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Linguistic Relativity and Functionalism

Thesis presented to the School
of Graduate Studies of the
University of Ottawa in partial
fulfilment of the requirements
for the Degree of Master of Arts.

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INTRODUCTION

The purpose of this thesis is to follow one thread in American linguistic anthropology: a version of linguistic relativity generally known as the Sapir-Whorf hypothesis.

Chapter One traces the origin of linguistic relativity in the thought of some German philosophers of the 18th and 19th centuries and follows its course in early 20th century anthropology in North America. Special attention is given to the version of linguistic relativity known as the Sapir Whorf Hypothesis and its place in the history of America linguistics.

Chapter Two examines the position of linguistic relativity in the work of some modern sociolinguists especially in relation to functionalist ideas. It points out some problems inherent in a position which accepts both linguistic relativity and functionalism, and suggests a scheme in which these difficulties might be resolved.

Some of the points summarized in Chapter One have been treated in depth in the literature. Brown (1967) has presented Humboldt's conception of linguistic relativity both as a culmination of a certain line of thought in philosophy, and as a principal source of a tradition in North American anthropology and linguistics. Miller (1968) has traced the idea of linguistic relativity in German thought from Hamann to the Field Theory linguists, Trier, Porzig and Weisgerber. Penn (1972)

has dealt briefly with the origin of the Sapir-Whorf hypothesis in German thought and tried to evaluate the empirical tests supporting and disproving it. Hymes and Fought (1975) have indicated the lack of recognition granted to the Sapir tradition and Whorf in particular, referring to it as a sort of "amnesia" in the history of linguistics. All of the above influenced the direction this thesis will take.

Some mention must be made of the terms used to name the hypothesis in question. "Linguistic relativity", "linguistic determinism", "Sapir-Whorf hypothesis", "Whorf(ian) hypothesis", "Weltanschauung hypothesis" have all been used to designate various versions of the general idea that language influences/determines cognition. Without discussing the relative merits or precise referents of each of these in this paper, I have used "linguistic relativity" except where Sapir or Whorf are specifically referred to.

It should be borne in mind as well, that although Whorf proposed what he called "a new principle of relativity" (Whorf 1940a and 1940B:214 and 221), it was only after his death that the name "Whorf hypothesis" was attached to linguistic relativity. He himself would probably not have singled out any element of his work as a "Whorf" hypothesis. He most likely considered linguistic relativity to be merely one point in a constellation of ideas which defined his thoughts about the relation of language and mind.

CHAPTER ONE

Linguistic Relativity: an overview

1.1 Enlightenment background

The idea of Linguistic relativity is generally considered (see Brown 1967, Miller 1968, etc.) to have evolved from the work of three 18th century German philosophers, Johann Georg Hamann (1730-1788), Johann Gottfried Herder (1744-1803), and Wilhelm von Humboldt (1767-1835), each of which will be treated separately below. The work of Hamann and Herder, in particular, can be seen as a revolt against a view of language and thought which marked the Enlightenment.¹

Rationalism, the philosophy of the Enlightenment, is, very generally, "the philosophical outlook... which stresses the power of a priori reason to grasp substantial truths about the world and... tends to regard natural science as a basically a priori enterprise". (Edwards 1967:7:69) "Reason" itself was the power of the normal human mind usually opposed or contrasted to "faith, traditional authority, fanaticism, and superstition" which could be found to underlie all human phenomena, language, of course, included. Reason governed human phenomena just as general laws of nature did phenomena in the natural world, and Reason was universal to all mankind. As Cassirer writes, "the 18th century is

imbued with a belief in the unity and immutability of reason. Reason is the same for all thinking subjects, all nations, all epochs, and all cultures." (Cassirer 1951:6) Reason could, however, be corrupted by tradition, social institutions, such as the church, or sentiment.

Language was a product of Reason, and other Enlightenment ideas about language and the relation of language to thought or reason developed from this. Language was corruptable and therefore perfectable. Reason itself was a criterion of perfection (Brown 1967: 54) Leibniz for instance, wrote "Unexpected Thoughts, Concerning the Employment and Improvement of the Human Language", a treatise on the "improvement" of German (Brown 1967:56).

More important - since a universal reason was the basis for all human languages - it should be possible to discover a universal language, one which would most closely reflect reason and "ideally represent the concepts of the mind" (Miller 1968:14). This close relationship between reason, or thought, and language paved the way for a reversal of the Enlightenment scheme (that of thought preceding and producing language), to the Romantic view of the later 18th and 19th century in which language itself influences or creates thought. This later version was first put forward by Johann Georg Hamann.

1.2 German Predecessors.

1.2.1 Johann Georg Hamann (1730-1788)

Hamann was born in Königsberg, Germany, and educated there at the University. His formal education was rather aimless however. Besides his philosophical studies he was said to speak most of the major languages of Europe and to read Latin, Greek, Hebrew and Arabic.

In 1758, in London, he underwent a religious conversion which marked the remainder of his life and work. His ideas about language and thought were a direct result of this conversion; however the connection between his religious and linguistic beliefs is not relevant here (see Miller 1968:14-15). In 1779 and 1762 respectively Hamann published "Sokratische Denkwürdigkeiten für die lange Weile des Publicums zusammengetragen von einem Liebhaber der Langen Weile" and "Kreuzzüge des Philologen" (Brown 1967: 60). These writings are an attack on the Enlightenment view of language as the product of Reason. For Hamann, language and Reason were both God-given and, as Miller (1968:15) writes "occur simultaneously" but "where a logical distinction is made between them language always comes first." Reason was "solely the capacity for deriving concepts from sensory impressions, and for forming judgments and conclusions." (Hamann, quoted by Miller 1968: 17).

But since, according to Hamann, sensory impressions are given to us only through language, Reason itself is not merely an abstraction, but must be relative to the particular language one speaks...he (Hamann) writes "our conceptions of things are modified in a new language, in another system of signs, which brings new relationships to mind ...

(Miller 1968:17)

However, Hamann was too preoccupied with his struggle against "the basic assumptions of Kant and the Enlightenment" (Miller 1968:19) concerning the primacy of Reason, to develop his theories himself. His student Herder continued his work.

1.2.2 Johann Gottfried Herder (1744-1803)

Herder, born in Morungen, East Prussia, was a friend and student of both Kant and Hamann. Like Hamann he studied medicine and philosophy at the University of Königsberg. He is known as a literary critic, poet, essayist, folklorist, historian, and philosopher of history, and stands like Hamann, as a bridge between German Rationalism and Romanticism.

Like Hamann, Herder believed language to be both primary to and inseparable from thought. He wrote: "Human language carries its thought forms in itself; we think, especially when we think abstractly, only in and with language." (Brown 1967:62) and "The human spirit thinks with words; it does not only utter its thought by means of language, but also in the

same way symbolizes them to itself and arranges them."
(Brown 1967:63).

As well, he believed that each language handled reality from a different point of view, and molded and limited the thought of its speakers: "every nation speaks...according to the way it thinks, and thinks according to the way it speaks: as varied as the viewpoint was from which a nation looked at a thing, it designated it the same way."(Miller 1968:21)

In response to Chomsky's christening of a certain approach to questions of language as "Cartesian" linguistics, Hymes (1974a) has offered "Herderian" linguistics to cover a "...tradition of thought... not as an historically exact label, but in recognition of a direction given to theory of language in the period following Herder ... (characterized) by an emphasis on language as constituting cultural identity" (Hymes 1974a:120). Furthermore, Hymes indicates that in his opinion the Herderian approach is the correct one for sociolinguistics, if the focus is changed from "language as a correlate of a people, to persons and their ways of speaking" (p.123). This tradition in sociolinguistics will be dealt with further towards the end of this chapter.

It should be pointed out that 'Cartesian' and 'Herderian' linguistics, so-called, do not differ over

the issue of language universals, but rather in the place given to language differences (Hymes 1974a: 122 & 124). Wilhelm von Humboldt, the next great figure in this tradition, also dealt with universals, as did Boas, Sapir, and Whorf who, as we shall see below continued this tradition in America.

1.2.3 Wilhelm von Humboldt (1767-1835)

Humboldt was born at Potsdam in Prussia, the eldest son of a minor noble. (His younger brother Alexander, known primarily as a geographer, strongly influenced Franz Boas' early work.)

Humboldt attended the universities of Frankfurt and Göttingen but the larger part of his "education" was accomplished during his travels through Europe, in private study, and in conversation with friends like Goethe and Schiller. His career might be roughly divided into three parts. The first ten years following his marriage were spent in retirement and travel. Humboldt's interest in linguistics was born during these ten years. His writings from this period concerned government, literature, theatre, and observations on Basque dialects. "They revolved basically around his lifetime interests: human beings, with particular emphasis on the female sex; language and origins of the human race; and the attempt to orient himself in the times in which he lived." (Cowan 1963: 11-12) The second part of his career

covers twenty years during which he filled a variety of diplomatic and political positions - as Prussian Resident to the Vatican, Ambassador to England, and later to Austria, as Privy Councillor, Minister of the Interior, Minister of Worship and Public Instruction, and "member of countless territorial settlement commissions" (Cowan 1963: 16) to name just a few.

Humboldt retired from public life around 1819 and settled down again to study and write, primarily on the subject of language: "Beginning with 1820 we find such titles as "On the Sanskrit verbal forms..."; "On comparative linguistics with special reference to the various periods of linguistic development", "Attempt at an analysis of the Mexican language", "On the development of grammatical forms and their influence upon the history of ideas"; ... "On the natural characteristics of languages"; ... "On the grammatical structure of the Chinese language"; "Essays on the American languages"; ... "On the differences in human linguistic structure." (Cowan 1963: 18). His greatest linguistic work took up the last years of his life - "The monumental Kawiwerk, a comparative study of the Malayan-Polynesian Kawi dialects ... Into the general introduction to this work, taking up some 350 pages, he incorporated all of his insights into the history and philosophy of human language that he had garnered during a lifetime and which in turn were

a distillation of his insights into human personality, conscious and unconscious, individual and social."

(Cowan 1963: 19). The Introduction was entitled "On the Variety of Human Language Structures and Their Influence on the Mental Development of Mankind".

Humboldt's work must be seen in the context of Romantic tradition. Romance philosophers and philologists were less interested in some of the questions which had occupied the philosophers of the Enlightenment. For example, they were not too concerned with the origin of language, whether it should be attributed to God or to Reason. Like the Romantics Humboldt probably believed that "the origin of language lay in song and the expression of emotion." (Brown 1967:36). But for the most part the issue was a dead one. Language was "something intimately bound up with the nature of man...a natural consequence of human nature" (Brown 1967: 36-37). Humboldt was more concerned with the nature of language.

He saw language as a web, or an organism, "in the sense that all its parts are interrelated... According to him, it is the task of the linguist to study this inner relationship of any known language in depth and to analyse the formal means of organization as well as of expressing meaning" (Koerner 1975: 744).

Humboldt's version of the Weltanschauung hypothesis was both more explicit and better developed than that

of Hamann and Herder. Humboldt believed language to arise from the mind in interaction with experience and objects in the real world. The mind represented "real" things by concepts formed by means of the language spoken. The difference between language structures was a difference of "world perspective". Humboldt wrote "... the whole language intervenes between him (man) and a nature reacting internally and externally upon him. Man lives with objects chiefly, indeed, ... solely as his language presents them to him." (Miller 1968:29-30).

And Brown (1967:116) notes:

...Humboldt's conception of linguistic relativity is that all languages are objectified worlds of originally expressive behaviour standing outside the individuals comprising national collectivities. These several national languages are conceived as structures wholes developed in the interaction between the phenomena of the external world, the deepest characteristics of nations, and the nature of languages themselves as self-organized entities. The languages serve therefore as media through which, and necessarily by which, the external world is perceived and thought about, the resulting different world-views being results of different language structures which are relatively stable and resistant to the effects of individuals to change them.

There was a common element to all languages but the largest part of content was seen by Humboldt to be dependant on the individual language. The words and syntax of a language determine the usual path of thought in that language. The speaker of a language accepts as "real" those aspects of reality expressed

by his language.

Moreover, as a natural consequence, given the difference in world view, or Weltanschauung, between one language and another, exact translation is not possible; one language will not (necessarily) represent reality in the same way as another: It is "... seldom that a word in one language has its exact equivalent in that of another. This happens rarely in the designation of physical objects." (Miller 1968:30) Or, to quote Humboldt:

If, in the various languages we compare the expressions for non-physical objects, we will find only those synonymous which, because they are pure fabrications, cannot contain anything more or different than what has been placed in them. All other expressions cut up the territory lying in their midst, if we may so name the object designated by them, in different ways, and contain fewer, more, or different determinations. The expressions for material objects are probably synonymous insofar as the same object is thought of when they are used, but because they express a definite manner of conceiving (vorstellen) the object, their meaning (Bedeutung) likewise varies. (Miller 1968: 30-31)

Humboldt compared a language to a giant web with connections between every part and the whole:

the union of the simplest concepts set in motion the whole web of the categories of thought: since the positive presupposes, and gives rise to the negative; the part, the whole unity, multiplicity; the effect, the

cause; ... the conditional, the unconditional; one dimension of time and space, the other ... so it is that, as soon as the expression of the simplest union of ideas has been established with clarity and precision, a totality exists in the language, according to the richness of the vocabulary. Everything expressed elicits the unexpressed, or paves the way for it.

(Miller 1968: 28)

Even if an individual word in one language can be more or less translated by a word in another language, it does not (necessarily) have the same relation to other parts of the "web"; it does not have the same meaning in a broad sense.

We will return to this idea of "totality" in language when we deal with Whorf's "fashions of speaking" or Hymes' "ways of speaking", in Chapter Two.

1.3 Linguistic relativity in America

Developments in linguistics have a personal and social dimension, as well as an intellectual one, and occur as they do partly because of those dimensions.

(Hymes & Fought 1975:905)

A formulation of a particularly North American version of the idea of linguistic relativity can be viewed as a product of two factors: the intellectual climate of the United States around the turn of the 19th

century, and the linguistic and ethonological interests of the major figures of that time, D.G. Brinton, Franz Boas, and Edward Sapir. This section will trace the development of the linguistic relativity hypothesis from the mid 19th century in the light of these factors.

1.3.1 The Intellectual Climate

Floyd Lounsbury (1968: 153-154) outlines five areas of special interest in linguistic anthropology in the 1860s to 1880s in the United States. These were:

- 1) questions about the origin of language
- 2) problems of Indo-European historical and comparative linguistics
- 3) questions concerning the significance of language differences
- 4) the development of the science of phonetics, and
- 5) studies of the language of primitive peoples.

Lounsbury continues (p. 155):

Starting from these five problem areas of anthropological linguistics, as subdivided for the period of a century ago, it is possible to trace certain continuities and developments of ideas up to the present, as well as to see certain dead ends, shelving of old problems and discovery of new ones, and a realignment of interests and redefinition of goals.

Each of these areas had some bearing on the development of a linguistic relativity hypothesis in American anthropology and linguistics, as I shall outline below.

Questions concerning the relationship between

language and thought have been raised continuously in American anthropology and linguistics since the mid-19th century, although the precise formulation of the question has varied according to the context of the times.

The question of the origin of language was originally dealt with in theological terms. As Lounsbury points out, the question has returned to prominence in the twentieth century in relation to the same two issues in terms of which it was originally debated: the relationship of thought to language and the question of innate versus acquired language structures.

Concerning the relationship of thought, or cognition to language, it should be mentioned here that transformational grammarians in general are "non-enthusiastic", as Ronald Langacker (1976) puts it, about the linguistic relativity hypothesis. Important among the reasons for their non-enthusiasm is what Langacker calls the strong rationalist universalist predisposition of this school. Although the question of linguistic relativity is seldom explicitly discussed by generative grammarians, there seems to be a tacit assumption that a theory in which language is an innate faculty of mind and grammar is universal is incompatible with a position in which some aspect of mind (world-view) is influenced or determined by language, resulting in dramatically different world-views.

It should also be pointed out that this was not a problem for Humboldt, Boas, Sapir or Whorf who, each in different ways, accepted both that some part of language was universal and that different language structures were responsible in some way for different world views. This point is discussed further in the sections on Boas, Sapir and Whorf.²

Lounsbury's second topic - the problems of Indo-European historical and comparative linguistics - includes the development of a theory of language change and the idea of language families and relationships which we take for granted today. At the beginning of this century anthropologists and philologists in America were still attempting to classify and group North American Indian languages. As we will see below their debates have some bearing on the subject of linguistic relativity.

Language differences were seen to be indicative of cultural and psychological differences in speakers. Brinton, for instance, hierarchically ranked racial groups according to linguistic and cultural differences which signaled, according to him, their level of intellectual development. The work of cultural evolutionists like Brinton was heavily weighted towards judgments of superiority or inferiority of one language group over another as evinced by certain morphological features in the language. It was around this time that terms like polysynthetic (a term coined by P.S. Duponceau

Lounsbury 1968: 195), and agglutinating, with positive or negative connotations attached, came into use. It was not until Boas that language differences, whether or not they were thought to be correlated with cultural or psychological differences, were viewed without value judgments. Boas' position might be summed up as "all languages are different but equal". Lounsbury(1968:201) goes so far as to say that Boas' cultural and linguistic relativism "rested on a doctrine of universals in language".

Sapir discussed language typology in his book Language but did not, at least at that time, believe that any causal relation could be shown to hold between language and culture. He wrote then that he did not believe "that culture and language are in any true sense causally related . Culture may be defined as what a society does and thinks. Language is a particular how of thought. It is difficult to see what particular causal relations may be expected to subsist between a selected inventory of experience...and the particular manner in which the society expresses all experience". (Sapir 1949: 218) And as Lounsbury points out, in the twentieth century the emphasis in the study of language differences shifted to differences in the categorizations of meaning and their psychological significance.

Developments in phonetics had great importance for the development of a linguistic relativity hypothesis

in America. Lounsbury 1968: 157) noted:

Thus in the phonetic organization of languages there was found another domain of "linguistic relativity": a variability from language to language in the assignment of "distinctiveness" (cue value, semantic discriminatory function) to features of phonetic difference.

The idea of the phoneme developed from this realization of phonological relativity. (See section below on Boas)

The importance of studies of the languages of primitive peoples in relation to the development of a linguistic relativity hypothesis is obvious. However, the problems arising from the study of American Indian languages have shifted in the last one hundred years to reflect the theoretical interests of the times.

In the early part of this century, the main motivation for ethnolinguists was making the inventory of the variety of human language. As well, they attempted in many instances to characterize the main features of the cultures of North American Indian groups and to relate them to features of their languages, as Brinton had done.³

More recently, the emphasis has turned away from variety toward a search for some underlying unity among languages.

... as ethnography has taken on functional and psychological orientations, and as linguistics has become "descriptive", "structural",

and "generative", the study of aboriginal languages has reflected these movements. Particularly important have been the several goals of structural description: (among which) ... for psychologically oriented "ethnolinguistics" ... Most recently the goal of discovering and defining the universal properties of all languages - or writing "general grammar" - has gained ascendancy in linguistics and has motivated many of the students of aboriginal languages ...

(Lounsbury 1968:159)

1.3.2 Major Figures of the Time

This section will deal with the professional interests and methodology of some of the founders of American linguistic anthropology in so much as their work bears on the development of a linguistic "relativity" hypothesis, and within the five basic areas of interest discussed above.

Daniel Garrison Brinton (1837-1899), an early contemporary of Boas, was Professor of American linguistics and Archeology at the University of Pennsylvania. At the time of his death he had published twenty-three books and some two hundred smaller works and was probably the most influential anthropologist in America. Franz Boas (1858-1942) was virtually the father of North American anthropology, having trained almost every anthropologist of note during the first half of this century. Edward Sapir (1844-1939), a student of Boas, influenced both linguistics and

anthropology. Benjamin Lee Whorf (1899-1941), Sapir's student, first articulated the linguistic relativity hypothesis in the form in which it is usually known today.

1.3.3 Daniel Garrison Brinton

Brinton was the first translator of Humboldt in America. He was not, however, the first translator of Humboldt into English. This would appear to have been G.J. Adler, in 1866 (Brown 1967:21); nor was he the first exponent of Humboldt's ideas in North America - Pierre Etienne DuPonceau, president of the American Philosophical Society from 1828-1844 was an earlier popularizer of Humboldt (Foster 1967:14); and of course Steinthal's work was available in German.

Brinton translated Humboldt's "on the Verb in American Languages" in 1885 as part of a larger work of his own entitled "The Philosophic Grammar of American Languages, as set forth by William von Humboldt, with the translation of an unpublished memoir by him on the American verb" (Brinton 1885). Following Humboldt he wrote that language "molds" thought. However his linguistic relativity was part of a larger theory of the relationship between language and race. Brinton was an exponent both of parallelism, the theory that "mankind tends to develop independently along similar lines because of an underlying unity of the human species and the universality of the human response to

environment" (Foster 1967:2); and environmental determinism: the environment, that is, climate and geography, had shaped the various races of the world. Mankind, one species, had developed into sub-species or races, each one as Brinton wrote, "subtly correlated in a thousand ways to its environment" (Foster 1967:6). The effect of environment on man's physical and cultural state was potentially measurable, for instance anthropometrically. The various races were ordered hierarchically (the white race considered the most developed) and all races were progressing (cultural evolutionism), but in the same fixed relationship to each other.

These views, combined with Brinton's interpretation of Humboldt, are reflected in his writings on language. A race's position in the hierarchy was reflected in the "primitiveness", or lack of it, of its languages. North American languages (which Brinton believed to be all discernibly descended from the same single stock) were "polysynthetic": they expressed a certain view of the world in which things and actions were seen as a whole. North American Indian languages were therefore lacking in finer discriminations and abstract terms. This was reflected in the polysynthetic structure of the language(s) which incorporated several (English) "ideas" in a single word. In short, Brinton used Humboldt's ideas to bolster his racial and cultural

theories.

1.3.4 Franz Boas

Franz Boas was born and educated in Germany. As a young man his interests were in mathematics and natural science and at university he studied chemistry, mathematics, physics, biology, and geography with eminent teachers, culminating in a doctorate in 1881. During his student years Boas read "with awe" the work of von Humboldt's brother Alexander von Humboldt, a geographer. No doubt he was aware of Wilhelm von Humboldt's ideas as well but no reference to Humboldt's work has been found in Boas' writings (Kluckhohn and Pruffer 1959: 13). He did, however, know Steinthal, who popularized Humboldt's work in Germany, and wrote later that his treatment of language was based on Steinthal's teachings (Kluckhohn and Pruffer 1959:19). (As Stocking (1974b:476) puts it, when Boas later came to write grammatical sketches of an Indian language he did so "in Steinthal's terms by analyzing it in relation to its own internal system rather than to categories imposed from without", an idea quite congruent with Humboldt's.)

It should be noted that most of Boas' teachers (A. von Humboldt a natural scientist and geographer, Karl Ritter a geographer, R. Virchow, an anthropologist, Bastian, an ethnologist, all leading figures in their respective fields) and those who influenced him most

were, as Kluckhohn and Prufer (1951:11) wrote, "dominantly empiricist and closely related to much of the current rational science tradition, yet their outlook stressed the holistic or "embracive", the phenomenological" (Kluckhohn and Prufer here use the word 'empiricist' to mean "favouring and empirical approach", rather than implying a philosophical position which sees experience as the only source of human knowledge). They therefore not only influenced Boas' thinking in an important way, but encouraged him in directions in which he was already predisposed by his early interests in natural science. Throughout his career in geography, in anthropology, and in linguistics, Boas was to shy away from what he termed premature generalization, in favour of experimental work.

He did not however deny or overlook the idea of universals in linguistics or culture. Boas recognized that all languages had certain common properties, as Lounsbury (1968:207) puts it "by virtue of the common nature of the human species". More specifically, one of these common properties was the fact, pointed out by Boas in his Introduction to the Handbook of American Indian Languages that every human language uses a finite number of phonetic combinations to represent the total infinite range of human experience. In other words, there is, universally, in the human species a disposition to group the continuum of experience and

thought around central points exemplified in individual languages. In his section on "Grammatical Categories" in the Handbook, Boas (1911:24-25) wrote:

Since the total range of personal experience which language serves to express is infinitely varied, and its whole scope must be expressed by a limited number of phonetic groups, is obvious that an extended classification of experiences must underly all articulate speech.

This coincides with a fundamental trait of human thought. In our actual experience no two sense-impressions or emotional states are identical. Nevertheless we classify them, according to their similarities, in wider or narrower groups the limits of which may be determined from a variety of points of view. Notwithstanding their individual differences, we recognize in our experiences common elements, and consider them as related or even as the same, provided a sufficient number of characteristic traits belong to them in common. Thus the limitation of the number of phonetic groups expressing distinct ideas is an expression of the psychological fact that many different individual experiences appear to us as representatives of the same category of thought.

But, this should not be taken to imply that the same system of classification occurs in every language. (See the following section on the Handbook article and linguistic relativity.)

Boas' work and views in linguistics have been described at length elsewhere (Jakobson 1959; Stocking 1968; Stocking 1974b). His ideas concerning

language will be dealt with here only in so far as they touch some version of a linguistic relativity hypothesis. I will discuss them in two sections, centered around two of Boas' best known statements on language: The Introduction to the Handbook of American Indian Languages (1911), a general comment on the structure of language; and "On Alternating Sounds" (1889) which deals with a specific problem in phonology and fieldwork.

The introduction to Humboldtian thought in American Linguistics is sometimes erroneously attributed to Boas (Miller 1968: 11; Voegelin and Sebeok 1953:23). As was mentioned above, Brinton and Duponceau were earlier exponents of Humboldt in America. However, Boas' view of language does follow Humboldt's in a general way, although in no way resembling Brinton's use of Humboldt's ideas. Boas' Introduction to the Handbook of American Indian Languages presents his version of linguistic relativity.

The preceding section outlined some of Boas' universalist ideas on language. Boas (and later Sapir) recognized both human universals and cultural variables in the structure of language. Both were seen as having relevance for the psychology of language. (Lounsbury 1968: 207). Human languages had certain

species-specific traits in common, as well as "cultural variables" for example different principles of classification of reality, which were language and culture dependent:

Thus it happens that each language, from the point of view of another language, may be arbitrary in its classifications; that what appears as a single simple idea in one language may be characterized by a series of distinct phonetic groups in another.

(Boas 1911: 26)

Each language chooses, from the flux of experience, those aspects of that experience that it will express 'obligatorily'. And "obligatory aspects are expressed by means of grammatical devices" (Boas 1938: 132 - 33). Boas characterizes Indo-European languages by certain grammatical categories which represent aspects of experience that must be expressed in those languages, or are at least habitually expressed - plurality, tense, a distinction between three persons and pronouns, and so on - pointing out with examples from North American languages that these categories were not compulsory.

At the same time a language could express any aspect of reality whether or not it was obligatorily expressed in the language, by lexical means. The fact that anything could be expressed did not lessen the importance of the idea that each language embodied

its particular view of the world in grammatical categories or devices which necessitate that certain aspects of the world be expressed and not others.

Jakobson (1959:140-41) uses a Russian example to illustrate this idea:

If a Russian says: Ja napisal prijately "I wrote to a friend" the distinction between the definiteness and indefiniteness of reference ("the" verses "a") finds no expression, whereas the completion of the letter is expressed by the verbal aspect, and the sex of the friend by the masculine gender. Since in Russian these concepts are grammatical, they can't be omitted in communication, whereas after the English utterance "I wrote a friend", interrogations whether the letter has been finished and whether it was addressed to a boyfriend or to a girlfriend, can be followed by the abrupt reply - "it's none of your business".

As Jakobson points out:

grammar ... imposes upon the speaker its yes-or-no decisions. As Boas repeatedly noticed, the grammatical concepts of a given language direct the attention of the speech community in a definite direction and through their compelling, obtrusive character exert an influence upon poetry, belief, and even speculative thought without, however, invalidating the ability of any language to adapt itself to the needs of advanced cognition.

Boas' stated intention for the Handbook was that it should "describe as clearly as possible those psychological principles of each language which may

be isolated by an analysis of grammatical forms". Boas' treatment of grammatical categories as carriers of a certain sort of limiting semantic information has an obvious relation to Whorf's idea of "habitual" thought and behaviour as expressed in language. Looking even farther ahead, Hymes finds in Boas' aim as quoted above that "the goal seems clearly to have been a comparative study of cognitive styles in language" (Hymes 1961:24). And finally it is not difficult to recognize Boas' version of Humboldt's "inner form" in this view of grammatical categories.

"On Alternating Sounds" was written more than twenty years prior to the Introduction to the Handbook. It was written to refute a view, prevalent at the time, and held for instance by Brinton, that "primitive" languages had fluctuating sounds. Phonemes of Indian languages were recorded differently by different transcribers and often by the same transcriber on different occasions. This was accounted for by Brinton and others by the explanation that "primitive" languages were at an evolutionary stage at which individual sounds were not fixed but "indeterminate", "vague", "fluctuating", or "alternating". "On Alternating Sounds" contains Boas' account of an experiment done with young children who were asked to record monosyllables. Their misspelled words were studied, and the conclusion drawn that as

Boas put it "sounds are not perceived by the hearer in the same way in which they have been pronounced by the speaker" (Boas 1889: 73). It was noticeable, however that the children did not record nonsense syllables in place of the dictated word, but rather other sounds which were familiar to them ("fan" was for instance written "fang", "than", "ram" etc.)

Boas applied these findings on 'sound-blindness', as he called it, to the "mispellings" of philologists. He concluded that sounds in a previously unrecorded language such as North American Indian languages were heard "by means of the sounds" of the transcriber's language. And, moreover "the nationality even of well-trained observers may readily be recognized." (Boas 1889: 75) by their transcription. In conclusion, Boas wrote (76-77):

I think, from this evidence, it is clear that all such misspellings are due to a wrong apperception, which is due to the phonetic system of our native language. For this reason I maintain that there is no such phenomenon as synthetic or alternating sounds, and that their occurrence is in no way a sign of primitiveness of the speech in which they are said to occur; that alternating sounds are in reality alternating apperceptions of one and the same sound. ... It is not necessary that the sounds are always apperceived by means of one's native language, ... the first studies of a language may form a strong bias for later researchers, or the study of one language may occasion a bias in the study of the phonology of the language taken up immediately after.

... biases tend to induce the collector to classify a sound which does not occur in the phonetic system he bears in mind, and is intermediate to several, alternately under those sounds which it resembles.

Lounsbury (1968) points out that the idea of a certain relativity in the phonetic domain became acceptable around this time and that out of this recognition came the phonemic principle and phonology itself.

Stocking (1968:158) illuminates the whole question of relativity in linguistics and culture when he underlines that for Boas, when he wrote "On Alternating Sounds", hearing was "not simply a matter of perceiving the vibrations on ones tympanum, but of 'apperceiving' their similarity to sounds heard before".

One of Boas' earliest areas of interest had been psychophysics. As Stocking (1968:158) describe it:

Work in this field had shown that measurably distinct stimuli were often perceptually indistinguishable. Presented at an interval, bluish white and yellowish white would both be perceived as "white" - the difference between them did not exceed Fechner's "differential threshold". The amplitude of the series of stimuli that would thus be lumped varied with the degree of attention and the interval between them. Furthermore, Boas' own psychophysical experiments had

also shown "the existence of an unexpectedly great influence of practice" - a tendency in estimating new stimuli to identify them with quantities which had been frequently experienced before. In the terminology of contemporary German psychology, Boas concluded that "a new sensation is apperceived by means of similar sensations that form part of our knowledge".

The "universal" human tendency to classify experience operated in terms of a previously encountered form around which and in relation to which new data was classified, at least phonologically.

To the various German thinkers discussed in the previous section, the question of linguistic relativity appeared as a fundamental philosophical issue.

Boas, on the other hand, was by training a natural scientist and it was as such that he approached questions of language and culture. While there is no doubt that he absorbed the basic lines of argument on the issue during his years of study in Germany, his own anthropological work does not explicitly raise the question of the primacy of "Reason" or language in areas other than phonology. Rather, Boas' anthropology takes for granted that language structure exerts some constraints on how the speaker deals with the world. At this point it could not be said that an explicit version of a linguistic relativity hypothesis existed in North America.

1.3.5 Edward Sapir

Edward Sapir was born in 1884 in Lauenburg, Germany, and came to the United States as a young child. His under-graduate studies had been in Germanic philology. He had studied Indo-European languages generally and wrote a Master's thesis on Herder in which he considered Herder's influence on von Humboldt. (Sapir 1907-8) He was, then, unlike Whorf, quite aware of German Weltanschauung ideas and brought this awareness, if not conviction, into his graduate studies.

Sapir came to Boas at Columbia as a graduate student, an event which changed his outlook on the nature of language and linguistics. To begin with, "... for every generalization from his philological training, Boas could cite an American Indian exception" (Hymes 1963:83). Sapir was exposed both to languages radically different in structure from Indo-European and to Boas' anthropological perspective, which saw language in relation to culture studies. From his graduate work with Boas in anthropology stemmed three currents in Sapir's work which are relevant here: his view of a linguistics with wider connections in other disciplines, his interest in typology and grammatical form, and his version of the linguistic relativity hypothesis, topics which can only be discussed in relation to each other.

In a paper written for non-linguists in 1924,

Sapir (p.153) presented his view of language and linguistics. For him the most interesting fact about language was its formal completeness:

The outstanding fact about any language is its formal completeness. By "formal completeness" I mean ... (that) each language has a well-defined and exclusive phonetic system... and, more than that, all of its expressions, from the most habitual to the merely potential, are fitted into a deft tracery of prepared forms from which there is no escape. These forms establish a definite relational feeling or attitude towards all possible contents of expression and, through them, towards all possible contents of experience, insofar, of course as experience is capable of expression in linguistic term.

The structure of language impinged itself deeply in the mind of the speaker and so to some extent holds him prisoner.

The world of linguistic forms, held within the framework of a given language, is a complete system of reference - very much as the number system is a complete system of quantitative references or the set of geometrical axes of coordinates is a complete system of reference to all points of given space.

The problem for the linguist was to uncover this form, the structure of a language, of which the speaker is normally unconscious. "The psychological problem which most interests a linguist is the inner structure of language, in terms of unconscious psychic processes... ." To uncover the structure of a language would be to

uncover something of the form of thought of its speakers.

Sapir does not seem to have considered the form of thought to be universal. On the contrary, he wrote in the same article:

To pass from one language to another is psychologically parallel to passing from one geometrical system of reference to another. The environing world which is referred to is the same for either language; the world of points is the same in either frame of reference. But the formal method of approach to the expressed item of experience, as to the given point of space, is so different that the resulting feeling of orientation can be the same neither in the two languages nor in the two frames of reference. Entirely distinct, or at least measurably distinct, formal adjustments have to be made and these differences have the psychological correlates.

(Sapir 1924:153)

In the same essay, Sapir comments on the relativity of linguistic forms in philosophy, stating that philosopher...

is likely to become the dupe of his speech-forms, which is equivalent to saying that the mold of his thought, which is typically a linguistic mold, is apt to be projected into his conception of the world. Thus innocent linguistic categories may take on the formidable appearance of cosmic absolutes... it would be well for the philosopher to look critically to the linguistic foundations and limitations of his thought. He would then be spared the humiliating discovery that many new ideas ... are little more

than rearrangements of familiar words in formally satisfying pattern .

I can find no reference which would indicate conclusively that Sapir was aware of analytical trends in philosophy. However, as he was known to have wide and varied interests, he might well have kept up to date on philosophical developments generally. The ideas presented above are strongly reminiscent of those of two groups of philosophers of the 20s, and were at least motivated by similar considerations. Around this time many philosophers felt that problems in philosophy could be solved if language was analysed with care, that is, that philosophical problems were actually linguistic problems. In Britain, ordinary language philosophers attempted to solve classical philosophical problems by analysing verbs such as "believe", "know" and so on. In Europe, a group of philosophers who came to be known as the Vienna Circle had as their aim the establishing of philosophy on a form of scientific method by striving to give operational, verifiable definitions to the terms used in philosophical statements.

While philosophers set out to analyse their own language in order to escape its influence, Sapir recommended, as an antidote to ethnocentric thinking, that a philosopher study exotic or "primitive"

languages just as he himself had studied Wishram, Takelma, Yana, Paiute, Nootka, Navaho, and Hupa. He wrote "I know of no better way to kill spurious 'entities'", and later "It is the appreciation of the relativity of the form of thought which results from linguistic study that is perhaps the most literalizing thing about it". (Sapir 1924:157 & 159)

Sapir developed this version of linguistic relativity in subsequent articles. In 1929 in a paper entitled "The Status of Linguistics as a Science" he wrote what has been termed (Hoijer 1955:92) the first formulation of the "Sapir-Whorf Hypothesis":

Human beings do not live in the objective world alone, nor alone in the world of social activities as ordinarily understood, but are very much at the mercy of the particular language which has become the medium of expression for their society... the fact of the matter is that the "real world" is to a large extent uncsciously built up on the language habits of the group... The worlds in which different societies live are distinct worlds, not merely the same world with different labels attached.

(Sapir 1929:162)

And later, in "Conceptual Categories in Primitive Languages" (1931: 578):

The relation between language and experience is often misunderstood. Language is not merely a more or less systematic inventory of the various items of experience which seem relevant to the individual, as is so often naively assumed, but is also a self-contained, creative symbolic organisation, which not only refers to experience largely acquired without its help but

actually defines experience for us by reason of its formal completeness and because of our unconscious projection of its implicit expectations into the field of experience. In this respect language is very such like a mathematical system which (besides recording experience, is) ... a self-contained conceptual system which previsions all possible experience in accordance with certain accepted formal limitations... such categories as number, gender, case, tense, mode, aspect and a host of others, many of which are not recognized systematically in our Indo-European languages, are, of course, derivatives of experience at last analysis, but, once extracted from experience, they are systematically elaborated in language and are not so much discovered in experience as imposed upon it because of the tyrannical hold that linguistic form has upon our orientation in the world. Inasmuch as languages differ very widely in their systematization of fundamental concepts, they tend to be only loosely equivalent to each other as symbolic devices and are, as a matter of fact, incommensurable in the sense in which two systems of points in a plane are on the whole, incommensurable to each other if they are plotted out with reference to different systems of coordinates. The point of view urged in this paper becomes entirely clear only when one compares languages of extremely different structure, as in the case of our Indo-European languages, native American Indian languages, and the native languages of Africa.

It might be argued that the idea advanced by Sapir throughout this quotation amounts to a rejection of functionalism in the sense in which the units of the language have a "use" or a "purpose", or that the purposes served by the system explain the internal

structure of the system. This would indeed be a correct argument if functionalism was understood as applying at the level of the individual (ontogony). However, we shall see in chapter 2 that the validity of a functional position is best seen in a phylogenetic context.

Lounsbury (1968:214-215) points out Sapir's inheritance from Boas: A view of language containing both universal and relative components - while pointing out Sapir's renewed contribution to anthropological linguistics.

1.3.6 Benjamin Lee Whorf

Benjamin Lee Whorf became Sapir's student in 1931 at Yale where he attended Sapir's course in American Indian linguistics. This was not, however, his first acquaintance with linguistics or American Indian languages.

Whorf graduated from MIT with a degree in chemical engineering in 1918. The rest of his professional career was spent as a fire-prevention engineer. However, the mind in various forms had always fascinated him and from a broad humanist interest in philosophy, psychology, religion, and mysticism sprang his involvement with formal linguistics. Whorf had read the works of an 18th-Century French philologist and mystic, Antoine Fabre D'Olivet (1768-1825) (For an explanation of d'Olivet's ideas, see Carroll (1956) which inspired his study of Hebrew. Fabre has worked out a

sort of phonetic symbolism, a "meaning" for each letter of the Hebrew alphabet, by contrasting roots in which each letter occurred (as Carroll (p.9) points out "much as one might attempt to obtain a meaning" for the letter M in English by deducing the common meaning for all English words beginning in M.") Whorf of course noticed that the method was similar to that used by linguists to identify phonemes. After some initial work in Hebrew along the lines of Fabre d'Olivet, Whorf began in 1926 and 1928 respectively to study Aztec and Maya and to correspond with specialists in the fields of Mexican archeology and linguistics. A more detailed account of Whorf's studies in those areas can be found in Carroll (1956).

In 1928 Whorf read two papers at the International Congress of Americanists - one on Toltec history and the other entitled "Aztec Linguistics". The following year he read a paper before the Linguistic Society of America - "Stem Series in Maya". In 1930, the Social Science Research Council granted him a research fellowship to make a study of Milpa Alta Nahuatl, a dialect of Aztec believed to resemble the classical form.

Until 1931, Whorf's contact with linguistics was the result of private studies. However, as Carroll remarks, "In view of this, the competence that Whorf had achieved in general linguistics and linguistic field methods, purely on the strength of his own untutored

studies, was remarkable" (Carroll 1956:16). In 1931, Whorf enrolled in Sapir's course in American Indian Linguistics at Yale as a doctoral student. This brought him into contact, not only with Sapir, but with Sapir's students Morris Swadesh, Stanley Newman, George Trager, Charles Voegelin, Mary Haas, and Walter Dyk. By 1937-38 Whorf was a lecturer in anthropology at Yale. He never completed his doctoral studies, although his term paper for Sapir "The Structure of the Athabaskan Languages" received "a grade of A and much praise", Whorf "never sought or obtained any higher degree; he pursued his studies for pure intellectual ends ... Whorf was put in close touch with the linguistic theories and techniques which were most advanced at that time, as well as with the problems which were currently considered the most essential to solve" (Carroll 1956:16).

Whorf's published and unpublished papers in Aztec linguistics, Maya, and Hopi can be found in Carroll (1956); discussions of his various contributions to linguistic theory are outlined in Carroll (1956) and Lounsbury (1968). He was not by any means the "amateur" that he is often painted to be; Whorf was very much part of the mainstream in linguistics insofar as the Sapir tradition is concerned. As Hymes and Fought (1975:1001):

Whorf was in fact an active contributor to the development of linguistics in terms of all the tasks that can be identified as salient to the Sapir tradition... He helped to develop

phonology in both exotic languages and in English; ... his claims of universal significance are the counterpoint and precedent, in a different climate of opinion, to those of Chomsky; he helped to formulate Uto-Azteco Tanoan and Macro-Penutun families of languages; and he sought to integrate linguistic theory with anthropological theory and with practical affairs. Whorf indeed invented "allophone" as a technical term.

(Whorf also apparently coined the terms lexeme (Parret 1974:198)

Lounsbury (1968:217-18) points out that "Whorf's penetrating insights into the most subtle aspects of semantic structure in language are probably his most valuable contribution". In a discussion of some of Whorf's ideas in semantics, not published until after his death, which can be examined apart from the linguistic relativity principle, Lounsbury points to what he calls Whorf's "most original contribution to both the theory of semantic structure and the techniques of linguistic analysis":

The relations that he appealed to were of two major sorts; what we would call those of commutability and contrast between morphemes, and those of co-occurrence or potential compatibility of morphemes in construction. Among the former, ... his examples illustrated both those of semantic exclusion (the opposition of different items on the same hierarchic

level in taxonomy) and those of semantic inclusion (contrasts between items belonging to different hierarchic levels where the lower is subsumed under the higher.) ... The co-occurrence criterion came to be quite widely used in linguistic analysis beginning a decade or so after Whorf wrote these articles (although the articles were still unpublished). It fitted in well with the distributionally-oriented linguistics being developed at that time. But there was an important difference between this use and Whorf's...Whorf ... was using it as an aid to discover the organization of meaning...

Whorf spoke of "covert categories" and "cryptotypes" when referring to the classes and categories that could be defined by various kinds of relations between morphemes, opposing these to "overt categories" and "phenotypes" - these latter being "the classical morphological category." He observed, correctly that ... "in some languages at least, linguistic meaning results from the interplay of phenotypes and cryptotypes, not from phenotypes alone.

(The idea mentioned above by Lounsbury are in Whorf's posthumously published papers: "A Linguistic Consideration of Thinking in Primitive Communities" (1936), "Grammatical Categories"(1937), and "Discussion of Hopi Linguistics" (1937). They are discussed by Lounsbury (1968) and Hymes (1970). For the purposes of this paper however I will discuss only those ideas related to the linguistic relativity hypothesis).

Whorf's version of the linguistic relativity hypothesis can be found germinally in several papers on Hopi: "The Punctual and Segmentative Aspects of Verbs in Hopi" published in 1936, "Some Verbal Categories of Hopi" (1938), "An American Indian Model of the Universe" published in 1950, but written in 1936, "A Linguistic Consideration of Thinking in Primitive Communities" (1955), "Linguistic Factors in the Terminology of Hopi Architecture" written in 1940, published in 1953, "The Relation of Habitual Thought and Behaviour to Language" (1939); and in "Science and Linguistics", "Linguistics as an Exact Science" and "Languages and Logic", three papers written for M.I.T.'s "Technology Review" and published in 1940, a year before his death.

However, no clear definition has emerged from Whorf's writings which would precisely define the relationship he saw between language and world view. Quotations from his writings can be found which lend substance to different versions or variations of the Whorf hypothesis.

Most frequently quoted are excerpts from his 1940 article "Science and Linguistics":

... the grammar of each language is not merely a reproducing instrument for voicing ideas but rather is itself a shaper of ideas, the programme and guide for the individual's mental activity, for his analysis of impressions... We dissect nature along the lines laid down by our native languages ...

the world is presented in a kaleidoscopic flux of impressions which has to be organized by our minds - and this means largely by the linguistic systems in our minds. We cut nature up, organize it into concepts, and ascribe significances as we do, largely because we are parties to an agreement to organize it in this way - an agreement that holds throughout our speech community and is codified in the patterns of our language. ... we are thus introduced to a new principle of relativity, which holds that all observers are not led by the same physical evidence to the same picture of the universe, unless their linguistic backgrounds are similar, or can in some ways be calibrated.

(Whorf 1940:213-214)

Whorf certainly ascribed to Sapir's description of linguistic relativity and quoted from Sapir's 1929 paper "The Status of Linguistics as a Science" ("Human beings do not live in the objective world alone ...") to introduce his own paper "The Relation of Habitual Thought and Behaviour to Language" (1939).

However, as Max Black wrote (Black 1969:30) "altogether, an enterprising PhD candidate would have no trouble in producing at least 108 versions of Whorfianism".

Black's 108 versions can be largely attributed to the vocabulary used to express them, for not only have different versions of the hypothesis appeared in articles about it since Whorf's death in 1941, but the vocabulary used when speaking of Whorf hypothesis has varied. So much so that "the" Whorf hypothesis might be formulated in the following manner: language/grammar/

linguistic systems/grammatical categories/influence/
 determined thought/world view/mental life/perception/
 culture/metaphysics/behaviour. As well, all of these
 words are so loaded in linguistics, psychology, and
 anthropology that, in the case of some, whole volumes
 have been spent defining them.⁴

Some writers, like Hymes and Fought (1976:1001),
 have felt that Whorf is "famous for an extreme view of
 linguistic relativity which he did not in fact hold or
 invent". Quotations from Whorf's writings can be found
 which seem to support both a strong determinist hypothesis
 and a weaker version ("language influences thought").
 Perhaps he, like Sapir, held different position at various
 times. However, it is my impression that most evidence
 for the strong version is not found in selections from
 Whorf in which he set about to explain linguistic relativity,
 but rather in passing references to the idea. Whorf was
 always a careful and circumspect writer in the former
 case - for example the excerpt from "Science and Linguistics"
 quoted above, or the following comment on translation
 from Hopi to English taken from his 1936 paper "An American
 Indian model of the universe":

In order to describe the structure
 of the universe according to the
 Hopi it is necessary to attempt -
 insofar as it is possible - to make
 explicit this metaphysics, properly
 describable only in the Hopi language,

by means of an approximation expressed
in our own language, somewhat inadequately
it is true ...

(Whorf 1936:58)

The above is most certainly not a denial of translatability, a position often ascribed to Whorf along with the strong version of linguistic relativity (linguistic determinism). But as Alford (1979) points out - the "strawman" technique of argumentation is frequently used against Whorf - that is, although a strong and weaker version of the Whorf hypothesis are contrasted in almost every critique, the position which is actually argued against or refuted is the strong position, i.e., linguistic determinism.

Two points should be born in mind before attributing the strong, deterministic position to Whorf. First, Whorf said very clearly that he was dealing with language in relation to "habitual thought and behaviour". He stressed this aspect without negating the possibility of such things as translation, creativity, etc. Like Sapir, it was the language aspect of habitual behaviour which interested him here, that is, grammatical form, grammatical categories as well as aspects of language which cut through grammar, lexicon, and para-linguistic behaviour. It is clear in "The Relation of Habitual Thought and Behaviour to Language" that it is in part such obligatory grammatical forms of language as tense, aspect, and number which he believed to exert

an effect on the speaker of a particular language in such a way that his "reality" was different from that of a speaker of a language in which these categories are not the same. And of course Whorf was not saying that it was impossible to translate from one language to another, merely difficult, and that the difficulty (as any translator knows) increased between languages which were unrelated or distantly related.

Secondly, Whorf was certainly not denying the possibility of linguistic universals (merely stressing those aspects he believed not to be universal) which he referred to as "deeper processes of consciousness".

He wrote

... the tremendous importance of language cannot, in my opinion, be taken to mean necessarily that nothing is back of it of the nature of what has traditionally been called "mind". ... language, for all its kingly role, is in some sense a superficial embroidery upon deeper processes of consciousness, which are necessary before any communication, signaling, or symbolism whatsoever can occur ... The statement that "thinking is a matter of language", is an incorrect generalization of the more nearly correct idea that "thinking is a matter of different tongues". The different tongues are the real phenomena and may generalize down not to any such universal as "language" but to something better called "sublinguistic" or "superlinguistic" - and not altogether unlike ... what we now call "mental".

(Whorf 1941:239)

The above was written and published the year of Whorf's death and does not seem to point towards a strong deterministic position. However, as Hymes (1970:275)

writes: "It was Whorf's lot to be cast (mistakenly) as an apostle of radical relativism, as the pendulum swung away from relativism."

1.3.7 Dorothy Demetracopoulou Lee

At one time, the linguistic relativity hypothesis was known as the Whorf-Lee hypothesis, after Dorothy Lee an anthropologist who wrote in much the same vein as Whorf, also in the late 30s and 40s, on Wintu and Trobriands.

Hoijer (1952) has summarized two papers by Lee, one of which is discussed in detail in Chapter Two. Her work on Wintu, along with Whorf's on Hopi and Hoijer's on Navaho were the first wave of Sapir style investigation into the relationship between language and culture or thought. In a way they were also the last, at least in that tradition, with the possible exception of the Southwest Project in Comparative Psycholinguistics (its aims and intentions if not their realization). Further studies suffered from the flaws to be discussed in the following section. More important, later investigations went against the stream of Bloomfieldian linguistics, the prevailing school, and perhaps for that reason never fulfilled the potential envisioned by Sapir, Whorf and colleagues. Their view was encapsulated in an often-quoted line from Lee (1938) - "Grammar contains in crystallized form the accumulated and accumulating

experience, the Weltanschauung, of a people." (p.89)

1.4 Critics of the Whorf hypothesis: experiments and arguments.

Few critics of Whorf have acknowledged that problems of vocabulary and/or definition exist. Most tend instead to take their often unstated definition and underlying assumptions for granted. (Some exceptions to this rule are Penn (1972), Black (1959) and (1969) and Fishman (1960). Some writers have even tested in an anecdotal fashion such non-definitions as "speaking a different language is like being a different person/being in a different world", found it not to be the case, and concluded that the Whorf hypothesis had "failed" (Haugen 1977:24-25).

Attempts at defining the Whorf hypothesis fall roughly into two types - a strong statement - something like "language determines thought" - and a weaker one - "language influences thought" (leaving aside questions of what "language" and "thought" mean here and what relation they will hold to culture, perception, etc.) As Penn puts it in her discussion of various versions of the hypothesis "The precise wording of an idea is of little consequence until it is to be tested" (Penn 1972:13).

Lacking one or several clear definitions of a Whorf hypothesis, and definition of terms, it is no wonder that Whorf's ideas have never been adequately tested or even seriously taken up.

Despite the lack of explicit discussion of terms, or agreement on what Whorf himself meant, there have been no lack of arguments and experiments concerning various aspects of linguistic relativity and Whorf's writings. Some of the most often cited are briefly summarized below. In general though, arguments attacking the Whorf hypothesis or experiments which refute some aspect of it have usually concerned a variation on the strong version, that is, that language entirely determines thinking, perception or world-view. Experiments based on the weaker version have usually yielded indeterminate, or mildly positive results.

Penn (1972) discusses both strong and weak versions and summarizes some of the experiments pro and con both. She concludes that the strong version is not empirically testable, and that the evidence for the weak version is "suggestive but not at all conclusive". She suggests what she calls a modern position "which takes cognizance of the empirical data. . . as follows: some aspects of language may affect cognition, but probably only the semantic categories - and then only if ignorance of reality leaves a person dependant on other people's verbal labels..." (p.39)

Black (1959) establishes what he believes the Sapir-Whorf hypothesis to be, based on a quotation from Sapir used by Whorf himself, examines the assumptions underlying Whorf's position and points out several

difficulties with his philosophy. His concluding remark reveals the ambiguous attitude common to many critics of Whorf

I do not wish the negative conclusion reached to leave an impression that Whorf's writings are of little value. Often enough in the history of thought the unsoundest views have proved the most suggestive. Whorf's mistakes are more interesting than the carefully hedged commonplaces of more cautious writers.

(Black 1959:238)

Fishman (1960) examines the Whorf hypothesis from the point of view of the psychologist rather than the philosopher. He discusses it in terms of four levels on which it has been said to operate and been tested in some fashion. These are first language - the weakest level of the Whorfian hypothesis according to Fishman. It includes ethnological evidence that languages differ from one another in roughly the same way that their cultures do, in their lexicon. "Language X has a single term for phenomenon X, whereas language Y either has no term at all ... or has three terms, Y_1 , Y_2 , and Y_3 , all within the same area of reference". Whorf used examples of this sort as have many others. Certain ideas are more easily codifiable (cf. Lenneberg's codability discussed below) in one language than another.

... it is not difficult to relate the codifiability differences to gross cultural differences ... these codifiability differences help speakers of certain languages to be

more easily aware of certain aspects of their environment ... In this sense, then, their languages structure their verbal behaviour in a non-trivial way and ostensibly also structure their pre-verbal conceptualizations as well .

(Fishman 1960:327028)

Fishman's second level concerns language and non-language behaviour - work in this area relates lexical items to non-linguistic behaviour (rather than to other lexical items as in level one. Lenneberg (1953) and Brown and Lenneberg (1954), both of which are summarized below, are examples of experiments done on this level. They relate culturally encoded colour terms to ease and speed of response.

Level three concerns linguistic structure and cultural concomitants, that is experiments involving grammatical (rather than lexical) items and cultural phenomena. Whorf, Lee and Hoijer have offered evidence for linguistic relativity on this level. (Indeed this was Whorf's principle area of interest). Fishman points out one of the frustrations for the researcher looking at work in this area - although it is clear that grammatical structure is being linked to "something else", it is often unclear what that is: Weltanschauung, values, thought, etc. Some of the better work in this area has looked, for example, at certain grammatical features of Hopi. - the lack of tenses, classification of acts by duration and so on, and the Hopi "timeless" outlook on life (see Whorf 1940). However, the flaw in this kind of analysis

remains" ... the very same grammatical designata that are said to have brought about (or merely to reflect) a given Weltanschauung are also most frequently the only data advanced to prove that such a Weltanschauung does indeed exist" (p. 333). Fishman suggests that work in this level will become more meaningful when independent confirmation of a Weltanschauung from sources other than language data is sufficient so that differences in grammatical structure might be matched with differences in values, outlook, etc. Level four concerns relations from grammatical structure to behavioural concomitants (the behaviour of an individual). Fishman considers only one experiment to be an example of work at this level, that of Carroll and Casagrande (1958) which will be discussed below.

Fishman concludes: "Although evidence favouring the Whorfian hypothesis exists at each level, it seems likely that linguistic relativity, though affecting some of our cognitive behaviour, is nevertheless only a moderately powerful factor and a counteractable one at that". Fishman mentions "a large domain of contra-Whorfian universality in connection with the relationship between certain structures of particular languages and certain cognitive behaviours of their speakers". He concludes that:

The time might, therefore, now be ripe for putting aside attempts at grossly "proving" or "disproving" the Whorfian Whorfian hypothesis and instead, focusing

on attempts to delimit more sharply the types of language structures and the types of non-linguistic behaviours that do or do not show the Whorfian effect as well as the degree and the modifiability of this involvement when it does obtain. (p. 337)

Fishman's near survey article is most useful as a framework for the experiments that follow.

Haugen (1977) and Hockett (1954) both deal with a frequently raised argument against the strong version of the Whorf hypothesis. This is the translation / bilingualism argument which sees linguistic relativity as implying that translation and/or bilingualism is impossible, which, stated this baldly, we know to be false. Haugen argues that if Whorf's position (strong version) was correct the bilingual person using one language would be unable to understand something said to him in the other. In actual fact says Haugen, a bilingual interprets whatever is said to him" "... and in many cases even forgets which language he learned the meanings in. There simply must be a store of knowledge which is relatively language free" (p.26). Haugen also argues that the difference in "world-view" between English and Shawnee as demonstrated by Whorf is "...no more than an artefact of his translations - interpretation" (p.13). Hockett (1954) examines - a number of points of difference between Chinese and English in order to shed light on the Whorf hypothesis. Hockett concludes

that contrary to Whorf's views - "The impact of inherited linguistic pattern on activities is, in general, least important in the most practical contexts, and most important in ... story telling, religion, and philosophizing ... some types of literature ... are largely impervious to translation." (p.123)

Experiments

The following three experiments are typical of many cross-cultural studies done in the 50s and 60s in the general area of linguistic relativity.

Maclay (1958) is an experiment designed to test the Sapir-Whorf hypothesis - in this case "that the structure of a language conditions non-linguistic behaviour and thought." (p.220) Native speakers of Navaho, English and non-Athapaskan American Indian languages were asked to sort objects into groups of two. "The primary expectation was that Navaho subjects would make significantly more divisions on the basis of form (rather than colour or function) than would members of the two other groups" (p.222), an expectations based on well-known observations on Navaho verb stems. Maclay concluded that this hypothesis must be rejected as it proved impossible to correlate behaviour and linguistic categories in this way. He concludes however:

It is probable that different linguistic structures have different potentials for indexing non-linguistic behaviour. The results of this study indicate that direct predictions from structure while they

may correlate with large scale cultural patterns, are not likely to predict more concrete behaviours accurately unless supplemented by information on frequency.

Carroll and Casagrande (1958) and Casagrande (1960) are, respectively, a set of experiments and a report carried out as part of the Southwest Project in Comparative Psycholinguistics, begun in 1955 and sponsored by the Social Science Research Council. Its objective was to test the general hypothesis "that the structure of a language (specifically, its lexical, grammatical and phonetic features) will influence certain non-linguistic behaviour of its speakers, e.g. cognitive processes such as perception, conceptualization, and problem solving" (Casagrande 1960:777). By 1960, some 30 experiments had been carried out as part of the Project, using speakers of Navaho, Hopi, Zuni, Spanish American, Hopi-Tewa and other South-Western American Indian languages. The tentative conclusion drawn was that the structure of for example Navaho did indeed influence the behaviour of Navaho children in tests, but that the results were "not statistically" confirmed and "impressionistic" (conclusion which seem to indicate some wishful thinking on the part of the testers).

Carroll and Casagrande (1958) describe two experiments in detail. In one, English and Hopi speakers were asked to classify pictures in order to show whether Hopi

linguistic features would show corresponding features of non-linguistic behaviour. The second attempted to show "that behaviour can be influenced by a grammatical phenomenon as well as a purely lexical one" (p.26). In both cases, results favoured the hypothesis that language structures influence cognitive functioning but not always in the way predicted by the initial hypothesis. For example although in one experiment Navaho dominant (bilingual) children sorted objects by shape rather than colour almost twice as often as English speaking dominant Navaho children - a result predictable by the structure of Navaho - monolingual English speaking children in New England did so even more often.

Experiments similar to the three above are fairly numerous in the literature. They share a certain vagueness in intent, in general too broad or general a scope and indeterminate results. The following series of experiments by Lenneberg and colleagues are much more satisfying in this regard.

Lenneberg (1953), Brown and Lenneberg (1954), Lenneberg and Roberts (1956) and Lenneberg (1961), taken together, constitute the most serious and well thought out investigation so far made into the Whorf hypothesis. The first in the series, Lenneberg (1953) examines Whorf's work in an attempt "to lay bare the logical structure" of investigations into the effect of a given language on the thought, perception, etc. of

speakers. Lenneberg lays down the conditions which the Sapir-Whorf hypothesis might be tested, indicates what sort of evidence might be acceptable, and proceeds to describe a specific approach which would satisfy these conditions. The "intra-cultural approach" involves two major steps: 1) establishing the "codability" of stimuli of a certain kind (e.g. colours) in the language being investigated. (Easily codable stimuli elicit consistent naming behaviour across speakers.) Step 2) consists in a cognition experiment using the stimuli whose codability has been determined. A correlation was observed between codability of stimuli and their ease of recognition.

The experiment described above is discussed in detail in Brown and Lenneberg (1954). The experimental results are introduced by a discussion of the Whorf hypothesis. Two propositions are extracted from it - "a) Different linguistic communities perceive and conceive reality in different ways. b) The language spoken in a community helps to shape the cognitive structure of the individuals speaking that language" (p.491). They then report on their experiment, in part of proposition b) above, "The idea that lexical differences are indicative of cognitive differences ..." (p.491)

The central element of Lenneberg and Roberts (1956), a monograph length article, is its focus on "the

language of experience" that is, those elements of language which talk about direct sensory experience, e.g., colours. The authors see in this area of language an opportunity to escape from the bind in which most Whorfian studies are caught - that is, that they attempt to study relationships between language and cognition while using language itself as the only means of access to them. The value of focusing on the language of experience is that its domain of reference is susceptible to independent description in physical terms which do not rely on any particular language. It is then possible to examine the structuring of such a domain by the linguistic expressions of a given language. This in turn can possibly be correlated with cognitive regularities.

Lenneberg (1961) is a further consideration of the results of Brown and Lenneberg (1954) in which codability was correlated with ease of recognition. In this later study, Lenneberg modifies his earlier conclusion. Codability appears to be "only one of several possible ways in which naming and linguistic categorization may affect recognition (of colour) ... naming habits affect colour recognition to the degree (a) that we tax memory; and (b) that we force S_s to search for anchoring points" (p.382). Lenneberg's data show that very low codability may also provide anchoring points.

Semantic habits provide no absolute invariable means of distinguishing stimuli, but serve as a device for

classification or articulation of a continuum and thus help us in many situations to find points of reference, "anchorage", for judgements" (p.382).

1.5 The place of the Whorf hypothesis in American linguistics.

Returning to Whorf's orientation on language and the pendulum metaphor suggested by Hymes, it is useful at this point to see the history of American linguistics in terms of pendulum swings, Sapir and Whorf occurring at the extreme "mind" point of an arc labelled perhaps "mind-behaviour". (This is not to imply that their writings were devoid of behaviourist ideas, but is a useful simplification). The pendulum, in 1941, was about to swing away from Sapir-Whorf mentalism in the direction of Bloomfield and behaviourism. Thereafter Sapir school linguistics would be judged in terms of Bloomfieldian linguistics, with inevitable distortion. All the same, in the late 40s and early 50s the "Whorf" hypothesis or the "Sapir-Whorf" hypothesis, as Hymes has pointed out, was the question in linguistic anthropology. From 1951 to 1953, four conferences were held at which linguistic relativity was a topic, in some cases the only topic. These were the SSRC International Summer Seminar in Psychology and Linguistics in 1951; the Wenner-Gren International Symposium on Anthropology in 1952; the Wenner Gren and University of Indiana Conference of Anthropologists and Linguists in 1952; and the University

of Chicago Department of Anthropology Conference on the Inter-Relations of Language and other Aspects of Culture in 1953.⁵

Despite the interest and discussion at this time, it was obvious that the main thrust of linguistics was taking a different course, and in reality the Sapir-Whorf hypothesis was not seriously studied, nor clearly formulated by those who followed Whorf. Hymes (1970:276) noted:

It is important to note that Whorf's work was not taken up at that time. His bold statements were discussed, sometimes out of context, but his efforts to develop semantic description and semantic typology were neglected. His key notion of "fashions of speaking" (1941) was not taken up, although it might easily have led in a sociolinguistic direction.

Besides the lack of clear definition as discussed above, and the inconclusive results from those few experimental studies carried out in the 40s and 50s following Whorf's death, as Hymes (1970:275) points out, there was a certain hostility from those whose theoretical framework did not have room for "any suggestion of linguistic determinism or relativity". The pendulum having by now swung towards "behaviourist" views of language, within a few years Sapir seemed almost "unintelligible" in terms of Bloomfieldian linguistics. And if Sapir was unintelligible, Whorf was certainly so.

Newman (1951), in his review of Mandelbaum (1949) argues that although Sapir was just as committed as

Bloomfield to a "scientific" linguistics, a "coherent and self-consistent body of concepts" - he was, as well, aiming for a wider context and links with other disciplines: psychology, culture studies, etc. Newman explains:

At the time that Sapir was thinking to expand the horizons of language study beyond the linguist's traditional universe of discourse, history played a cruel trick on him by directing linguistics into contrary channels. Under the influence of Bloomfield, American linguists in the 1930s turned to an intense cultivation of their own field, sharpening their methodological tools and rigorously defining the proper limits of their science in terms of what Trager has identified as "microlinguistics". They became increasingly efficient microlinguists. Certainly none can deny that this involuntary trend has given linguistics a disciplined clarity and power of analysis that it never had before. But it is equally true that the trend carries with it the seeds of an ever-narrowing parochialism. And it was Sapir's main purpose to make linguistics a more cosmopolitan member of the community of sciences.

(Newman 1951:185)

Whorf's ideas (like Sapir's view of linguistics and science) in a sense went underground to emerge again in the work of some sociolinguists and ethnographers.

The Transformational School can be seen as a legitimate descendant of the Bloomfield current in American linguistics with its stress on linguistics as a science and other qualities of microlinguistics mentioned above. It has also, of course, returned to some ideas of the Sapir tradition of which Whorf and

Sapir would both have approved - linguistics viewed as a branch of cognitive psychology, inter-relationship seen with psychology, neurophysiology, etc. However, the stress on universals as opposed to language particulars rather than a balance of these two has prevailed. The Sapir-Whorf hypothesis fairs no better when discussed in terms of linguistic universals than it did in terms of Bloomfieldian linguistics.

There seems to have been no attempt to formulate a theoretical framework which accepts both some level of universals and some form of linguistic relativity, as suggested by Whorf in the quotation from "Language and Logic (1941) quoted above. Haugen points out in a paper largely anti-linguistic-relativity:

Linguistic relativity stresses the validity and importance of each language as a determinant of its speakers' thinking, while the current universalism stresses the common human features and plays down the "surface" features that characterize each language and language variety. There is much to be said for each of these complementary (emphasis mine) views, but a one-sidedness that claims truth for only one of them is misleading and intellectually dangerous.

(Haugen 1977:11)

The study of the "accumulated and accumulating" experience, as Lee (1938:98) put it, which made up the experiments and debates on linguistic relativity in the 40s and 50s gave birth to new developments in sociolinguistics

and the so-called ethnosciences, e.g., ethnolinguistics, ethnosemantics, ethnocognition (c.f. Fishman 1977:56). These more recent subdisciplines of linguistics and anthropology have certainly retained traces of Sapir and Whorf. As well, McCormack (1977:5) points out that in one guise or another Whorf's ideas are here to stay

... evidenced in the views of some notable philosophers of science (e.g. Kuhn 1962); students of proxemics (e.g. Hall 1966); students of cultural contributions to visual pattern perceptions - themselves interesting as relatable by neurophysiology to the homostatic areas of the brain engaged by linguistic operations and various sensory discriminations (e.g. Segall, Campbell, and Herskovits 1966; Pribram (1973:136-138); ... the empiricist philosopher Quine (1969:89-90) and the psychologist Pribram (1972:19-20) (who) incline to the "weak" version of Whorfian theory in claiming that habitual ways of speaking influence but do not determine thought or knowing.

CHAPTER TWO

Linguistic Relativity and Modern Developments

This chapter will attempt to deal with some more recent developments of the Sapir tradition and of Whorf's ideas in particular. Since the early 50s Whorf's influence has been most felt in the work of some sociolinguists. Here we will deal not with linguistic relativity alone (the so-called Whorf hypothesis), but rather with the wider scope of Whorf's views on language in which linguistic relativity was only an element. Another of Whorf's concepts, the idea of "fashions of speaking", as developed by Hymes and others has converged with the ideas of "functionalist" philosophers of language. Sociolinguists like Hymes have identified their aims with those of philosophers like Searle. Yet at the same time, some elements of their views of language seem to contradict the basic functionalist position. The following sections will follow the development of Whorf's ideas by some sociolinguists, identify an apparent contradiction in accepting a position which embraces both linguistic relativity and functionalism, and suggest a synthesis of the positions which may resolve the contradiction.

2.1. Sociolinguistics: from "fashions of speaking" to functionalism

The Sapir tradition in linguistics (as described by Hymes and Newman in Chapter One) has been carried on by some sociolinguists and ethnolinguists who have continued to work in terms of Whorf's "fashion of speaking" (Whorf 1941:158).

2.1.1 Fashions of Speaking

"Fashions of speaking" was Whorf's term for the linguistic expression of "world-view", something which cut across the conventional boundaries between grammar and vocabulary (Hymes 1964b:115). Whorf introduced the term in a posthumously published article entitled "The Relation of Habitual Thought and Behaviour to Language"

Concepts of "time" and "matter" are not given in substantially the same form by experience to all men but depend upon the nature of the language or languages through the use of which they have been developed. They do not depend so much upon any one system (e.g., tense, or nouns) within the grammar as upon the ways of analyzing and reporting experience which have become fixed in the language as integrated "fashions of speaking" and which cut across the typical grammatical classifications, so that such a "fashion" may include lexical, morphological, syntactic, and otherwise systemically diverse means coordinated in a certain frame of consistency. Our own "time" differs markedly from Hopi "duration". It is conceived as like a space of strictly limited dimensions, or sometimes as like a motion upon such a space, and employed as an intellectual tool accordingly. Hopi "duration" seems to be inconceivable in terms of

space or motion, being the mode in which life differs from form, and consciousness in toto from the spatial elements of consciousness. Certain ideas born of our own time-concept, such as that of absolute simultaneity, would be either very difficult to express or impossible and devoid of meaning under the Hopi conception, and would be replaced by operational concepts. Our "matter" is the physical subtype of "substance" or "stuff", which is conceived as the formless extensional item that must be joined with form before there can be real existence. In Hopi there seems to be nothing corresponding to it: there are no formless extensional items; existence may or may not have form, but what it also has, with or without form, is intensity and duration, these being nonextensional and at bottom the same.

(Whorf 1941:158)

Hymes (1974b) has evolved a wider concept which he calls "ways of speaking", in part from Whorf's idea. "Ways of speaking" refers to the subject matter of an ethnography of speaking, comprising "speech styles and their contexts" (p.446) and cuts across linguistic and cultural matters much as Whorf intended "fashions of speaking" to cut through grammatical and lexical features.

A conception similar to that of Whorf's can be found in the work of the British sociolinguist Basil Bernstein (1972:494-95)

... there are distillations ... from the general system of meanings which inhere in linguistic codes which exert a diffuse and generalized effect upon the behaviour of speakers ... imbedded in a culture or subculture

may be a basic organizing concept, concepts or themes whose ramifications may be diffused throughout the culture or subculture. The speech forms through which the culture or subculture is realized transmits this organizing concept or concepts within their gestalt rather than through any one set of meanings.

Given their involvement in relations between language and culture, the emphasis on speech and the 'ethnography of speaking', the importance paid to context, and so on it is not surprising that sociolinguists like Hymes, their roots in the Sapir tradition, have allied themselves with functionalists like Searle and Austin rather than with transformationalists. Austin (1962:147) pointed out that the philosopher should look not at language in a vacuum but at the 'speech act' in its cultural setting; while Searle sees language as a part of a general theory of human action (Crick 1976:81). (This statement is immediately reminiscent of Boas for whom language was an ethnological phenomenon on a level with other ethnological phenomena, although more revealing than most because less subject to conscious rationalization (Hymes 1962:14).

The Chomskian model with its emphasis on the "ideal speaker-hearer" in a "completely homogeneous speech community" (Chomsky 1965) and its relegation of sociolinguistic matters to a "performance" which can have no effect on "competence", has been found at the

very least limiting by many sociologists, and by some "almost a declaration of irrelevance" (Hymes 1971b:270).

2.1.2 Rules of usage

Hymes has discarded the dichotomy competence/ performance with the implied irrelevance of the latter and outlined rules of usage in functional terms. The term "communicative competence" was coined by Hymes to define the ability "to speak appropriately (which) implies a knowledge of both grammar and rules of language usage" (Gumperz 1975:xv). Rules of speaking or usage, comparable to the grammatical rules governing the production of sentences, suggest "... a level of structure that operates in the realm of discourse and is analytically separate from the grammar of individual sentences". (Gumperz 1975:xv).

The need for this level of analysis is felt because - as Hymes (1971b:277) writes:

We have then to account for the fact that a normal child acquires knowledge of sentences, not only as grammatical, but also as appropriate. He or she acquires competence as to when to speak, when not, and as to what to talk about with whom, when, where, in what manner. In short, a child becomes able to accomplish a repertoire of speech acts, to take part in speech events, and to evaluate their accomplishment by others.

And, elsewhere:

... it is a question of what a foreigner must learn about a group's verbal behaviour in order to participate

appropriately and effectively in its activities. The ethnography of speaking is concerned with the situations and uses, the patterns and functions, of speaking as an activity in its own rights.

(Hymes 1962:16)

This acquisition of this sort of competence comes as the result of, and is in turn a source of needs, motives and experiences. (Hymes 1972:278)

We break irrevocably with the model that restricts the design of language to one face toward referential meaning, one toward sound, and that defines the organization of language as solely consisting of rules for linking the two. Such a model implies naming to be the sole use of speech, as if languages were never organized to lament, rejoice, beseech, admonish, aphorize, inveigh (Burke, 1966, p.13), for the many varied forms of persuasion, direction, expression and symbolic play. A model of language must design it with a face toward communicative conduct and social life..

Here Hymes is clearly functionalist in the sense of Searle (1969:16-17)

... speaking a language is performing speech acts, acts such as making statements, giving commands, asking questions, making promises, and so on; and more abstractly, acts such as referring and predicating; and, secondly, that these acts are in general made possible by and are performed in accordance with certain rules for the use of linguistic elements.

The reason for concentrating on the study of speech acts is simply: all linguistic communication involves linguistic acts. The unit of linguistic communication is not, as has generally been supposed, the symbol, word or

sentence, or even the token of the symbol, word or sentence, but rather the production or issuance of the symbol or word or sentence in the performance of the speech act Speech acts are the basic or minimal units of linguistic communication.

... an adequate study of speech acts is a study of 'langue'.

2.2. Linguistic relativity and functionalism

The preceding section has dealt with the merging of one stream of American structuralism, the Sapir tradition, with emphasis on Whorf's linguistic relativity, and speech act theory. The following section will deal with a dovetailing of some of the underpinnings of linguistic relativity and functionalism.

The aim of this section is to clarify what appears at least on the surface to be a contradiction in the views of some sociolinguists touched on at the end of the previous section. This contradiction lies in the fact that, the "Whorfian", at least in some sense, is accepting that language influences cognition, the functioning of the mind. Hymes (1962:17) for example, obviously accepts this position:

... there is no question but that speech habits are among the determinants of non-linguistic behaviour, and conversely. The question is that of the modes and amounts of reciprocal influence.

At the same time, as was shown in the previous section, Hymes allies himself with a position in the

philosophy of language known as functionalism, which stated very simply would say that a system of beliefs and intentions to act influences the structure of language and that language is the instrument of those beliefs and intentions.

2.2.1 Linguistic relativity in structural linguistics

A brief historical sketch is in order here: 19th Century historical linguistics was concerned with "atoms" of language—sounds, words, etc. In a structuralist approach, which characterizes almost all of American linguistics since Boas, the essential factor in language is seen to be the relationships holding between atoms.⁶

20th century structuralism as understood by linguists is therefore claimed to be a better approach than 19th century "atomism" to understand how language works. However, it might appear that a direct approach to the functioning of language would be best. Many structuralists claim that it is not so: they assert that language has an inherent structure which the individual has to accept from his community and which constrains the way in which he handles language.

In this section I will briefly discuss how three different linguists within the Sapir tradition implicitly advocate the position that structure influences functioning, and not the reverse. Dorothy Lee and Harry Hoijer were contemporaries of Whorf and their

studies were written as examples of the Whorf hypothesis at work. Hoijer demonstrates the cognitive implication of required category choices in Navaho; Lee describes Wintu cognitive categories as evidenced by verb forms. The third example, an article by Edward Keenan, a more recent scholar, while still being broadly in the structuralist tradition in the sense defined above, was written without reference to linguistic relativity. Keenan offers evidence that languages differ as to the distinctions between logical structures which they allow or demand. After examining these three discussions of the effect of language structures on cognitive functions, we will examine the opposite position (i.e., that cognitive functioning influences language structure in some way), and then attempt to reconcile these two points of view.

Hoijer (1951) introduced his article "Cultural Implications of some Navaho Linguistic Categories" with a quotation from Sapir and Whorf about how language "conditions all our thinking about social problems and processes" (But also quotes Whorf who denied "that there is anything so definite as 'a correlation' between culture and language, and especially between ethnological rubrics such as "agricultural", "hunting", etc. and linguistic ones like "inflected", "synthetic" or "isolating").

Hoijer suggests that the study of the structure of certain aspects of a language, in this case the major structural characteristics of the Navaho verb, will uncover a characteristic way of looking at and thinking about the world which will also be uncovered by an analysis of other cultural phenomena such as myth.

As an anthropologist Hoijer's interest was not in showing some direct influence of language structure on cognitive functioning but rather in finding evidence in various cultural phenomena for characterizing a culture's world-view. In this article he describes the morphology of the Navaho verb and the meanings of Navaho verb bases.

To summarize this phase of our investigation, it would appear that Navaho verb categories center very largely about the reporting of events, or better, "eventings". These eventings are divided into neutres, eventings solidified, as it were, into states of being by virtue of the withdrawal of motion, and actives, eventings in motion. The latter are further subdivided into imperfectives, eventings in process of completion; perfectives, eventings completed; progressives, eventings moving along; and iteratives, eventings repeated over and over again. The customary reports eventings repeated by force of habit or custom; the optative, a desire that an eventing take place; and the future, the expectation that an eventing will occur.

(Hoijer 1951:115)

Moreover Hoijer draws attention to the fact that eventings are thought of "in terms of the movements of

corporeal bodies, or of entities metaphorically linked with corporeal bodies. Movement itself is reported, in painstaking detail, even to the extent of classifying as semantically different the movements of one, two, or several bodies, and sometimes distinguishing as well between movements of bodies differentiated by their shape and distribution in space" (p.115). The semantics of analysis of Navaho verbs reveals "the dominant conception of a universe in motion" to the extent that position is defined "as a resultant of the withdrawal of motion" (p.117).

He then proceeds to briefly mention how Navaho myths and legends are also concerned with constant movement and the minute specification of movement - "both gods and culture heroes move restlessly from one holy place to the next, seeking by their motion to perfect and repair the dynamic flux which is the universe." (p.117)

As mentioned above Hoiyer was not setting out to show the direct effect of a certain linguistic structure on thought, but rather to draw a parallel between the meanings of some linguistic structures and other aspects of Navaho culture as a way of characterizing that culture with a certain Weltanschauung.

Although in his introduction, Hoiyer has committed himself to Sapir and Whorf's position that language structure is primary, that the major structural characteristics of the Navaho language influence (at least)

some aspects of cognitive functioning (world view), the evidence of Navaho verbs which he produces demonstrates a parallel between some linguistic structures and the structure of some other cultural phenomena but no evidence that one or the other is actually primary. The following article by Lee has the same flaw.

Dorothy Lee's contribution to the linguistic relativity idea in the 30's and 40's has been mentioned above. She too saw language structure as to some extent determining cognitive function. Her 1938 paper, "Conceptual Implication of an Indian language" examines some of the grammatical structure of Wintu in an attempt to study the Weltanschauung or "unformulated philosophy" of that people.

Lee uses Wintu verb categories to illustrate the two basic sorts of experience for the Wintu.

In category 1 the form of the stem implies that the grammatical subject participates or has participated as a free agent in the activity or state described by the verb.

(Lee 1938:94)

A series of suffixes must be used with these stems which indicate the speaker's knowledge of the experience and his attitude vis-à-vis it.

The statements of this category, thus express... truth as limited through the sensory and mental apparatus of the knowing subject. So patent is this limitation, that the language provides suffixes expressive of the exact channel to which this particle

of truth has become known. Each of these denotes, not only the person, time and aspect, but also the manner in which the speaker himself has come by his information... He cannot say simply, the salmon is good. That part of is good which implies the tense (now) and the person (it), further has to continue under the following implications: (the salmon is good) I see, I taste (or know through some sense other than sight), I infer, I judge, I am told.

(Lee 1938:90)

These five suffixes of hearsay, vision, sensory evidence other than vision, inference or judgement ("conclusion derived from systematic thinking alone"), Lee summarizes in the following paradigm - "Harry is chopping wood":

Harry kupake, if I know this by hearsay

Harry kupabe, if I see or have seen Harry chopping

Harry kupante, if I hear him, or if a chip flies

off and hits me

Harry kupare, if I have gone to his cabin to find

him absent and his axe gone

Harry kupael, if I know that Harry has a job,

chopping wood every day at this hour,

that he is a dependable employee, and

perhaps that he is not in his cabin.

Besides the above suffixes, 3 other affixes occur which indicate differences in the attitude of the grammatical subject (who may or may not be the speaker) to the experience. As well, another set of affixes (Lee

does not discuss them) give "the position of the speaker towards his own statement, indicating the exact limitations in the validity of the known fact to which he gives expression".

Category II verb stems are used for states or actions "irrespective of the agency of the subject" - actions which are "beyond experience" (p. 89.. Category II includes the passive, medio-passive and the imperative. As well "it seems to pose questions whose answers do not depend on knowledge on the part of the speaker or hearer, and to make wishes of the day-dream type." Suffixes to this category of verbs tend to refer to "an inevitable future which might, can, and must be, in the fact of which the individual is helpless" (pp. 94-95).

In the statements of this category, attention is concentrated on the event and its ramifications, not the actor. The verb is not particularized in terms of participation. There are rarely any personal suffixes and the speaker never refers to himself ... he asserts truth which is subject neither to experience, doubt or proof.

According to Lee this category reflects that other part of the Wintu Weltanschauung "... the world of natural necessity where in all things that are potential and probable are also inevitable, wherein existence is unknowable and ineffable". In her view, although the Wintu are not conscious of their own Weltanschauung (p.102)

... their coherent morphological system ... must have been created throughout the years because of their unconscious attitudes towards the world, ... they have integrated a number of discrete grammatical phenomena into one consistent morphological system, to express their fundamental categories: subjectivity versus objectivity, knowledge versus belief, freedom versus natural necessity.

Edward Keenan's (1975) paper "Logical Expressive Power and Syntactic Variation in Natural Language" demonstrates how certain languages have relative clause structures which logically imply certain things which cannot be expressed in languages which do not have these structures.

Unlike Hoijer and Lee, who make the jump from linguistic structure to "cultural" or "conceptual" implications without showing that there is indeed a necessary connection between those two observed things, or that this connection moves from language to culture and not in the other direction, or to both from a third source, Keenan's work stays within language itself. He does not make any connection to non-language facts, and does not establish directionality - that the possibilities for relative clause formation in the language determine its expressive power. The linguistic structure determines linguistic functioning, that is, it determines the pragmatic possibilities for the speakers of the language.

Keenan presents examples of languages which, like Arabic, Welsh and Swiss German differ from English in that they present a personal pronoun (PRO) in the noun phrase (NP) position relativized. Keenan designates these and other similar languages PRO, while English, Russian, Finish, etc. which do not allow a personal pronoun to be relativized in the NP position are called -PRO languages "permit the formation of RC in a greater variety of environments than do the -PRO languages" (p.408) Keenan attributes this property to the fact that the PRO languages present on the surface more of the logical structure of the relative clauses than -PRO languages do, "and that in general the logically more perspicuous expression can be used in otherwise more difficult positions (where an NP position is 'difficult' if there are many NP that do not permit it to be relativized at all.)"

In those environments where language A can relativize and language B cannot, we have the following possibilities of expression: given two sentences S_1 and S_2 sharing a noun phrase NP_0 such that NP_0 is in a 'difficult' position in S_2 , language A can either conjoin S_1 and S_2 or relativize S_2 into S_1 , whereas language B can only conjoin S_1 and S_2 , relativization being impossible.

The expressive value of a relative clause differs from that of a conjoined clause because it presupposes

the situation it describes rather than asserting it. Language A therefore has more expressive power than language B, since it offers two possibilities.

None of the three linguists gives a complete demonstration of the "structure constrains functioning" position. We can however patch their contributions together into a complete line of reasoning, as follows:

- (a) linguistic structures ("grammars") are demonstrably different.
- (b) it has been repeatedly demonstrated that perception of language sounds is "influenced", "constrained" or "determined" by the language one speaks;
- (c) people living in different linguistic communities seem to exhibit different patterns of thinking -
- (d) Hoijer and Lee show further, in two cases, that there is a parallel between cognitive patterning - those distinctions or categories considered relevant - and linguistic structures - the "conventions" of marking of linguistic forms;
- (e) in the case of relative clause formation, Keenan shows that the grammatical equipment of the language determines exactly what kinds of distinctions the speaker has the possibility and the obligation to express;

(f) From the point of view of the individual speaker of the language the forms and constructions are given, not modifiable. In order to speak, the individual must select cognitively one of the alternatives susceptible of expression. For example, in English, a choice must be made between 1st, 2nd or 3rd person (but not in Japanese) hence cognitive activity is biased by the use of a given language; in other words "structure constrains functioning".

The six points listed above have distilled what might be termed the essential (tacit) position of some structuralist-type linguists on the relationship between structure and function. We will now identify what we will call the basic functionalist position, with the intention of juxtaposing the two approaches, identifying at the same time a possible element of contradiction between them.

2.2.2 Functionalism

Keenan's examples show how linguistic structure has some determining influence on the pragmatic choices of the speaker, and in general on the use of language as an instrument. Can the reverse be shown to be true? Can the pragmatic needs of the speaker be shown to influence language structure? Many linguists have attempted at various times and for various parts of language to give a functional explanation of linguistic forms. This does

not usually work well, or works only in a trivial way (e.g. Martinet). Many possible examples of "non-functional" elements in language have been presented (e.g. gender in French and German), yet the goal of understanding (explaining) language in terms of "what it is for" is very attractive. The extreme position would be "function determines structure" - paralleling the biological "function creates the organ".

The biological parallel prompts a few words of explanation on the use of the word 'function', or 'functional', in the philosophy of language.

As Nagel (1961:522) points out, the word "function" is highly ambiguous. Nagel himself discusses six meanings of "function" at length. It would appear that philosophers of language (of the ordinary language school) adopted the term from biology by way of anthropology (Malinowski, Radcliffe-Brown) with the following meanings in mind: In biology the term function has been used (as in the sense of "the vital function") to refer to processes such as respiration, digestion and so on (Nagel 1961: 523). These processes or functions are indispensable to life and are carried on by the organism as a whole, even if more specifically by individual organs. Certain British anthropologists earlier in this century used "function" in this sense (among others) when for example dealing with the "function" of cultural activities -

any specific cultural event has as its functions the part it plays in the life of the community. It serves to maintain a system and that is its function in the system. As in a biological "function", the entire organism (community) takes part, and the event furthers the existence of the organism.

Ordinary-language philosophers however, seem to have used "function" largely in another sense - that of "use or utility", as Nagel says, "as in the statement 'The function of an axe is to cut wood'". Wittgenstein for example "... recommended philosophers to ask not for the meaning of a word but for its use ... In this way better justice might be done to the immense variety of ways in which language functions." (Cohen 1974:173-4). Wittgenstein defined meaning as use: "... the meaning of a word is its use in the language." He spoke of "rules-of-usage" which would show how an element means what it does, that is how it is used for its function - asking a question, making a statement, etc.

J.L. Austin, another ordinary language philosopher, saw every speech act as both a locutionary (phonetic, syntactic and semantic) act and as an illocutionary act - asking, answering, describing, announcing; basically a speech act is illocutionary in as much as it has a "use".

It is also in this use utility sense that Searle is a functionalist as we will see below. (Hymes' functionalism

however has more elements of the biological sort of "function" of British anthropology).

We shall examine a few quotations from Searle as representative of a well-articulated "functional" view. Searle's preoccupation with the "functional", i.e. "use" aspect of language is present everywhere in his writings in a very general form.

I think that the most interesting questions about syntax have to do with how form and function interact, they have to do with the question "What are these syntactical forms for?" Language, for me is to talk with and to write with, so I want to say that the study of the syntax will always be incomplete unless we get a study of linguistic use.

(Searle 1979a:33)

However, the question of the relationship between function and structure is more particularly raised in Searle's continuing debate with Chomsky, which focuses on the nature of syntactic regularities and their foundation:

The regularities of syntax are structural regularities. Since we find quite generally that syntactic structures serve functions, let us see what deeper roles concerning the functions of language (rules of semantics, of speech acts, etc.) underlie these structural regularities. It would be unscientific to assume at the outset e.g. that the rules that relate interrogative and indicative sentences must be purely structural. Perhaps the rules make mention of the functions that the structures serve. In any case, to investigate the relation of structure and function is likely to give us a deeper insight into both the nature of language and the structure of the mind

than we are likely to get from focusing entirely on structure.

(Searle 1976:2)

As an example of the form that a possible functional explanation would take, Searle discusses relative clause structure.

But neutral scientist no 2 would at some point want to know how such facts relate to the jobs that relative clauses and proper names perform. What makes restrictive relatives so indispensable? Why won't they go with proper names? Part of the answer might be this: restrictive relatives would be very hard to do without because they function crucially in making identifying references, in answering the question "what exactly are you talking about?" e.g. "Which man?", "The man who came to dinner". But non-restrictive relatives are not nearly as crucial since much the same job is done by conjunctions. The example above is not so different from "The man came to dinner and he was drunk". Proper names on the other hand already function for identifying reference; that indeed is their main job in the language. If the proper name already identifies an object it is improper to add some alternative competing identifying device such as a demonstrative or restrictive relative clause. We can only do that in cases where the identificatory role of the proper name has broken down because of ambiguity. Thus, e.g. "Which Harry Truman do you mean?" "I mean the Harry Truman who was President of the United States.

(Searle 1976:2)

Finally it seems that for Searle this kind of explanation must be applied in language quite generally, in the every day operation of language and even in its phylogeny.

"Once I have tried to make the nature of Intentionality clear, I will argue that the direction of dependence is precisely the reverse. Language is derived from Intentionality and not conversely ... That there is a close connection between speech acts and Intentional states is at least strongly suggested by the parallel syntactical forms of speech act verbs and the corresponding Intentional verbs that name the sincerity conditions of these speech acts. For example, in English both the verb "state" and the verb "believe" take "that" clauses as sentential complements. Both "I state that it will rain" and "I believe that it will rain" are permissible, but neither verb will take infinitives. I can't say "I state to come" or "I believe to come". "Order" and "want" as well "promise" and "intend" all take infinitives. "I order you to go", "I want you to go", "I promise to go", "I intend to go" are all permissible.

(Searle 1979b:2-3)

We don't know how language evolved in human prehistory, but it is quite reasonable to suppose that the needs of communication influenced the structure. For example, transformational rules facilitate economy and so have survival value ... We pay a small price for such economies in having ambiguities, but it does not hamper communication much to have ambiguous sentences because when people actually talk the context usually sorts out the ambiguities. Transformations also facilitate communication by enabling us to emphasize certain things at the expense of others... In general an understanding of syntactical facts requires an understanding of their function in communication since communication is what language is all about.

(Searle 1972)

We may now attempt a summary of Searle's position as follows: There are basic types and components of

speech acts, which can be the objects of a taxonomy. It appears that the various classes of such taxonomies are reflected in language. In other words, language offers structural means to perform required speech acts. This can be easily understood if one hypothesizes that functional pressure (the type of speech acts required) produces/constrains structure (language forms).

2.2.3 Are these conflicting positions?

Are the positions outlined above compatible? That is, is the Sapir-Whorf hypothesis, in this case, compatible with the functionalist position?

At first sight they appear contradictory. The Sapir-Whorf hypothesis claims the priority of structure over function: "You can say/think only what your language enables you to." The second claims priority of function over structure. "Your language has such-and-such forms because they are required to realize such-and-such a function". However, these two statements can be seen not to be contradictory if they describe relations that hold in different domains.

When linguistic relativity claims priority of structure over function it is at the level of the individual's behaviour: the individual is faced with the language structure which pre-exists his/her learning, and this learning, with a consequent type of functional behaviour, is subject to the limiting conditions imposed by the structure.

The functionalist position, on the other hand, describes the view point of a whole linguistic/cultural group, in which drifts in structure result from "imperfect" learning from one generation to the next (or within a generation) under functional pressure from the environment. Those re-interpretations which are widespread among learners become fixed in the system and constitute a new basis for learning in the next generation. Functional needs thereby influence the whole language structure of the group or generation.

This, in a sense, would mean that the functionalist position could not have psychological reality: the individual learning his language has no opportunity to directly experience functional pressure on language drift. However, the learner of the language experiences the substance of the functionalist hypothesis in a different way, namely: he seldom finds his language lacking. As it has evolved under functional pressure it will to a great extent provide the forms necessary to match his cognitive development (i.e. express beliefs, implement intentions, and in general "perform").

It does, of course, happen that the individual finds his language lacking. However, in so far as language change is concerned, it is not the functional pressure felt by the individual (as an individual) that counts, but that felt by a group, all of whose members feel the same lack of fit between language structure as given and

functional needs. The basic unit of functional pressure is the discrepancy felt by a linguistic community between an existing structure and functional needs.

The paragraphs above have proposed that language structures evolve constrained by functional requirements. This proposal enables us to reconcile the seemingly opposite viewpoints described on page 86. However, the analogy between the evolution of biological species and the evolution of language raises other questions, some of which we will look at briefly now.

One question that arises from the comparison between species reacting to pressure from the environment and language changing under functional pressure is that whereas survival is the criterion by which we judge success of a species, no such observable criterion of success has been suggested yet for language.

One such criterion might be communication. Communication, however, is not a property normally assigned to a language as a whole. The activity of communication through language takes the form of separate actions i.e. individual speech acts. Therefore the evaluation of success in communication through language will require focusing on individual speech acts, successful communication being identified with success of a speech act.

A theory of speech acts would specify (among other things) the criterion of success for a speech act and therefore for communication. Among the possible forms a theory of speech acts might take could be the positing of a universal set of speech acts. (In which case the theory of speech acts might reduce to a taxonomy of speech acts.)

The argument we have just sketched amounts to assuming that the basic communicative function common to all languages is the performance of speech acts taken from a universal set. However, each step of that argument still requires corroborative evidence. Is the basic function of language communication? Is the most reliable manifestation of communication the performance of speech acts? Is a general theory of speech acts possible? And would it take the form of a universal set of language invariant speech acts? Each of these questions would require specific attention before functionalism could be interpreted as a thesis concerning the evolution of the structure of a language.

2.3. General conclusions

The idea of linguistic relativity in American anthropology originated in the work of three German thinkers of the 18th and 19th centuries - Hamann, Herder, and Humboldt. Brinton, as a translator of Humboldt and Boas as a product of that particular German tradition each in different ways absorbed and promoted linguistic relativity in their work on American Indian languages at the turn of the century. Boas, for whom linguistic relativity was a sort of underlying assumption rather than an issue in itself, was the major influence in American anthropology of this century. Sapir as his student and Whorf as Sapir's student developed and elaborated the idea. Whorf in particular came to be identified almost solely with it. After the deaths of Sapir and Whorf there was a certain flurry of interest in the "Whorf hypothesis" comprising several conferences and projects, a general orientation of field work and a number of attempts to "test" Whorf's idea. The rise at that time of Bloomfieldian linguistics meant that Whorf's work in general and linguistic relativity in particular was never fully recognized, elucidated or even defined. The lack of impetus in Sapir style linguistics at this time and the concomitant rise of the Bloomfieldian approach with its emphasis on formal description and lack of interest in meaning resulted in the incomplete work done on linguistic relativity of the Sapir-Whorf variety.

The idea of linguistic relativity in American linguistics and anthropology has always been associated with a conception of linguistics characterized by a wider scope than formal grammatical description. We have seen how linguistic relativity was a key element in the Sapir tradition and how, despite the intervening years in which first Bloomfieldian descriptive and then transformational linguistics prevailed, it has been retained as an element of the strain of sociolinguistics that emerged from the Sapir tradition. In recent years this trend in sociolinguistics has developed certain functionalist ideas latent in Sapir's (and Whorf's) work. Hymes' sociolinguistics and Searle's functionalist philosophy of language have been shown to share certain aims, if not origins, especially in their rejection of some elements of transformational theory (the competence/performance distinction for example).

However, in the case of the type of sociolinguists exemplified here by Hymes a prima-facie contradiction appears when linguistic relativity is combined with functionalist views. A possible solution has been presented to this problem showing that both structure influencing function (linguistic relativity) and function influencing structure (the functionalist position) can operate, but on different levels.

This solution is not one found, to my knowledge

in the writings of either Hymes or Searle. Accordingly, we can not be sure that it is entirely compatible with their detailed position. An answer to this question would require further research beyond the scope of this thesis.

NOTES

1. "Enlightenment" and "Age of Reason" are, in customary usage, nearly interchangeable. There is, however, some tendency among historians of western culture to use "Age of Reason" for the 17th and 18th century together, and to confer "Enlightenment" to the 18th century, when the characteristic ideas and attitudes of rationalism had spread from a small group of advanced thinkers to a relatively large educated public".

(Edwards 1967:2:519)

2. Chomsky remarks on this in the case of Humboldt "...Wilhelm von Humboldt, who is now best remembered for his ideas concerning the variety of languages and association of diverse language structures with divergent world-views nevertheless held firmly that underlying any human language we will find a system that is universal, that simply expresses man's unique intellectual attributes".

(Chomsky 1972:76)

3. This is not to say that every linguist and cultural anthropologist believed that exact correlations could be made between culture and language. Sapir, for example, spends a chapter in Language (1921) explaining that culture and language are not causally related. "Language does not in deep sense reflect culture" (p.ix)

4. See for example Kluckhohn and Kroeber (1952) Culture: a Critical Review of Concepts and Definitions.

5. There have been at least three other since:

- 1) The IX Annual New York University Institute of Philosophy (1968), reported in Hook (1968)
- 2) The IXth International Congress of Anthropological and Ethnological Sciences (Chicago 1973), reported in McCormack and Wurm (1977)
- 3) An International Colloquium on the Sapir-Whorf Hypothesis, held at Ghent (1973), see Pinxten (1976)

6. Searle (1972) has erroneously used the term structuralist to designate a position in which meaning is set aside or ignored, in an attempt to find a label for the entire period in American linguistics predating Chomsky. Searle opposes "structuralist" to "transformationalist", and then to "functionalist". However, as has been shown above, linguists whose work can rightly be described as structuralist were very much concerned with meaning.

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