

Reflections upon speech and language

Reflexiones sobre el habla y el lenguaje

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ABSTRACT

The continued study of speech and language as among the most highly evolved factors in the experience of Homo Sapiens still reveals disturbing problems of description and understanding. This is no doubt owing to the lack of unity concerning psychological events. The present article suggests several solutions of some of the possible paradoxical aspects of linguistics. It is proposed that a scientific approach to linguistic events requires the premises of an authentic objective psychology.

DESCRIPTORS: speech; language; linguistics; interbehavioral psychology.

RESUMEN

El estudio continuado del habla y del lenguaje como entre los factores más altamente desarrollados en la experiencia del Homo Sapiens todavía revela problemas perturbadores de descripción y de entendimiento. Sin duda esto se debe a la falta general de unidad por lo que se refiere a los eventos psicológicos. El presente artículo sugiere varias soluciones a algunos de los posibles aspectos paradójicos de la lingüística. Se propone que una aproximación científica a los eventos lingüísticos requiere las premisas de una auténtica psicología objetiva.

DESCRIPTORES: habla; lenguaje; lingüística; psicología interconductual.

GREATNESS AND SHORTCOMING OF SPEECH AND LANGUAGE

Those who regard speech and language as the basic instruments of civilization and of hominidism in general are certainly not wrong, though somewhat myopic. Surely there is a kind of perfectibility, majesty, and potentiality in a) intercommunicative intercourse, in b) the ability to interbehave

with absent objects and events, whether now existing, past, or future, and c) as aids in the processes of recording and numeralizing, d) as also in the ability to remember, generalize, think, and reason. Still, these blessings are fraught with onerous side effects, with ambiguities, evasions, and misdirections. To point out these shortcomings is only to be alerted to the biological and psychological evolution of mankind, and the nature and conditions of indiosyncratic and communal existence of Homo Sapiens. To dwell upon the ambivalence of use and value of speech and language is to remove the veil that conceals the actualities of human existence including human nature and human culture.

SPEECH AND LANGUAGE AS EVENTS AND AS CONSTRUCTS

Although speech and language events are readily accessible and clearly observable, still there is slight concinnity as to their natures and occurrence among the students of these events. It is somewhat surprising that the first critical glance at the literature of linguistics should display such great variance as between linguistic events and the many differing attitudes and interpretations concerning speech and language. Outstanding is the lack of appreciation of the various aspects of linguistic events. It is striking to note how the word "language" itself is loosely employed to confuse two different aspects of linguistic events. Consequently difficulties arise in the theoretical and practical treatments of linguistic problems.

SPEECH AND LANGUAGE DIFFERENTIATED AND COMPARED

Since the lack of clarity concerning speech and language is accounted for by different scientific premises, it is advisable in reflecting upon the nature of these tremendous human developments to specify some of the outstanding characteristics of each. We begin with the specifications of speech.

Speech

It is an unfortunate if inevitable condition that the term "language" is so confusingly used for different phases of communicative and other adjustmental events. Hence, it is necessary to distinguish speech from language.

Speech which is conventionally and synonymously referred to as language is quite a different sort of thing or event from language. Essentially, speech consists of referential behavior performed by individuals (speakers or referors) in coincidental behavior with (a) the stimulus objects, persons, things, and conditions named referents, together in a linguistic field plus (b) persons called referees, hearers, or listeners. The accompanying diagram (Fig. 1)

shows clearly the relationship between the action of the speaker or person who performs the referential actions and the two simultaneous stimuli, one of which is the person or object spoken of and the other the person spoken to called the referee, for the benefit of whom the reference is made. The triplet reference, referent, and referee functions or acts or course consists basically of intercommunicative events. All three factors in a speech situation in their integrative patterning compose a speech field or speech event.¹

It is necessary to specify that the referrer need not be a human being because speech as a simple form of behavior is performed by various species of organisms. The fact that animal speech is so limited and so dependent upon restricted conditions that it is excusable to limit language analysis to human types.

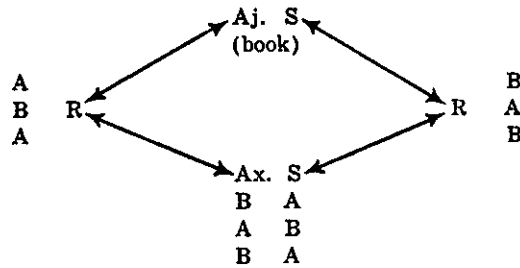


Fig. 1 Diagram showing the serial and reciprocal interrelationship of the referor A and B in dialogue with respect to a book as the referent.

Language

In the evolution of human beings, speech originated as a simple adaptation of organisms to their person and thing environments. As language, speech behavior became fixated and taken on the form of external objects instead of immediate adjustments to current situations. As it happens, such fixations and objectification of speech into language is referred to as words or symbols. Typical fixated speech are writings and inscriptions of all sorts. It is fixations of speech that make up most of what is language as when one refers to the English, Dutch, French, and Chinese languages or literature.

It is clear that language assumes important features of human environments. The fixation process leads to the development of the alphabet, texts, inscriptions, and also signs and symbols. In the societal aspects of human civilization, there are monuments, literature, documents, and dogmas. It is fixated speech that people read, a different form of behavior from speaking, hearing or listening, of a referee in original fluid speech situations.

The incorrect view that both speech and language are signs or symbols can only have a moiety of sense when it concerns derived and crystallized speech.

¹ For a more complete description of speech fields, see Kantor (1975) PSYCHOLOGICAL LINGUISTICS, and Kantor (1977) PSYCHOLOGICAL LINGUISTICS.

Signs and symbols are not behaviors but only stimulus objects. The person's reactions occur on a linear pattern, as in the following diagram (Fig. 2).



Fig. 2 The circularity and double stimulus object factors are absent in this phase of linguistic situations.

MISCONCEPTIONS CONCERNING SPEECH AND LANGUAGE

It is not surprising that such complicated and important activities as speech and language should be so greatly misconceived. To a great extent, that is no doubt because of the traditional notions about psychology, of which speech and language are specialized and derivative forms of action. One of the primary conditions for misinterpreting speech and language is the psychological notion that organisms, especially the human species, consist of tangible bodies and intangible minds. Instead of framing descriptions and interpretations upon the obvious concrete facts of intercommunication, it is a tradition that speech and language consist of expressions of inner states of mind, thought, or consciousness. No proper description or interpretation of anything is possible on that basis. Another great source of misinterpretation of speech and language is that these forms of behavior and fixation are made up of words. To the words are added meanings. It is overlooked that meanings are in no sense abstruse and intangible essences, but rather simple usages, as is the case with all aspects of the grammars of all linguistic systems.

Since speech and language are in great part psychological acts and processes, it is predictable that most of the misconceptions concerning linguistic things and acts are to a great extent owing to false psychological premises. Some of the most serious errors about language and speech can be accounted for by inadequate or improper views about psychology. The following interrelated samples of fallacious linguistic constructions are witnesses to this charge.

Expressionism.

One of the most flagrant misconceptions concerning linguistic events is that speech and in part language manifests some form of expression of psychic states mostly cognitive, but also affective and volitional. What may be regarded as a severe symptom of the expressionism fallacy is that linguistic students often do not realize that their treatment of speech is based on an expressionism foundation. That is because of the omnipresent and omnipotent tradition which appears well founded because of its age and perennial influence.

Those imbued with mind—body views cannot resist thinking in terms of converting ideas into vocal utterances. In consequence, they foster attitudes of organocentric types disregarding interpersonal and interactional fields that are the authentic data of speech behavior.

Speech Development.

Looming large in the linguistic literature is the problem of how infants develop linguistic behavior. A prominent mentalistic view is that children are endowed with a mind or some mysterious inner power which determines the gradual organocentric appearance of words and sentences. A familiar conception is that the mind or psychic forces are correlated with a brain which produces and stores utterances. Behaviorists adopt the conditioning principle declaring that words as verbal behavior develop through the reinforcement of word production by rewardings of some sort.

Curiously enough, the arch spiritist St. Augustine (397)² at the end of the 4th century indicated that he did not develop speech by being taught words by his parents but by “constantly hearing words as they occurred in various sentences” and collecting them by practicing the sounds in memory.

Despite Augustine’s sheer and absolute spirituality, he presents a sort of behavioristic description of how he learned to speak.

When they (his elders) named any thing, and as they spoke turned towards it, I saw and remembered that they called what they would point out, by the name they uttered. And that they means this thing and no other, was plain from the motion of their body, the natural language, as it were, of all nations, expressed by the countenance, glances of the eye, gestures of the limbs, and tones of the voice, indicating the affections of the mind, as it pursues, possesses, rejects, or shuns.

The Problem of Linguistic Meaning.

Of the four phases of linguistic studies, phonology, morphology, syntax, and semantics, the last is the latest in development and the most difficult. The explanation is that linguistic studies began as philology, the study of texts, or thing language as Kantor has termed it.³ In linguistic terms, the great interest of language students was in texts, especially of the sacred or religious type. The framework they used was traditional logic. The outcome was the development of a Hermeneutic era in which the meaning of words

² Augustine, *CONFESSION*, (Pusey, tr.), London, Dent, 1949, p. 8.

³ Kantor, J.R., *AN OBJETIVE PSYCHOLOGY OF GRAMMAR*, Chicago, Principia, 1936.

or signs were sought. The Hermeneutic era prospered along the line of deciphering the significance of previously unknown language systems.

Encouraged by dualistic psychology, traditional students of speech and language initiated the view that signs, symbols, and words possess meanings as correlated psychic entities. Such entities were presumed to be invisible and intangible. This view persists even today despite the vaunted progress of psychology and scientific enterprises in general.

A naturalistic attitude toward linguistic events obviously indicates that so-called meanings are simply interbehavioral functions or usages that are developed in concrete interactional fields. Thus the "meanings" of words are subject to contractions and expansions, losses, gains, transfers, and degeneration.⁴ To cite a few examples, the word meat means food or flesh in various times or places while dictionaries reveal that "words" often have many meanings. Students of psychology hardly need to make note of the various meanings of "words" like psychology, cognition, affection, perceiving, remembering, reasoning in the vocabularies of mentalistic and nonmentalistic writers.

THE PSYCHOLOGY OF SPEECH AND LANGUAGE

As we have intimated above, the validity and utility of a linguistic discipline depends to a great extent upon its psychological foundation. A scientific linguistics can only be based upon a naturalistic psychology. The writer submits that the interbehavioral approach meets the criteria of objectivity and investigative capability as is the case of every scientific discipline. Interbehavioral psychology holds that the exclusive data of a naturalistic psychology consist of adjustive and nonadjustive behavior fields.

Scientific psychology then has no room for a mind entity endowed with mysterious innate powers or faculties which lead infants to speak properly or grammatically in the customary way of dialectal or colloquial groups.

Similarly, interbehavioral psychology eschews any and all views of language acquisition on the basis of a single learning principle even when psychic factors are bypassed. Instead, it is presupposed that the need to adjust to the manifold surroundings provide the field circumstances for developing referential types of adaptation. It is such situations that result in the development and practice of dialectal and colloquial forms of reference to things and events with the growing acquaintance of the individual with and appreciation of the ambiente world.

INDIVIDUAL AND SOCIETAL LEVELS OF SPEECH AND LANGUAGE

So replete is human living with speech and language that they participate in every aspect of individual and communal existence and activity, whether

⁴ cf. Greenough, J.B. and Kittredge, G.L., (1912), *WORDS AND THEIR WAYS IN ENGLISH SPEECH*, New York, MacMillan, or Ullmann, S., (1962), *SEMANTICS, AN INTRODUCTION TO THE SCIENCE OF MEANING*, Oxford, Blackwell.

it be interpersonal utterances or group institutions. However, there is a preponderance of either speech or linguistic things on the various levels. Speech utterances are more evident of course on the individual psychological level while language things exist more copiously on the communal level. Speech and language must be regarded as distinct and different from each other despite the fact that language things are derived from behavior utterances. We turn to a brief examination of speech and language levels.

The Speech Level.

Since speech behavior is the pristine adjustmental means for persons to adapt themselves to their environments, talk, intercommunication, and palaver fills a great part of the passing days of people. Linguists have developed a technical vocabulary by which to refer to things, persons, acts, conditions, and other events of many varieties. The various reference forms they call moods or modes. Among the terms they use are statements (indicative mood), requests (interrogative mood), demands (imperative mood), wishes (optative mood), and so on. In traditional mentalistic linguistics, words representing or expressing psychic states were the audible evidences of the expressive process.

The Language Level.

Prominent among the language uses on the societal level are verbal signs and symbols which were presumed to carry information. Prehistorians and archeologists have been collecting many items which show an evolution from simple signs and symbols to elaborate inscriptions. Accepting the fixated representatives of communicative messages as objective materials, striking examples have been published of the innumerable inscriptions in which kings or rulers of various populations (countries or cities) have set forth the record of their achievements and glorification. Everyone is familiar with the famous stele and monuments containing the true or false boastings of kings in various dynasties. A famous item in this connection is the so-called code of Hammurabi, a sample of which is the following.

I rooted out the enemy above and below;
 I made an end of war;
 I promoted the welfare of the land;
 I made the people rest in friendly habitations;
 I did not let them have anyone to terrorize them.
 The great gods called me,
 So I became the beneficent shepherd whose
 sceptre is righteous;
 My benign shadow is spread over my city.
 In my bosom I carried the people of the

land of Sumer and Akkad;
They prospered under my protection;
I have governed them in peace;
I have sheltered them in my strength.⁵

A fitting summary of the distinction between speech and language is to indicate the process whereby speech utterances or acts become transformed into linguistic things like texts or inscriptions.

Speech as interbehavioral adjustments may be traced back to simple acts which accompany direct manipulations of stimulus objects. The acts may consist of manual or vocal gestures whether effective or noneffective in adapting the performer to the things acted upon, the later-to-be referent objects.

Next, there is a distancing of the individual from the referent objects or conditions with a structuring of oral behavior to become definite references to persons and things patterned after the innumerable national or other group linguistic usage. Now the referent objects, persons, or circumstances perform their functions whether (a) immediately present and perceived or judged, or (b) absent and nonexistent and invented. In the case of absence or nonexistence, there is the occasion for metaphors, similes and other inventive things.

Throughout the stages there is prominent the process of fixation. Verbal utterances come to be represented by transcription of some sort, writing, engraving, chiseling, and so on. Both vocal utterances and gestured acts are fixated to become linguistic things.

THE PARADOX OF SPEECH AND LANGUAGE

So far we have emphasized that speech and language are modes of interbehaving with environments. But we have not considered the fact that those adaptations to the surrounding world are both positive or favorable, as well as negative and of no proper use, and even detrimental as ways of acting. In other words, we have not emphasized the qualitative character of utterances or language things. As to the positive aspects of speech and language, we have insufficiently suggested the enormous place they occupy in the brighter aspects of personal and community situations. For example, not much has been said about the interpersonal beauties and benefits of songs, music, dances, and communicative rites of various types. We hope the reader will include those aspects of speech and language as features of this presentation.

On the negative side, however, striking and momentous transformations in the human condition have been contributed by speech and language. They have influenced hominids greatly to slow down the evolution of personal capacities, and also the development of societies.

⁵ Quoted from Rous, G. (1980), p. 194.

To speech and language may be attributed the apparent cleft between thinking and general intellectuality on one side, and practical and technological ways of behaving on the other. Intellectuality is retarded by comparison with vocational practices. Briefly, speech and language behavior on the negative side have contributed effectively to lead most of mankind intellectually away from nature and natural events. They have aided greatly in cultivating all sorts of superstitions, and have played a vital part in holding back the progress of individuals and their civilizations. Utilizing our three element diagram (fig. 1) we find references in plenitude made to actually existing referents, but copious references are also made to nonexistent and completely imaginary objects and situations. The reader may think at once of normal lies, prevarications, and pathological lying as well as the invention of things and events that exist only as words. Faulty adjustments may satisfy speakers and writers but they are potentially harmful and impeding so far as improvement, development, and progress are concerned.

To the proverbial visitor from Mars, it surely is a remarkable fact that the civilization of terrestrial mankind should be dichotomized so essentially. On the one hand, homo sapiens has reached the exalted status of knowing and controlling the elements and compounds of his earthly habitation. Man's technological achievements are so great as to challenge belief, while on the other hand, his intellectual capacities are impeded by fictions, fairies, myths, metaphors, futile absolutes, deities, that bespeak nothing more than perversions of speech and language.

Aside from the primitive and popular usages of such words as "God", "Mind," "Heavenly father," "Hell," and other sub-natural referents, technical thinkers or philosophers fill libraries with terminology representing sub-naturalism ad libitum. Consider such a "famous" work as Hegel's *Phenomenologie des Geistes* and one gasps at the collocation of words of which hardly one hints at the fact that some person, in some center of civilization, under adverse circumstances has transformed the product of uncontrolled imagination into language. Samples of such words are "soul", "mind", "being", "becoming", "the whole", "God", "the Absolute", "truth", "absolute truth", "universals", "force", "pancreator", "matter", "supreme being", and so on through an immense list. For examples of philosophical texts in which such words occur, notice the following quotations.

To explain what has been said by examples let us take the proposition God is Being. The predicate "being": it has substantive significance, and thus absorbs the meaning of the subject within it. Being is meant to be here not predicate but the essential nature. Thereby, God seems to cease to be what he was when the proposition was put forward, viz. a fixed subject. Thinking (i.e. ordinary reflection), instead of getting any farther with the transition from subject to predicate, in reality

finds its activity checked through the loss of the subject, and it is thrown back on the thought of the subject because it misses this subject. Or again, since the predicate has itself been pronounced to be a subject, to be the being, to be the essential reality, which exhausts the nature of the subject, thinking finds the subject directly present in the predicate too: and now, instead of having, in the predicate, gone into itself, and preserved the freedom characteristic of ratiocination, it is absorbed in the content all the while, or, at any rate, is required to be so.⁶

Again,

In the forms of experience hitherto dealt with—which are distinguished broadly as Consciousness, Self-consciousness, Reason, and Spirit—Religion also, the consciousness of Absolute Being in general, has no doubt made its appearance. But that was from the point of view of consciousness, when it has the Absolute Being for its object. Absolute Being, however, in its own distinctive nature, the Self-consciousness of Spirit, has not appeared in those forms. Even at the plane of consciousness, viz. when this takes the shape of “Understanding,” there is a consciousness of the supersensuous, of the inner being of objective existence. But the supersensible, the eternal, or whatever we care to call it, is devoid of selfhood. It is merely, to begin with, something universal, which is a long way still from being spirit knowing itself as spirit. Then there was Self-consciousness, which came to its final shape in the “bereft soul,” the “unhappy consciousness”; that was merely the pain and sorrow of spirit wrestling to get itself out into objectivity once more, but not succeeding. The unity of individual self-consciousness with its unchangeable Being, which is what this stage arrives at, remains, in consequence, a “beyond,” something afar off.⁷

⁶ Hegel, G.W.F., (1910), *The Phenomenology of Mind*, (Baillie, tr.) Sonnenschein, London, Vol. 1, pp. 61-62.

⁷ *Ibid.*, Vol. 2, p. 685.

It was undoubtedly the calamitous employment of pure verbology in everyday intercourse and in metaphysical circles that has promoted the recent crusade of philosophers to clear out from their discipline meaningless and detrimental words and terms.⁸

Philosophers of all periods have been aware of the negative aspects of language, so Plato (Cratylus) knew that the names of things offer no clue to the nature of things; Descartes (1912) asserted that "words yet occasionally impede my progress, and I am almost led into error by the terms of ordinary language."⁹ Likewise, Locke (1690) bewailed "those fallacies which we are apt to put upon ourselves by taking words for things."¹⁰ Berkeley (1710) elaborated the evils of language on knowledge in the following quotation.

But at the same time it must be owned that most parts of knowledge have been strangely perplexed and darkened by the abuse of words, and general ways of speech wherein they are delivered. Since therefore words are so apt to impose on the understanding. . .¹¹

Hume (1777) in his famous last paragraph in the *Enquiry* opened the way to distinguish between valid and invalid employment of language in philosophical discourse. Valid language refers to quantity, numbers, facts, and existence.

When we run over libraries, persuaded of these principles, what havoc must we make? If we take in our hand any volume; of divinity or school metaphysics, for instance; let us ask, Does it contain any abstract reasoning concerning quantity or number? No. Does it contain any experimental reasoning concerning matter of fact and existence? No. Commit it then to the flames: for it can contain nothing but sophistry and ilusion.¹²

As against the general indictment of word language in philosophic discussion, the tradition began that the analysis of language as in mathematical thinking will serve well in philosophy. Russell (1903) declared:

The study of grammar in my opinion is capable of throwing more light on philosophical questions than is commonly supposed by philosophers.¹³

⁸ For an excellent presentation of Linguistic Philosophy, see Rorty (1967).

⁹ Descartes, R., 1641 (1912) *Meditations*, II, Chicago, Open Court, p. 38.

¹⁰ Locke, J., 1690 (1959), *An Essay Concerning Human Understanding*, New York, Dover.

¹¹ Berkeley, G., 1710 (1910), *A Treatise Concerning the Principles of Human Knowledge*, Chicago, Open Court, p. 24.

¹² Hume, D., 1777 (1912), *An Enquiry Concerning Human Understanding*, Chicago, Open Court, p. 176.

¹³ Russell, B., 1903, *The Principles of Mathematics*, New York, Norton, p. 42.

Also, Russell asserted:

For my part, I believe that partly by means of the study
of syntax, we can arrive at considerable knowledge con-
cerning the structure of the world.¹⁴

The ill effects of words upon thinking and reasoning is strikingly illustrated in a number of recent case studies in which scientists have attempted to defend theistic creativity. In a recent letter to *Science*, a biochemist (Hillemann, 1982) proposes a compromise between theistic creationism and biological evolution. He asserts, the evidence of evolution does not and cannot reveal the source of the basic chemical elements or the primal source of life. Hence, he suggests that "evolution is God's awesome method for achieving the creative process".

It is obvious that the writer of the letter does not differentiate between (a) the presently unknown (not unknowable) details of development of the series of organisms from the primordial stage of hydrogen, and (b) the beliefs derived from the arsenal of words fixated from autistic vocal utterances. No compromise is necessary between two utterly different situations, rather one must guard against the baneful influence of words and arguments. Is it not inexcusable for a scientist to be oblivious to the plain teachings of intellectual history which clearly trace the development of (a) hominid contacts with ambient things and events, and (b) their linguistic misuse of analogies and deceptions of comforting conveniences.

CONDITIONS ATTENDING THE MISUSE OF SPEECH AND LANGUAGE

Reification of Terms.

The analysis of the misuse of speech and language indicates at once a number of special circumstances in which negative instead of positive results are obtained. Immediately we think of the process whereby words or other elements of language are made into things. Here is a basis for the development of mythology of all sorts, legends, liturgies, systems of philosophy, and various other societal institutions.

Too often the evolution of language things from individual speech goes on in terms of words. Thus we find that a stage in the fixation of language occurs on the basis of terms and word tools. An excellent example of this process is the beginning of the Gospel of St. John. The saint declares that, "in the beginning was the word and the word was with God and the word was God." In this connection, it is worthy of note the general apothegm that man does not exist by bread alone but by catch words. No adhesive is as

¹⁴ Russell, B., 1940, *An Inquiry into Meaning and Truth*, New York, Norton, p. 438.

strong as the verbal fixation process by means of words. As it happens, the domain of religion is one of the most fertile fields for fixating what was once specific adjustments into perennial institutions. Think only of the quarrelsome attempts to establish Christology by the use of the words *Homousia* and *Homoiusia*. Not all fixating words are as effective as these two in the estimation of the users. But in general it may be said that words are excellent means for establishing or maintaining societal institutions.

The domain of philosophy is certainly a close second for the illustration of the institutional constructions. The words "soul," "substance," "cause," "immortality," and so on illustrate the rhetorical perpetuation of false beliefs throughout centuries of presumable progress.

The Limitations of Language.

More serious are the negative aspects of scientific language. There are not enough referential terms for so many things one may need to speak of. Each trade and profession develops its own vocabulary. The professional user of speech and language resorts to Greek and Latin or other foreign vocabularies. An example is the attempt of national communities to keep their conventional vocabularies pure. The Germans resist "telephone" in favor of "Fernsprecher," and so on. The French adopting English sports must unwillingly borrow English names, for example, tennis, cricket, and so on.

Linguists confuse speech with language in its various forms. As specialists, they concern themselves a great deal with language things when they actually believe themselves to be preoccupied with speech.

All such instances critically examined aid in understanding the events classified under the headings of speech and language. No moral or institutional ascription need be implied. However, in certain intellectual domains, one may be inclined to find fault with the prevailing grammatical or verbal confusions though some complaints may be somewhat justified.

The limits of language may play a disturbing part in specific circumstances. In psychology, one may point to grave misinterpretations of psychological events. To illustrate, in the days of Faculty Psychology, students divided the psychic states into three types, the cognitive, affective, and the volitional or will series. Now throughout its history, psychologists have disregarded the differences between feelings and emotions, between volitions and voluntary or intentional behavior, or between thinking, remembering, desiring, and many other forms of adjustments. In fact, the unwitting retention of the faculty idea has seriously interfered with the fact that all psychological events are forms of adjustment or adaptation to specific objects and conditions.

IN SUM

Observations of speech and language events still call for a scientific analysis of their nature and occurrence. Such obviously available and observable events should lead to a unity of description and interpretation but this is not the case. What is noticeable lacking is a differentiation between speech and language as events and as constructs, and the analytic separation of linguistic behavior from linguistic and other things. Also, it appears necessary to observe that speech and language are Janus-faced. They share their great advantages for hominid evolution with shortcomings and evolutionary impediments.

The study of linguistic events make quite clear that the lack of unity and effective description is definitely owing to improper psychological foundations. Misconceptions in profusion are based on dualistic postulates or upon arbitrary autistic nonmentalistic principles. The remedy is to replace such psychologies by the naturalistic hypothesis of interbehavior fields, that is, organisms interbehaving with clearly specified functions of persons, objects, and situations.

Naturalistic psychology can throw considerable light on the linguistic problems of philosophers. For example, the questions of (a) ideal and ordinary language, and (b) of correct and incorrect language reduce to the question of language as constructions versus referential speech. That is, descriptions as fixated speech or stimulus objects equated with other types of things spoken of or written about are confused with referential acts. Similarly, all problems of the a priori or empirical reduce to the question of whether knowledge deals with (a) things and events observed, or (b) objects imagined and spoken of without being observed, measured, or analyzed. Why is the relation of $9 \times 6 = 54$ called a priori? There are two answers, (1) positively, because in a particular system or situation that is evidently correct counting, and (2) negatively, when knowledge is behavior, there is no such knowledge without learning. To think otherwise is to replace realities by rhetoric.

In this connection it is interesting to note the condemnation by Socrates and Plato of the poets and their works in the literary atmosphere of their time. As is well known, Plato advised the banishment of poets from his ideal Republic.

And therefore when any one of these pantomimic gentlemen, who are so clever that they can imitate anything, comes to us and makes a proposal to exhibit himself and his poetry, we will fall down and worship him as a sacred, marvellous and delightful being; but we must also inform him that in our State such as he are not permitted to exist; the law will not allow them.¹⁵

¹⁵ Plato, 1953, *The Republic*, (Jowett, B., tr.), Vol. 2, Oxford, Clarendon.

Many writers since have objected to the futilities and vagueness bordering on the vacuity of literature in general and novels in particular as leading to shams, improbability, and even time wasting. There is some basis in fact for such complaints since many linguistic products reach only to the values inherent in producing and distributing verbalistic merchandise as well as just amusing and soporific entertainment.

The scientific investigation of speech and language reveals not only the difference between the two basic forms of linguistic events but also achieves information concerning the great paradox that so grand an evolution in hominid history should also bear shortcomings, infelicities, and misadaptation of every sort. Such revelations can lead to the development of authentic knowledge and practice in linguistics and in psychology.

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