called thinking, a more fully conscious process (Laffal, 1965). It is the development of speech that Freud sees as the modus through which "ideas of things" become conscious (Freud, 1891).

Freud (1891) uses a concept of "psychical qualities" to explain how language causes consciousness. Consciousness is a kind of sense-organ for the apprehension of certain psychical qualities that accompany excitations from various sources. Originally consciousness was capable of receiving excitations from outside and inside the organism. In the course of human development, however, a more subtle mechanism is developed, namely speech. By virtue of the psychical qualities which accompany the auditory-verbal discharge in speech, whether spoken or internal, consciousness has become capable of following more intricate thought

processes not dependent either on perception of external objects or sensations.

The above description is closely related to Freud's theory of "primary process" and a "secondary process" as found in "The Ego and The Id", (1923). During the prenatal and early infancy periods, the organism satisfies all its needs directly. In early infancy verbal energy (cries) are released spontaneously to reduce discomfort. This kind of energy release is analogous to the primary process of need-reduction. Later on, under social pressure, the child (and the adult) learns to tame his verbal reports and, through the verbal process itself, to find satisfaction internally. In the case of the child (and, analogously, in the case of the schizophrenic (Freud, 1915), there is a process of internal speech separated from reality, called phantasy. Piaget (1928) calls this "artistic speech". The adult's speech, through internal is oriented merely toward reality and a sort of social adjustment.

Language therefore is always a discharge mechanism, but it also becomes a substitute for action.

To pinpoint more accurately the connection between speech and perception, Freud uses the term "quality" in describing the relationship. In working with cases of hysterical neuroses (Breuer and Freud, 1893), Freud found that symptoms would disappear if, under hypnosis,

the patient recovered the traumatic memory and described the disturbing event in detail, giving utterance to the affect. It is this affect which he calls "quality". It is this qualitative nature of language which makes thought processes available to consciousness. The curative result was in part accounted for by the fact that the repressed affect was able to find an exit through speech (Laffal, 1965). "The injured persons reaction to the trauma only exercises a completely 'cathartic' effect if it is an adequate reaction - as, for instance, revenge. But language serves as a substitute for action; by its help, an affect can be 'abreated' almost as effectively." (Breuer and Freud, 1893.)

We can now see the importance of feelings in perception and in therapy. It is affect which gives value-meaning to language, and it is the release of this affect through auditory-verbal discharge that provides release for the affect. But it is not enough to state that verbal discharge relieves the pressure of feelings. It does more than this. It makes these affects conscious and enables the person in therapy to organize them. Laffal (1965) summarizes the process thus:

Excitation, presumably associated with initial attention, passes via a branch stream from the memory image to the associated auditory image, to the verbal motor image, and thence to discharge. Reports of discharge give rise to, or are themselves indications of quality, which in turn lend consciousness to the memories. There is thus a mechanism - tied to verbal images - which permits attention to bring systematically into consciousness a connected series of memories. This is conscious, observant thought.
(p. 161)

Language, therefore, is much more than the expression of consciousness. It is, in Freudian theory, consciousness itself. One can think things through only by talking them through - out loud or internally. We think with words. In the therapeutic setting, the client is enabled to bring to the attention of consciousness these perceptions which are causing him disturbance and discomfort and deal with them in a conscious observant way.

In the framework of Psychoanalytic theory, it is important to deal with the unconscious in everyday experience. Freud (1915) states that most of our lives is lived in the unconscious. There is little doubt that a great deal of it is. Much of our experience is organized internally, sometimes in terms of implicit verbal organization, sometimes in terms of implicit visceral organization (Watson, 1930). Watson is even more specific than this. He defines the unconscious as follows:

1. An enormous number of manual habits are formed, especially during infancy without corresponding verbal habits.
2. A still larger amount of visceral organization (organization in unstriped muscles and glandular components) is constantly forming without verbal organization, not only during infancy but also through life.
3. The assumption seems to be reasonably grounded that this un verbalized organization makes up the Freudians 'unconscious'. (Watson, 1930, p. 264.)

Rogers (1965) describes how the therapeutic relationship helps the client resolve conflicts through providing him with a more efficient form of symbolization. What causes the clients discomfort, according to Rogers, is his inability to deal with his perceptual experiences.

He is in a realm of wide generalizations which he is unable to explore. He is narrowed in his experiences because he feels threatened in his confusion. This threat is removed by the therapeutic relationship and he is free "to come down from the high level abstraction of his map and to explore the territory of primary experience" (Rogers, *ibid.*). What happens now is that faulty and generalized symbols are replaced by more adequate and accurate differentiated symbols. "As the symbols used correspond more closely to the basic and actual experience, then the conclusions drawn on the basis of symbolic manipulation become more sound because they are based upon reality." (Rogers, *ibid.*)

Conflict and distress take place primarily in the unconscious, the non-symbolized, visceral experience. Through the "talking-cure", the client is enabled to explore this unknown region, and to bring it to consciousness. He can symbolize his experiences, and the attendant affects, can weigh one value against another and make choices. He can, in Curran's terminology, "slowly learn to speak a more cognitive language to himself". (Curran, *ibid.*)

Learning A New Language

The counseling experience is analogous to the experience of a person who goes to live in a country whose language he is unable

to speak fluently. He may know what he wants to say or where he wishes to go, but he must grope for words and phrases, and, if he is unable to adequately communicate, he may not be able to get where he wants to go. We can imagine that he may actually be paralyzed, frustrated, angry, depressed. Like so many strangers in this country he may spend his life alienated from the total participation in the culture that he may have desired. If he is fortunate enough and makes the effort to find a good interpreter, he will probably be able to do all that he wants to do because now he can communicate with his environment. If his language experience is made positive and helpful to him, his feelings of alienation and threat may be sufficiently relieved for him to learn the language himself and so operate on his own.

It is obvious enough how this analogy parallels the counseling situation. It is a valid if not perfect analogy of the person struggling in therapy with his "language problem". Cross-cultural studies in linguistics (Wharmouth, 1956) stress the point that differences in language mean not just differences in words, but also differences in concepts. Take for instance the word "man". The Spanish equivalent "macho" have a very special, almost mystical quality. It symbolizes everything a Spanish male wishes to be, and, in particular, to be fertile. This concept is peculiarly Spanish in its symbolization. It captures something of the Spanish perception of life, the Spanish culture. When you use the words "man" and "macho" you are speaking

of two different worlds of experience. By the same token, when two nations share a large store of words in common, as with Spanish and Italian, they also share something of a common civilization. (Whit-mough, 1956.)

A person learns the values of his culture through the language of the culture. From his first cries of hunger the child is conditioned to respond verbally to the values of his parents for the fulfilling of his needs (Laffal, 1965). He learns the language and the values of his culture through them by learning to discriminate what brings reward and satisfaction from what causes pain. He continues through life in this process of acculturation. In his "Outline" (1940), Freud tries to define what distinguishes idiosyncratic use of language from consensually valid use. What is idiosyncratic is particular to the individual and is not what is communally accepted, as is the case with the child or the schizophrenic when they are in the realm of phantasy. In this state words are used autistically and not for communication. Consensually valid language, however seems to be the result of the secondary process of acculturation. The individual strives toward "reality", a concept that seems to mean the same thing as what are the communally accepted meanings for words. (Freud, *ibid.*) Exposure to experience and education, as well as his own constitutional structure will modify this experience of language and perception and particularize it for him. What appears evident is that the individual has

learned and is bound to a particular language, and, through the language, to a particular set of perceptions and values. Using Rogerian terminology, we can say the persons phenomenal field is limited by his language.

In the process of growth, the person is opened to a greater and greater diversity of objects and experiences and thereby learns greater discrimination in his perception. By the same token, in counseling, the person is again allowed to range over his field of experience and to try to find a wider "vocabulary", to discriminate more accurately, to more accurately define the concepts he has clung to in the past. In the process of self-exploration he can bring much that has been previously unverbilized into consciousness. He is enabled to contrast and compare values in an objective manner. In short he is able slowly to speak to himself in a more objective and cognitive manner. He thus has a new, more adequate language structure with which he can deal with his own reality. The counselor is like the interpreter, providing the "not juste" at the appropriate time and acting as a helping agent while the client is developing his new language.

CHAPTER 5

CONCLUSION-LOOKING TO THE FUTURE

The purpose of this paper has been to investigate how important a part a person's language plays in how he perceives reality and deals with his perceptions. We hold that counseling is, for the client, a language-learning experience. Because he has acquired a faulty language structure, he has also acquired a faulty perceptual world. In counseling, with the help of a skilled "interpreter", he reconstructs his language system and thereby becomes less of a stranger in what was, for him, a strange, probably frightening, "foreign" country. The writer is aware that he is constructing a model to explain the counseling process. The reader is asked, therefore, to allow for the oversimplification of a very complex learning process. In the body of the paper we have tried to deal with some of these complexities.

We have assumed that the consensual language of a culture embodies our most reliable criterion of reality for that culture, and that deviation from the consensual meaning of a word may be judged by

the culture to be a distortion and indicative of perceptual distortion, which is essentially the area of counseling. Reality, for the individual, is embodied in his own particular "idiosyncratic" language, a language that is very much the exclusive property of the individual. As the individual grows, he strives to relate his own experiences of reality to the experiences of his culture, in order to feel at home in his culture. He therefore learns the language of his culture, while also shaping this language to his own needs.

In order to grow comfortable in his environment and to manipulate these around him to meet his needs, the individual must also meet the needs of his culture. He must therefore allow himself to be conditioned to the language of the culture. He makes the culture's language a part of himself and, in do so, ingests the meanings, or the values, that the culture has for its language.

All learning is essentially a conditioning process. The individual himself enters into his own conditioning according to how he reacts to his experience of his environment. This is what accounts for the idiosyncrasy of the individual's language. We have shown how a person's needs, conflicts and psychic structure shape his language.

A particular word is the center of a constellation of associations. These associations are not merely intellectual ones; there is a very complex network of feelings that give weight or value to the word. It is this network of associations, both denotative and

cometative that we call value-meaning. It is in the realm of value-meaning that conflict and confusion arise, and that counseling must often enter in.

We have attempted to show that meaning is internal to the individual. The individual learns to think with words and programs his experience through the use of words. Along with the healthy, non-distorted aspects of his experience he also programs the distorted aspects. Psychoanalytic theory shows us how important is the therapeutic process in relieving the individual of much that is distorted in his language programming. While talking, the client, in therapy, is releasing much of the psychic energy connected to his words. Relieved, in the talking cure, of the burden of complex, sometimes overwhelming negative feelings, the client is freed to explore and evaluate his language structure, with its meanings. He finds new values to words. Perceptions change, words acquire more or less weight in the individuals system, and, presumably, he will react more realistically to his environment. He has thus learned a new language.

Relatively little research has been done in the area of language and counseling. Some experimentation has been carried out with Aphasic and Schizophrenic patients in this area (Laffal, 1965). Laffal suggests that work with aphasics, which is normally in terms of retraining, has been more successful when the patient is oriented toward facing his inner experience of limitation, with its attendant threat. He

thereby is put in contact with his own limited language experience and this forms a more realistic basis for recovery. Likewise research with schizophrenic indicates that those who show a more realistic adjustment under treatment also reveal a greater command of language. Some of these experiments show how language may provide a basis for therapy. At least there are possibilities for further study. As it is, we know little about influencing the total pattern of an individual's language. To what extent does experiential readjustment change the vocabulary structure, and to what extent may manipulations of the vocabulary structure produce experiential readjustment?

Questions such as these must still be answered, but at least it may be suggested for now that linguistics should be an important part of the counseling curriculum.

BIBLIOGRAPHY

- Almy, Millie; Chittenden, Edward; and Miller, Paula. Young Children's Thinking: studies of some aspects of Piaget's theory. New York: Teachers College Press, 1966. Vol. XII.
- Bousfield, W. A.; Cohen, B. H. and Whitmarsh, G. A. Verbal Generalization: a theoretical rationale and experimental technique. Technical Report No. 23, ONR contr. nomr. - 631 (oo) University of Connecticut, 1958.
- Bouthilet, L. The Measurement of Intuitive Thinking. Unpublished Ph.D. thesis, University of Chicago, 1948. Cited by R. Leeper in S. S. Stevens (ed.) Handbook of Experimental Psychology. New York, Wiley, 1951, p. 745.
- Breuer, J. and Freud, S. On the psychical mechanism of hysterical phenomena: preliminary communication. In James Strachey (ed.), The Standard Edition of The Complete Works of Sigmund Freud. London: The Hogarth Press, 1964.
- Brown, R. and Berko, J. "Word Association and The Acquisition of Grammar." Child Development, 1960, Vol. 31, 1 - 14.
- Brown, R. and Lenneberg, E. H. "A Study in Language and Cognition" Journal of Abnormal Social Psychology, 1954, 454 - 462.
- Bruner, J., Goodnow, J., and Austin, G. A Study of Thinking. New York: John Wiley and Sons, 1956.
- Carmichael, L. "Experimental study of the effect of language on the reproduction of visually perceived forms" Journal of Experimental Psychology, 1932, 15, 73 - 86.
- Carnap, R. Introduction to Semantics. Cambridge: Harvard University Press, 1942.
- Carroll, J.B. Language and Counseling. Englewood Cliffs, New York: Prentice Hall, 1965.

- Cassirer, J.B. Language and Counseling. Englewood Cliffs, New Jersey: Prentice Hall, 1965.
- Curran, Charles A. "Counseling Skills Adapted to the Learning of Foreign Languages", in Menninger Bulletin, March, 1961.
- Curran, Charles A. "A Counseling - Psychotherapeutic Methodology and Associated Learning Apparatus", Loyola University, Chicago, 1965.
- Curran, Charles A. Counseling and Psychotherapy. Sheed and Ward, New York, 1968.
- Deese, J. "On the Structure of Associative Meaning". Psychological Reviews, 1962, 69, 161 - 175.
- DeLaguna, C. Speech, Its Functions and Development. New Haven: Yale University Press, 1927.
- Festinger, L. A Theory of Cognitive Dissonance. New York: Harper and Row. 1957.
- Freud, S. On Aphasia (1891). New York International University Press, 1953.
- Freud, S. "The Project for a Scientific Psychology"(1895), in S. Freud: The Origins of Psychoanalysis. New York: Basic Books, 1954.
- Freud, S. The Unconscious (1915). In Vol. XIV of The Standard Edition.
- Freud, S. The Ego and The Id (1923). In Vol. XIX of The Standard Edition.
- Freud, S. An Outline of Psychoanalysis. New York: W.W.Norton, 1949.
- Gray, L. H. Foundations of Language. New York: MacMillan, 1939.
- Hall, R.S., Jr. "Ideolect and Linguistic Super-Ego". Studia Linguistica, 1951, 5, 21 - 27.
- Herman, D,T., Lawless, R.H. and Marshall, R.W. "Variables in The effect of language in the production of visually perceived forms". Perceptual Motor Skills, 1957, 7, Monograph supplement 2, 171 - 186.
- Hobbs, N. "Sources of Gain in Psychotherapy". The American Psychologist, 1962, 17, 736 - 746.

- Holjer, H. (ed.) Language in Culture. Chicago: Chicago University Press, 1954.
- Jenkins, P. M. and Cofer, C. N. "An exploratory study of discrete free association to compound verbal stimuli." Psychological Reports, 1957, 3, 599 - 602
- Judson, A. J., Cofer, C. N. and Gelfand, S. "Reasoning as an associative process: II. Direction in problem solving as a function of prior reinforcement of relevant responses." Psychological Reports, 1956, 2, 501 - 507.
- Kantor, J. R. An Objective Psychology of Grammar. Bloomington, Indiana: Indiana University Press, 1936.
- Kurtz, K. H. and Hovland, C. I. "The effect of verbalization during observation of stimulus objects upon accuracy of recognition and recall." Journal of Experimental Psychology. 1953, 45, 157 - 164.
- Laffal, J. Pathological and Normal Language. New York: Atherton Press, 1965.
- Lasarus, A. Adjustment and Personality. McGraw-Hill, 1959.
- Lewin, K. A. Principles of Topological Psychology. New York: McGraw-Hill, 1936.
- Maier, N. R. F. "Reasoning in humans: II. The solutions of a problem and its appearance in consciousness." Journal of Comparative Psychology. 1931, 12, 181 - 194.
- Mednick, S. A. Learning. Englewood Cliffs, N. J.: Prentice Hall, 1964.
- Morris, C. Signs, Language and Behaviour. Englewood Cliffs, N. J. : Prentice Hall, 1946.
- Noble, C. E. "An Analysis of Meaning." Psychological Review, 1952, 59, 421 - 430.

- Norcross, K. J. Journal of Experimental Psychology. "Effects of discrimination performance of similarity of previously acquired stimulus names." Journal of Experimental Psychology, 1958, 56, 305 - 309.
- Ogden, C. K. and Richards, I. A. The Meaning of Meaning (1923). New York: Harcourt Brace, 1956.
- Osgood, C. E., Suci, J. G. and Tannenbaum, P. H. The Measurement of Meaning. Urbana, Illinois: University of Illinois Press, 1957.
- Osgood, C. E. and Sebeok, T. A. "Psycholinguistics: A survey of theory and research problems." Journal of Abnormal Social Psychology, 1954, 49, No. 4, Part 2, Supplement.
- Piaget, J. The Language and Thought of The Child. New York: Harcourt Brace, 1928.
- Piaget, J. The Child's Conception of Physical Causality. New York: Harcourt Brace, 1930.
- Pronko, M. H. "Language and Psycholinguistics." Psychological Bulletin 1946, 43, 189 - 239.
- Rogers, C. R. Client-Centered Therapy. Houghton Mifflin Co., Boston, 1965.
- Saussure, F. Course in General Linguistics (1915). New York: Philosophical Library, 1959.
- Shepard, W. O. "The effect of concept knowledge on discrimination learning." Child Development, 1956, 27, 173 - 178.
- Skinner, B. F. Verbal Behaviour. New York: Appleton-Century-Crofts, 1957.
- Spiker, C. C., Gerjuoy, I. R., and Shepard, W. O. "Children's concept of middle-sizedness and performance on the intermediate size problems." Journal of Comparative Physiological Psychology. 1956, 49, 416 - 419.
- Ullman, S. Semantics: An Introduction to the Science of Meaning. New York: Barnes and Noble, 1962.

- Watson, J. B. Behaviourism (1924). New York: W. W. Norton, 1930.
- Warner, H. and Kaplan, B. Symbol Formation. New York: John Wiley and Sons, 1963.
- Whatmough, J. Language - A Modern Synthesis. New York: St. Martin's Press, 1956.
- Whorf, B. L. Language, Thought and Reality. New York: John Wiley and Sons, 1956.
- Woodrow, H. and Lowell, F. "Children's Association Frequency Table." Psychological Monographs, 1916, 22, 1 - 100.

APPROVAL SHEET

The thesis submitted by Michael Murray has been read and approved by members of the Department of Psychology.

The final copies have been examined by the director of the thesis and the signature which appears below verifies the fact that any necessary changes have been incorporated, and that the thesis is now given final approval with reference to content, form and mechanical accuracy.

The thesis is therefore accepted in partial fulfillment of the requirements for the degree of Master of Arts.

July 28, 1969
Date

Paul A. Curran
Signature of Advisor