

LINGUISTIC RELATIVITY ANALYSIS IN SOCIAL PSYCHOLOGY, AND ITS ...

NAGLE, EUGENIA SUSAN

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PSYCHOLOGY, AND ITS IMPLICATIONS FOR
PSYCHOLOGY, SOCIOLOGY, PHILOSOPHY, SCIENCE
AND ART.**

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LINGUISTIC RELATIVITY ANALYSIS
IN SOCIAL PSYCHOLOGY,
AND ITS IMPLICATIONS FOR
PSYCHOLOGY, SOCIOLOGY, PHILOSOPHY,
SCIENCE AND ART

Jean S. Nagle

Union Graduate School

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OVERVIEW

OVERVIEW

To go along with Benjamin Whorf's contention that Linguistic Structure directs our thinking or world view, ideally we would have to command Linguistic "Pattern" understanding of every language still available and know what "thinking" or "world view" is present within each language. We could utilize this knowledge to promote rapid growth in understanding within and between all of our academic disciplines, or perhaps recast some or all of our present emphases, academic disciplines, life motivations, whatever!

We are only beginning to obtain Linguistic Pattern and thinking or world view insight, but along with "vanishing cultures" the number of available languages are diminishing rapidly as social change engulfs the world.

The arguments against the Linguistic Relativity Principle have, no doubt, contributed to the slowness of progress and loss of what available languages had to offer. Potential resources (academic attention, research funds, and wider stimulation of interest) and energy that might have been available were probably curbed considerably due to these arguments. The ethical (open research) responsibility for this "loss" and potential loss should be placed squarely on those who in the name of Science have misused Science and thwarted a potentially viable principle.

In an effort to "resurrect" this Principle rapidly and to hinder its continually being bogged down in "academic" arguments, I am

proposing an expansion in methodology. One suggestion I am making is a kind of "pilot study", probing possible impacts on questions within our Sciences by "grafting" another Linguistic Structure on ours and contrasting its impact with ours. At the same time, this may have the effect of strengthening interest in deep multi-disciplinary, empirical probing of questions related to the Linguistic Relativity Principle.

I hope to effect a higher level of ethics (that is, insisting upon greater responsibility toward maintaining "open" consideration) in "Scientific Criticism" in order to curb future debilitating influences on this and other areas of science and other endeavors.

Another suggestion in expanding methodology would be to demonstrate dimensions of Linguistic Structure in other media besides verbal, or to assist verbal explanation, if this is possible. This may have a desired effect of promoting still more interest in the Linguistic Relativity Principle and offsetting some of the "bad" press.

The Linguistic Relativity Principle

Benjamin Whorf's "Linguistic Relativity Principle" states that:

"...users of markedly different grammars are pointed by their grammars toward different types of observations and different evaluations of externally similar acts of observation, and hence are not equivalent as observers but must arrive at somewhat different views of the world."¹

This quotation is one that he himself identifies as an informal statement of his Principle.²

"markedly different grammars"

He groups most of the languages of Europe, including English under "SAE" (Standard Average European), as similar in "Linguistic Structure or "Grammar". The "POSSIBLE (but doubtful) exception" within this group is Balto-Slavic and non-Indo-European.³

He felt the world had held a large, but undetermined, number of languages with different "Grammars".⁴ The number of existing languages with different "Grammars" is yet to be determined. However, judging from the number he directly or indirectly identifies as having different linguistic structures from SAE and from each other there is still a significant number.⁵ Included among those he directly identifies are Algonkian, Chichewa, Chinese, Coeur d'Alene, Eskimo, Hopi, Japanese, Nootka, Shawnee and Japanese.

Each contrasting Linguistic Structure or "Grammar" is a special "patternment", chemical combination, or "gestalt" which must be derived separately for each language, and may cut across lexical,

morphological, syntactic and other aspects. As Whorf indicates:

"...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 systematically diverse means co-ordinated in a certain frame of consistency..."⁶

And:

"...one cannot study the behavioral compulsiveness of such material without suspecting a much more far-reaching compulsion from large-scale patterning of grammatical categories, such as plurality, gender and similar classifications (animate, inanimate, etc.), tenses, voices, and other verbal forms, classifications of the type of "parts of speech," and the matter of whether a given experience is denoted by a unit morpheme, an inflected word, or a syntactical combination..."⁷

The bearing of each language's special "elements" on the total "chemical" combination must be studied. Translation is, therefore, no easy matter and must be preceded by the understanding of each "gestalt". An especially deep consideration of the language must be made to pick out very special elements, derived with immense difficulty ("cryptotypes").

In effect he is saying that it is this GRAMMAR that more or less directs one to observe certain configurations cut out by this Grammar and relate these configurations in the manners dictated by the Grammar.

"different types of observations and different evaluations of externally similar acts of observation"

A "different type of observation" would entail perceptions from the "world" being carried around derived from the special "Grammar" of that language. This "world" would be individual to that specific "Grammar" and different "Worlds" would emerge within "different" Linguistic structures. Thus, what appears to be different acts of observation could entail different evaluations.

The extent of "observation" and "evaluation" is better illustrated from Whorf:

"Every language is a vast pattern-system, different from others, in which are culturally ordained the forms and categories by which the personality not only communicates, but also analyzes nature, notices, or neglects types of relationships and phenomena, channels his reasoning and builds the house of his consciousness."⁸

But at the same time "the house of his consciousness" is being built, and his thinking is in a language, the person is "unconscious" of the "laws of pattern":

"...forms of a person's thoughts are controlled by inexorable laws of pattern of which he is unconscious ...the unperceived intricate systematizations of his own language..."..."thinking itself is in a language..."⁹

Although Whorf indicates that thinking is in a language and gives significant credit to language for thinking he is careful to extend our view of the impact of language on thought beyond

the "bare" linguistic patterns per se:

"By 'habitual thought' and 'thought world' I mean more than simply language, i.e. than the linguistic patterns themselves. I include all the analogical and suggestive value of the patterns and all the give-and-take between language and the culture as a whole, wherein is a vast amount that is not linguistic but yet shows the shaping influence of language. In brief, this 'thought world' is the microcosm that each man carries about within himself, by which he measures and understands what he can of the macrocosm."¹⁰

A further elucidation of "thinking" is seen in the following paragraph; which also de-emphasizes the significance of "words":

"... 'thinking in a language' does not necessarily have to use WORDS... Much thinking never brings in words at all, but manipulates whole paradigms, word-classes, and such grammatical orders "behind" or "above" the focus of personal consciousness."¹²

He reaffirms his emphasis on LINGUISTIC PATTERN over WORDS or MORPHEMES in his physiological probing of the two, wherein he states that LINGUISTIC PATTERN involves NONMOTOR neural processes and WORDS or MORPHEMES involve MOTOR reactions: At the same time he adds richness to his view of "thinking" in "rapport" and "activitations".

"Words and morphemes are motor reactions, but the factors of linkage BETWEEN words and morphemes, which make the categories and patterns in which linguistic meaning dwells, are not motor reactions; they correspond to neural processes and linkages of a NONMOTOR type, silent, invisible, and individually unobservable. It is not words mumbled, but RAPPORT between words, which enables them to work together at all to any semantic result. It is this rapport that constitutes the real essence of thought insofar as it is linguistic, and that in the last resort

renders the mumbling, laryngeal quiverings, etc. semantically de trop. The nonmotor processes that are the essential thing are, of their nature, in a state of linkage according to the structure of a particular language, and activations of these processes and linkages in any way, with, without, or aside from laryngeal behavior, in the forefront of consciousness, or in what has been called "the deep well of unconscious celebration," are all linguistic patterning operations, and all entitled to be called thinking."¹³

However, he cautions us not to assume that we can obtain "the nature of the RAPPORT" by probing "paths and chains of brain cells or what-not which link and relate themselves by physico-chemical processes".¹⁴ He states that correct inquiry involves

"...a penetrating study of the LANGUAGE spoken by the individual whose thinking process we are concerned with and it (...matrix of relations...) will be found to be FUNDAMENTALLY DIFFERENT for individuals whose languages are of fundamentally different types."¹⁵

Suggestive, but undeveloped, aspects of the conditions of language origin are given by Whorf in his apparent agreement with Fabre d'Olivet that vocal symbolism derived from general symbolism which emerged from somatic behavior:

"...language (was) a development of total somatic behavior becoming symbolic and then diverting its symbolism more and more into the vocal channel..."¹⁶

However, he alludes to a necessary condition of "consciousness" before such symbolism could occur. We could, perhaps, credit this consciousness to the primates if we were correct in

assigning his idea of "communication" without "true AGREEMENT" to the primates. (My overall reading of Whorf with emphasis on developmental processes - universal, linguistic, cultural, psychological, and biological - convinces me that he would tend toward this type of interpretation over a mysteriously evolved or mystical interpretation of this "consciousness".)

"...deeper processes of consciousness, which are necessary before any communication, signaling, or symbolism whatsoever can occur, and which also can, at a pinch, effect communication (though not true AGREEMENT) without language's and without symbolism's aid."¹⁷

(Whorf holds a picture of the cosmos as being of "a serial or hierarchical character" in which "patterns form wholes" and "are embraced in larger wholes in continual progression". The above interpretation of "consciousness" is, I feel, true to this picture. However, to obtain a more complete picture of the part of consciousness in the cosmos we would be lead to consideration of Whorf's metaphysical views; an exceedingly complex picture.)¹⁸

Whorf cautions us about jumping to the conclusion that all of a culture shows the direct impact of its Linguistic Structure. He directs us to the complexity of cultural development and change, also to the complexity of linguistic development and change. He indicates that language and culture once developed together. He stipulates that change is much slower for language

than for culture. On the other hand he believes Linguistic Structure has the stronghold on thought and is slower to change. He allows for the influence of culture on language, as in inventions and innovation, but he sees this influence as being small and slow.

He further indicates that the nature of the relation between language and culture is one of "connections", not correlations. And such connections, he noted, can be determined only by studying the culture and the language as a whole after the two have "been together historically" for a long time. He then judged that in some cases there is a close relation between linguistic "fashions of speaking" (i.e. "Grammar") and the whole general culture, as well as connections within this integration between Linguistic Structure and "various behavior reactions and shapes taken by various cultural developments".¹⁹

Furthermore, Whorf strongly cautions us that when we are probing "habitual thought", it must include the "analogical and suggestive value of the patterns" and "give and take between language and culture as a whole", i.e., there is much that is not linguistic but "shows shaping" from the linguistic.

The following are some helpful quotations from Whorf regarding the relationship between language and culture:

"Which was first: the language patterns or the cultural norms? In main they have grown up together, constantly influencing each other. But in this partnership the nature of the language is the factor that limits free plasticity and rigidifies channels of development in the more autocratic way. This is so because a language is a system, not just an assemblage of norms. Large systematic outlines can change to something really new only very slowly, while many other cultural innovations are made with comparative quickness. Language thus represents the mass mind; it is affected by inventions and innovations, but affected little and slowly, whereas to inventors and innovators it legislates with the decree immediate.²⁰

And...

"...There are connections but not correlations or diagnostic correspondences between cultural norms and linguistic patterns. Although it would be impossible to infer the existence of Crier Chiefs from the lack of tenses in Hopi, or vice, versa, there is a relation between a language and the rest of the culture of the society which uses it. There are cases where the "fashions of speaking" are closely integrated with the whole general culture, whether or not this be universally true, and there are connections within this integration, between the kind of linguistic analyses employed and various behavioral reactions and also the shapes taken by various cultural developments... These connections are to be found not so much by focusing attention on the typical rubrics of linguistic, ethnographic, or sociological description as by examining the culture and the language (always and only when the two have been together historically for a considerable time) as a whole in which concatenations that run across these departmental lines may be expected to exist, and, if they do exist, eventually to be discoverable by study."²¹

Linguistic Relativity Principle: Footnotes

From: Whorf, Benjamin, Language, Thought, and Reality,
The M.I.T. Press, 1967.

- (1) P. 221
- (2) P. 221
- (3) P. 138
- (4) P. 218
- (5) P. 219
- (6) P. 158
- (7) P. 137
- (8) P. 252
- (9) P. 252
- (10) P. 147
- (11) P. 147
- (12) P. 252
- (13) P. 67 and P. 67, footnote "5")
- (14) P. 67
- (15) P. 67
- (16) P. 76
- (17) P. 239
- (18) P. 247
- (19) P. 159
- (20) P. 156
- (21) P. 159

Predecessors

of

Whorf

Predecessors of Whorf

Whorf's Linguistic Relativity Principle has been related, somewhat variably, to a list of predecessors who considered relations between language, thought, and culture. Some of the more notable include Johann G. Hamann, Johann G. Herder, Wilhelm von Humboldt, Franz Boas, Edward Sapir, and Leo Weisgerber.

Many of his predecessors varied in ascribing the strength with which language dictates thought and correlates with culture, and allowing whether or not language could even be considered as an important determinant of thought or as correlated with culture.

Before Herder philosophers had commonly connected thought and language but generally considered thought and abstraction as prior to language. Herder (whose predecessor was Von Hamann) considered language and thought as inseparable, developing mutually and maturing together. He connected differences in thought with a group's peculiar "nationalistic" evolution.¹

Humboldt developed Herder's thought and was influenced by the Kantian theory of knowledge. Humboldt took Kant's mind "ordered" sensations, arising from contact with the external world, and inserted the "inner sprachform", as the "ordered".

Kant's ordering occurred through space-time, intuitions, and categories of the understanding, which apparently constituted a universal theory of conceptualization.

Humboldt indicated the "inner sprachform" of each language - the organization of the semantic and grammatical structure of each language - as different from other languages and as constituting the "categories" through which the data of experience is ordered or categorized. Differences in language, "inner sprachform", relate to differences in interpretation and understanding of the world. To Humboldt some languages are more advanced as models of thinking than others.

Humboldt has influenced a number of 20th century thinkers, notably L. Weisgerber; and, connections have sometimes been made between Humboldt and Whorf, but with considerably different impacts upon Whorf.

Connections have also been cited between Humboldt, (D.G. Brinton), F. Boas, E. Sapir and B. Whorf.²

Whereas others have grouped Sapir and Whorf as similar,³ Landar distinguished Sapir's view of the impact of language on culture and thought from that of Whorf. Landar's distinction is more accurate in the case of thought than in the case of culture where he distorts Whorf's view:

"...Whorf's view that language insidiously causes a group and each of its members to behave in specifiable ways..."⁴

Sausurre was influenced by Durkheim and perhaps by von Humboldt. He was appreciated by Whorf, although divergent from Whorf concerning issues in which Whorf diverged from Durkheim.

A group of linguists in Germany - "Neo-Humboldtians" - are in opposition to the traditional linguistics which concerns itself exclusively with formalogical analysis of languages. They contend that language is an "energia" which reconstitutes experience, creating "conception, understanding, and values of objective reality", not merely as an "ergon", i.e., a means of communication or exchange. They consider the manifestation of language in culture, for several languages, including German.⁵

A recent proponent of Humboldtian rooting, Leo Weisgerber, is attempting to ascertain how ethnic and national culture determinants of Europeans who are German-speaking contrast with other cultures. Along with his vocabulary field research Weisgerber emphasizes grammar-syntax and its illumination of ways of constituting and experiencing reality.

In the U.S. Bloomfield's avoidance of mentalistic approaches, due to his emphasis on "scientifically accurate knowledge of everything in the speaker's world about which we know so little,

led him to avoid concentrating on meaning and to undertake the "formal analysis of utterances".⁶ Sapir, along with Whorf, emphasized that linguists must extend their concentration from formalogical linguistics to implications for "interpretation of human conduct in general".⁷

According to Robins, empiricists considered that everything is learned through use of the senses and the mind's operations on sensory data (Hume was extreme in rejection of the "a priori" component). For rationalists, like Descartes and Leibnitz, knowledge depends on the "truths" of human reason. Both philosophical lines used the approach of mathematical and Newtonian science instead of Aristotelean as fundamental to philosophical reasoning. Locke, Hume, and Berkeley said there were no innate ideas; no ideas until experience. Cartesian rationalists supported the idea that innate ideas lie behind the certainty of knowledge.

Robins concludes that the mind has to operate on sense impressions to give us knowledge, revealing, to him, that the two schools of empiricism and rationalism are not really as far apart as might be thought. He is of the opinion that Locke's "operations of our minds within" is something like Descartes' rationalism.⁸ Undoubtedly, this issue could not be resolved without considering the intricate complexities of each philosophy.

A strong, divergent line of thought has, interestingly enough, evolved into considerations which may strongly relate to Whorfian questions.

Fillenbaum notes that more recent reconsiderations of Chomsky have been less satisfied with deep structure analysis, and that Chomsky himself later considered surface structure as relevant, along with deep structure, in semantic interpretation. Also a number of linguists believe a theory of "deep" structure is insufficient for semantic interpretation; they question that deep structure is an autonomous level, they require a generative, in addition to an interpretive, semantics, they believe that semantic and syntactic representations are of the same formal nature, and they maintain that a richer symbolic logic is called for in the representation of meaning.⁹ Some of these considerations may impinge on Whorfian concerns.

Wittgenstein rallied and saved himself from accusations against Chomsky about removal from the "social world with its repertoire of affective life and language", i.e., its exterior and interior influences.¹⁰ Wittgenstein moved on in his later work to clearly include this social world with both the "outward and inward look".

The cross-fertilization of such developments for Anthropological study is not yet apparent. Nevertheless, similar lines may

converge and recede, allowing consideration for ascription as they pass through the lines of predecessors. And perhaps divergent lines may yet, inadvertently, converge.

Predecessors of Whorf: Footnotes

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Harcourt, Brace and World, Inc., 1921

- (1) Robins, P. 151
- (2) Robins, P. 207
- (3) Miller, P. 11; Robins, P. 208
- (4) Landar, P. 239
- (5) Basilius, P. 453
- (6) Bloomfield, P. 139
- (7) Sapir, P. 214
- (8) Robins, P. 112
- (9) Fillenbaum, P. 253
- (10) Currie, P. 22, and P. 23

Analysis

of

Criticisms

Analysis of Criticisms

Julia Penn hurks a powerful criticism at Whorf when she states that in equating language and thought Whorf exhibited his support for what she calls the "extreme hypothesis" of the relation between language and thought. This, in turn, led her to accusing Whorf of "mysticism" and discounting the role of the "collective neurological organization":¹

"There seems to be, back of Whorf's assertion of the extreme influence of language on thought, the assumption that language is a manifestation of the mind or soul of man apart from his body and hence not the creation of his (collective) neurological organization."²

It will be seen that she is mistaken on several counts. We noted (P. 8) that Whorf indicated that language and culture developed together. Also shown was Whorf's suggestion that consciousness preceeded symbolism, and his probable support of the somatic becoming symbolic and then focusing in the vocal symbolic (P. 7). In this long developmental process language emerged but necessitated "consciousness" (an idea which is only vaguely developed by Whorf). Suggested then is a long developmental process that is utilized to consider how language "emerged". Also Whorf is quite cognizant of "neurological organization" in this process (P. 6).

Penn asks how language emerged for Whorf if language is thought and thought is language. Her "dilemma" is rooted in her equating

the "thought" that is present with developed language and a KIND of thought that had to be present to begin the simultaneous development of thought and language. She also errs in assuming that the "beginning" of language can be discussed as if it were fully developed language (see previous paragraph). So, she is incorrect in her allegations both in the way she misconstrues Whorf's view of the relationship between language and thought, and thought and language, and then in labeling this as "mysticism" without recognizing Whorf's "neurological" attention.

Penn asserts that the most frequent criticism of Whorf's work is that he uses language examples to show the influence of language on thought.³

Whorf rigorously adhered to scientific standards in linguistics, including "observations under controlled conditions" and linguistic techniques which he identifies as follows. Unlike mathematical sciences which he indicates "require exact measurement", linguistics requires 'exact Patternment' -- and exactness of relation irrespective of dimensions," and has provided techniques "to specify EXACTLY the patterns with which it is concerned". The "experimental 'animals'" of linguistics are human informants.⁴

Whorf utilized rigorous linguistic techniques and informants in obtaining the data from which he could determine Linguistic

Structure and world view arising within that Linguistic Structure. As was noted previously, "World View" is an exceedingly complex picture that is intricately developed in and through the Linguistic Structure. Hour after tedious hour of construction, checking, reconstruction, and rechecking occurs through the "informant". Whorf made it clear that informants "are apparatus, not teachers".⁵

It is difficult to conceive of a linguist's gaining entrance to both the Linguistic Structure as Whorf conceives it and World View, without language! In other words how could the influence of language on thought be determined without "language examples" (Penn's phrase)! Hence, I conclude that Penn's criticism is invalid.

Now let us consider observations and evaluations. It is conceivable that one might set up empirically observable situations and obtain nonverbal behavioral responses. In setting up such empirically observable situations, however, one must be extremely cautious to be sure the "world view" constructed from a particular Linguistic Structure is utilized to determine what observations and Evaluations are to be made by Subjects living in that framework. These considerations would, of course, be made with any cross-linguistic comparisons. One would certainly

not consider simply having the "same" observable situation and comparing observed behavior as between subjects from different linguistic structures!

Another complicated issue should be considered. Before any conclusions are drawn as to "cross" linguistic differences or similarities in Observation and Evaluation (P. 5), the issue of the relation between Language and Culture must be recalled (Pp. 8,9). With rapid change in Culture we might conceive of the possibility of "erosive" effects that cultural change may have on "Linguistic Structure" and "Observation" and "Evaluation".

And most importantly it must be stressed that we should also be concerned with the value of Linguistic Structure per se, without the countervailing variables, for the effect it may have IF the cultural variables are "right". In other words, the Culture has to be such as to make the Linguistic Structure fully "useable".

Another point to be considered is that in Whorf's description of Hopi culture, he was describing Hopi activities, also. I am not certain where he obtained these observations, whether first hand, informant, or both, but they were OBSERVATIONS OF BEHAVIOR.

A criticism of the Linguistic Relativity Principle by Penn and other critics suggests that many or most languages would be equal

to the task of translating any other language. Without being sufficiently aware of the many possible Linguistic Structures and special inhibitions they may hold, it would be difficult to agree or disagree. It is apparent, however, that through much more explanation than is necessary in the mother tongue, closeness to the intention can be attained in translating some languages. However some compared languages might be more translatable in terms of one another than others might be. Any translation would, of course, have to consider the Gestalt or Pattern of the Language (P. 6) and the World View that it was significant in developing. The point here is not so much whether a language can be translated into another by stretching, twisting or fracturing it. Rather, when we focus on Linguistic Structure in any given Culture, we view it AS IS and how it compels us in terms of its own patterning rather than by being "artificially" reconstructed.

Penn's comment that Whorf accepted the Linguistic Relativity Principle only on the "authority of...predecessors" is an unjustified criticism of Whorf. Whorf did not uphold the Linguistic Relativity Principle until his deep involvement in several languages convinced him that it was true. Prior to this he had, through his insurance investigatory work, been impressed with the apparent impact of language on people's behavior.

But Penn continues, "Whorf does not specify how even a linguist is to decide which categories most adequately describe reality"⁶ and she determines that "this unsolved problem alone renders the Linguistic Relativity Principle questionable unless one is prepared to assert that we humans can not know whether our linguistic categories are valid ways of describing reality". Throughout many of his publications (Compiled in Language, Thought and Reality) Whorf discusses scientific growth and the discarding of past "inadequate" understanding for more predictive interpretations, such as Einstein's Theory of Relativity. He points out how our language relates to many of our old but now (supposedly) discarded views.

Sometimes examination of a language, and comparing it with another language, will reveal that something about one of them is more facilitating. Whorf cites an example to illustrate a less confusing handling of pronouns wherein a language distinguishes between more than one third person (P. 46).

In another example he cites built in linguistic distinctions of impact on the present in the verb form of Chichewa (P. 48) which can make perception more acute.

In an apparent self-contradiction Penn cites Bertalanffy and indicates that if our ways of thinking were seriously defective,

we as a species would not have survived this long!⁷ Actually, science or re-interpretation of science corrected some of our flaws. We survived despite (we now know) horrendous errors. But we are still making them! For example, we held distortions about the physiology of our body, we danced to rain, we bled Washington to make him well, we burned "witches" at the stake, and we are destroying our ecology. Our thinking has been seriously defective, and it has cost us dearly; some of us have survived despite it.

It might also be added that the question of which categories most adequately describe reality confronts Whorf's metaphysics. Validity would apply to only a portion of "reality". Other aspects of "reality" would not be "testable" if they did not have "objectifiable" conditions.

In his "Introduction" to Benjamin Whorf's Language, Thought, and Reality John Carroll discusses certain important criticisms of the Linguistic Relativity Principle. He concludes that very little appropriate research has been done so that the Principle is neither "sufficiently demonstrated" nor flatly refuted". He cites methodological criticism from Lenneberg and Faur: (1) Different linguistic handling does not necessarily mean perceptual differences, and (2) it is necessary separately to describe linguistic and nonlinguistic events before proceeding with correlation.

The latter criticism was discussed in considering Penn's criticisms. As was noted it involved several considerations, especially in better understanding Whorf's Linguistic Relativity Principle and the kind of relations he draws between Language and World View or Thought, Language and "observations" and "Evaluations", and Language and Culture. These relations were not considered or inadequately considered by Carroll.

In responding to the first criticism above it is necessary to relate to the nature of Whorf's "Grammar" or "Linguistic Structure" and to the realization that one does not merely "pull out" one aspect of the Linguistic Structure - syntactic, morphological etc. - and relate this to perceptual differences.

The Linguistic Structure is a "Gestalt", a "Rapport" or "chemical" combination (P. 4) that builds "World View", and "Perception" as used by Carroll would be at Whorf's "Observation" and "Evaluation" level. The latter would have to be considered WITHIN THE FRAMEWORK of Whorf's "Linguistic Structure".

Carroll also cites Feur's criticism of the Linguistic Relativity Principle on "a priori grounds" already discussed in connection with Penn (P. 24) and not substantiable.

More in support of Whorf was Carroll's questioning of whether Whorf's work really was "tautological". He explains that much of "covert, implicit behavior" is not accessible except through "verbal report". He even suggests how such research might proceed.⁸

If Carroll had also revealed the relation between Linguistic Structure and World View (P. 5) he may have even more strongly stressed his insight.

Carroll makes a point, a kind of afterthought, that may inadvertently be an important consideration. He mildly cautions us not to ignore the possible presence of language universals (that involve similar perceptions, for example) in our concern

about the Linguistic Relativity Principle. He indicates that there may also be some aspects in language that may be universal and that we should not leave out this possibility when we research Linguistic relativity.

If such universal aspects are present, caution should prevail in not using such aspects as evidence against the Linguistic Relativity Principle. (For example, the "color spectrum" involves similar "sensory" perception, but our linguistic "cut" into the spectrum varies somewhat between one language and another.) Also it should be noted that Whorf himself concluded that space was universally given, albeit some other aspects such as SAE's special cut of "time" may be superimposed.⁹

In a later work,¹⁰ John Carroll's conclusion about the Linguistic Relativity Principle was more negatively couched without having established a justifiable supportable basis for his conclusion. He cites his previous criticism ("Different linguistic handling does not necessarily mean perceptual differences"; P. 26), but does not seem to have involved himself in any deeper understanding of what Whorf had communicated regarding Linguistic Structure, World View, and Observations and Evaluations.

Many of the criticisms he cites have already been considered in connection with Penn and have been found to be lacking.

His "tone" and conclusions are disturbing and unwarranted on the basis of his analysis:

"To sum things up, the linguistic relativity hypothesis has thus far received very little convincing support. Our best guess at present is that the effects of language structure will be found to be limited and localized."¹¹

It is unfortunate that this impression has been conveyed to a number of authors who are important reference sources for, but who also have not adequately considered, the Linguistic Relativity Principle. (Miller¹² and Landar¹³ are notable examples.)

It is especially unfortunate that this impression should be conveyed by one who wrote the introduction to the main reference on Whorf's Linguistic Relativity Principle and that his judgement is likely to be considered significant. It is my conclusion that this negative judgement, unsupportable as it may be, may, unfortunately, have special inhibitory effects on the pursuit of the Linguistic Relativity Principle.

Rossi-Lande considers that Whorf's separation of language from culture was permissible but then objected to his "interpolating" and reinstating language, which he considered to be "illegitimate".¹⁴

As we recall, Whorf did indicate influence coming from the culture to language but that language was much slower to change (P. 10).

We see here again an incomplete comprehension of what Whorf was saying.

Rossi-Lande was not satisfied with what he considered to be a shattering (but, as we saw, unsubstantiable) blow to the Linguistic Relativity Principle because he noted that despite this act of reinstatement "evidence" the Principle refused to die. So he thought it necessary to "demystify" it by imputing a particular motivation to Whorf and others -- apparently those supportive of the Linguistic Relativity Principle. This motivation was indicated to be guilt about the way our culture has devastated the American Indian, and our alleviation of this guilt as attempted by a glorification of the American Indian. Having done this, Rossi-Lande continues, our culture persists in its devastation on this point and on others. It could perhaps be argued that this motivation might be present

(but very difficult to substantiate) in some cases and perhaps exists as a general reaction within a cultural trend. But it would be difficult to support in Whorf's case for many reasons. Although Whorf did focus primarily on American Indian Languages and he brought out a few instances of more "facilitating" linguistic structure compared with SAE (not all Indian Linguistic Structures), he was not finished after making this point; on the contrary his writing is permeated with the underlying dynamic living potential in language; he did not encourage us to rest on our laurels but devoted his life to expounding the utility of the Linguistic Relativity Principle in all of our academic disciplines, life pursuits, and re-examinations. Also he challenges us to put it to "work" for the world. So the motivation attributed to Whorf by Rossi-Lande is not only unjustifiable but contradictory.

Thus Rossi-Landes' criticisms suffer on both counts.

Miller, especially, shows a lack of consideration for Whorf's "Linguistic Structure" and assumes focus on the "word", resulting in considerable distortion of Whorf. Part of this focus on the "word" results from his grouping Whorf, inaccurately, with the Neo-Humboldtians. He carries his criticisms of some of the Neo-Humboldtians to Whorf without considering important differences in their views and approaches. And after a cursory and distorted view of Whorf, he compounds his unjustified conclusion by quoting Carroll's unjustified conclusion (P. 29)¹⁵

More recently¹⁶ some of the same criticisms have reappeared, but with a tempered negativity and encouragement for sharpening our instruments regarding the Linguistic Relativity Principle. However, not much improvement has occurred in sophistication regarding the criticisms cited herein. Vetter concludes that "nothing has really been settled".¹⁷

Analysis of Criticisms of
the Linguistic Relativity Principle: Footnotes

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- (1) Penn, P. 28
- (2) " P. 28
- (3) " P. 30
- (4) Whorf, P. 230
- (5) Whorf, P. 230
- (6) Penn, P. 33
- (7) Penn, P. 34
- (8) Carroll, P. 29
- (9) Whorf, P. 159
- (10) Carroll
- (11) Carroll, P. 110
- (12) Miller —
- (13) Landar —
- (14) Rossi-Lande, P. 68
- (15) Carroll, P. 110
- (16) Vetter
- (17) Vetter, P. 360

Commentary

On

Criticisms

Commentary On Criticisms

Any criticisms of the Linguistic Relativity Principle should be made with constructive intention, with an eye toward more fruitful eventualities. Since it can be seen that the Principle comes to grips with every Behavioral Science (and even the Basic Sciences), it would seem to be beneficial if positive strides toward fuller understanding in the sciences could be attained. To not consider this issue, especially since our sciences have not offered answers that exclude the variable of Linguistic Relativity, is to help halt the overall growth of knowledge in all of our disciplines.

To utilize very poorly researched data, distorted data, or "rhetorical" tactics against the Linguistic Relativity Principle is an UNETHICAL use of SCIENCE and may do the Principle (and, of course, Whorf) a great disfavor.

Unfortunately some criticisms such as lack of clarity or consistency in stating the Principle, accusations of "transduction", inadequate examples of correlated variables, and unsubstantiated jumps from structure to behavior were negatively critical when they could well have been couched in a positive, constructive fashion, thereby being more beneficial, each in a different way, to the stimulation of research on the Linguistic Relativity Principle.

Sometimes such criticisms have been unfairly used to try to discredit the Linguistic Relativity Principle, or apparently, to depress consideration of the Principle instead of leading to a sharpened understanding and improved methodology.

I have been rather unimpressed while examining some of the criticisms of Whorf's Linguistic Relativity Principle by an apparent "glee" in some authors upon finding excuses to reject the Principle, almost as if they would like to see it done in. Strangely, some who strongly criticize in an unethical fashion do not, conversely, hold up to criticisms other, alternative contentions, such as the idea that perception and thinking is the same everywhere. It is almost as if the Linguistic Relativity Principle was challenging an accepted explanation, when, in actuality, there is not an adequate alternative explanation that is scientifically supportable.

It should also be mentioned that Whorf had experience and training in areas, e. g., anthropological linguistics, in which most of his critics did not. It should be allowed that insights have impinged on some people in areas that others have not probed, and we should help clear the way until these insights are more general knowledge or can be specified more clearly.

Thus consideration of some criticisms of the Linguistic Relativity Principle comes face to face with a MISCONSTRUCTION of "SCIENTIFIC ATTITUDE" which should be strongly avoided, since such an attitude may effect inhibition or demise rather than continuous growth and development wherever it is applied.

Perhaps this is a holdover from Western history - - a kind of Salem witch "baiting" tactic. Western civilization has, for many centuries, considered itself as the center of the earth, even of the universe, and other civilizations have generally been considered to be, comparatively, lesser.

Not until the 20th century did cultural data begin to be accepted in the sense of "cultural relativity" and not merely as "inferior" steps on the scale from higher to lower evolution, leading to "higher" cultures of the Western world.

Anthropological Linguistics has only begun to study "cross" linguistics as a phenomenon to be included in the whole picture of cultural dynamics. With our sociological and cultural (and now linguistic) penetration, brief as the history of these endeavors might be, we should be more aware of the power, inter- and intra-culturally, of ethnocentrism and realize its destructive impact on our sciences.

Perhaps "confidence" emanating from our focusing on the edifice we have built on the materialistic order, along with our increasing might as we spread around the world to feed this materialistic evolvment, has importantly related to this powerful ethnocentrism. (And this "materialistic" focusing might be considered as having been affected by SAE linguistic dimensions.)

So, perhaps we still reflect that ethnocentric stance in some of our attitudes about what alternatives we should and should not allow in our sciences, especially since some alternatives might uncover a Principle that might relegate our Linguistic Structure to a lower "Position".

Unconsciously, perhaps consciously, we may be reflecting "empire building" with "closed" adherence to a limited academic view and, more widely, in assumptions that we might hold that there could not be anything better or more worthy of pursuit than our own Western civilization.

Linguistic

Structure

Linguistic Structure

This chapter is intended to clarify what Whorf means by Linguistic Structure and to attain a sense of how Linguistic Structure can have an impact on World View. It is noted, for example, that in Hopi Linguistic Structure Ordinals and Singulars are used to convey the subjective "becoming later" which is the real essence of time. Unlike SAE, Hopi does not use Plural and Cardinals, or other Linguistic Structure delineations for that matter, to convey imaginary plurals that greatly distort the real essence of time. Further, the particular nature of existents "becoming later and later" is expressed through Conjugation and Lexication in Hopi Linguistic Structure. Thus, an exceedingly far-reaching subjective and abstract essence of innumerable kinds of "becoming later and later" is attained.

This glimpse into Linguistic Structure also serves to show that it is necessary to view the actualities of each Linguistic Structure in order to probe the many questions discussed in my chapter on "Social-Psychological Foundations". These questions include relations, essential to the Linguistic Relativity Principle, between Linguistic Structure, World View, Thinking, Observations, Evaluations, and Culture (See Chapter 1, "The Linguistic Relativity Principle" and Chapter 6, "Social-Psychological Foundations"). These relations arose in Whorf's work

regarding the Linguistic Relativity Principle and are essential to progress in developing substantiating empirical data regarding the Principle.

This look into Linguistic Structure should prepare us to better appreciate the difficulties that arise in attempting to test whether or not perception varies as between two Linguistic Structures (P. 21).

Noting the distinctions in "time" between Hopi and SAE, as penetrated by Whorf, we can see how difficult and subject to distortion an arbitrarily chosen "observation" or perception of "time" might be. An element of perception might even be chosen which almost completely side-tracks some of the most important qualitative differences in time between Hopi and SAE.

It should be clear that attempting such experimentation without Linguistic Structure understanding will lead to the kinds of experimental errors mentioned in a previous chapter (P. 22). Therefore, ultimately it is to wider and deeper Linguistic Structure analyses that we will need to go to properly develop cross-linguistic research.

Finally, examples of Linguistic Structure differences are needed to suggest how such differences might prove useful to

to us in the approach I have introduced later in this work (P.70). I attempt to suggest how we might utilize Linguistic Structure information by drawing on descriptions of Linguistic Structure. Eventually, we should have a much wider and deeper pool of Linguistic Structure analyses to draw from for this suggested approach along with more traditional approaches.

In Language, Thought, and Reality Whorf examines Hopi Linguistic Structure most inclusively and gives only isolated examples of differences in Linguistic Structure from several other languages, some of which are indicated in this chapter.

**

Furthermore, some languages reveal a greater different impact from SAE on World View, Thinking, Observations, and Evaluations than do other languages. For example, Hopi Linguistic Structure in relationship to "time" apparently reveals a greater difference from SAE than does that aspect of Algonkian which refines pronoun distinctions (P.46).

However, any such conclusions will have to await a more complete and penetrating analysis of SAE and many other Linguistic Structures.

In Whorf's comparison of Hopi and SAE he noted "grammatical" differences that brought out "large subsummations of experience" that differed between the two languages. The particular "subsummations" appeared when he considered the question of whether time, space and matter are given in substantially the same form or whether they are "in part conditioned by the structure of the particular language".¹

He states that SAE utilizes plurality and cardinal numbers to indicate REAL PLURALS and IMAGINARY PLURALS, the former being "perceptible spatial aggregates", "objectively perceived" and the latter, "metaphorical aggregates" which are imagined and can not be objectively perceived. An example of a real plural is "ten men", since ten men can be objectively perceived; and an imaginary plural is "ten days" because only one day can be experienced. Therefore, he says, as a result of our language structure our concepts of time lose touch with real time, the subjective "getting later", and are "objectified as counted QUANTITIES, (my underlining) especially as lengths, made up of units as a length can be visibly marked off into inches. A length of time is envisioned as a row of similar units, like a row of bottles"; i.e. an imaginary plural.²

Whorf says CYCLICITY, "something immediate and subjective - the basic sense of 'becoming later and later'" is also objectified or imaginary in the same way. He gives an example of this

objectification of cyclicity in "ten strokes of a bell"³

He also shows that our language does not distinguish "numbers counted on discrete entities" from just plain counting, and the latter are objectified. We then assume that plain counting numbers are counted in regard to something like the "numbers counted on discrete entities" are.

Continuing, he further points out that in our nouns of physical quality we have individual nouns, denoting "bodies with definite outlines" and mass nouns, denoting "homogenous continua without implied boundaries". He gives examples of the former such as "a tree, a stick..."; and of the latter "rain, snow, sand...", or "butter, meat, cloth". He distinguishes the two sets of examples of the latter by indicating that the first set illustrate that there are few continua that actually present themselves as "unbounded extents" but rather "in bodies small or large with definite outlines". Individualizing mass nouns occurs linguistically through either type-body names, like "piece of cloth" or "cake of soap", or container names such as "cup of coffee" or "bag of flour". He claims that the "container formulas" affect our view of "less obvious type-body formulas". In the former, contents are indicated ("cup of coffee, bag of flour"); in the latter, they are suggested ("pieces, blocks, chunks").⁴

The three-tense verb system of SAE - past, present, future - is also, he points out, an objectification of duration experience, as was suggested earlier.

Finally, Whorf states that duration, intensity and tendency are objectified as metaphorical spatial extension. Characteristics of perceptible aggregates are imputed to them such as "size, number (plurality), position, shape and motion". Examples of this spatial extension for duration are "short, great...quick"; for intensity, "much, heavy,...sharp"; for tendency, "increase, turn, fall, smooth, slow". As a result, our "sounds, smells, tastes, emotions and thoughts" (my underlining) are given qualities such as "colors, luminosities, shapes, angles, textures and motions of spatial experience".⁵

Integrating these emphases, Whorf gives us "certain dominant contrasts that appear to stem" from the linguistic structure indicated above:

"The SAE microcosm has analyzed reality largely in terms of what it calls "things" (bodies and quasibodies) plus modes of extensional but formless existence that it calls "substances" or "matter." It tends to see existence though a binomial formula that expresses any existent as a spatial form plus a spatial formless continuum related to the form, as contents is related to the outlines of its container. Nonspatial existents are imaginatively spatialized and charged with similar implications of form and continuum."⁶
(underlining mine)

To follow along in a point-by-point comparison, Hopi use Plural and Cardinals for only REAL PLURALS, NOT for IMAGINARY PLURALS. Ordinals and singulars are used, such as "they left after the tenth day", so that the Hopi language does not cover up the subjective "becoming later" that is the "essence of time".⁷

Hopi do not have a "formal subclass of mass nouns"; they have nouns that are mass nouns, i.e. that "still refer to vague bodies or vaguely bounded extents" and they are already individual nouns, not individuated by type-bodies or names of containers; implied already in the noun is "a suitable type-body or container".⁸

Phase terms are sort of adverbs, not nouns, nor are they used as subject or object, the Hopi say "while morning-phase is occurring" instead of our "morning". Therefore, Whorf says, "there is no basis here for a formless item answering to our 'time'".

Continuing, Hopi have Validity forms: assertions, aspects and clause-linkage forms (modes); they have no tenses as we do.

Metaphorical expression of duration, intensity, and tendency are almost entirely absent, except for traces, since they are

conjugationally, through lexication, and more specifically through aspects, voices, and tensors which permit exceedingly complex abstraction.⁹

Whorf's summary of habitual thought for the Hopi states that:

"The Hopi microcosm seems to have analyzed reality largely in terms of EVENTS (or better 'eventing'), referred to in two ways, objective and subjective. Objectively, and only if perceptible physical experience, events are expressed mainly as outlines, colors, movements, and other perceptive reports. Subjectively, for both the physical and nonphysical, events are considered the expression of invisible intensity factors, on which depend their stability and persistence, or their fugitiveness and proclivities. It implies that existents do not 'become later and later' all in the same way; but some do so by growing like plants, some by diffusing and vanishing, some by a procession of metamorphoses, some by enduring in one shape till affected by violent forces. In the nature of each existent able to manifest as a definite whole is the power of its own mode of duration: its growth, decline, stability, cyclicity, or creativeness. Everything is thus already "prepared" for the way it now manifests by earlier phases, and what it will be later, partly has been, and partly is in act of being so 'prepared.' An emphasis and importance rests on this preparing or being prepared aspect of the world that may to the Hopi correspond to that 'quality of reality' that 'matter' or 'stuff' has for us."¹⁰
(My underlining)

The following are suggestive aspects of other Linguistic Structures varying from ours, which Whorf considers more briefly in several articles and later compiled in Language, Thought, and Reality.

Algonkian

Whorf praises the Algonkian languages as "marvels of analysis and synthesis". He gave an example in the "obviative". They have four persons, i.e. two third-persons in their pronouns. He gives us an example which makes clear how the obviative clarifies what would be, to us, a confusing situation.

Using "3" to represent one third-person - William Tell; "3" - and "4" to represent the other - Son of William Tell; "4"; Whorf illustrates:

"William Tell called his₃ son and told him₄ to bring him₃ his₃ bow and arrow, which₄ he₄ then brought to him₃. He₃ had him₄ stand₄ still and placed an apple on his₄ head, then took his₃ bow and arrow and told him₄ not to fear. Then he₃ shot it₄ off his₄ head without hurting him₄."11

Apache

Whorf indicates that in Apache, nature is not dissected in the separate-object picture of the universe common to English but that it flows "together into plastic synthetic creations". Whorf calls it a kind of "chemical combination" that is common to some languages. Apache constitutes a different segmentation on the basis of basic terms. Whorf illustrates with:

English: "dripping spring"

Apache: "as water, or springs, whiteness moves downward"

The statement is built on a verb, "ga", "'be white (including, clear, uncolored, and so on)'" ; a prefix "nó" ("the meaning of downward motion") so we now have "whiteness moves downward" and finally "tδ" which is "'water'" and "'spring'".¹²

Chichewa

The Chichewa (related to Zulu Negroes of East Africa) have two past tenses; one for past tense with present impact or result, the other, without impact on the present.

The nature of this past so that a (1) past leaving an external record and (2) a past that is only in the "psyche or memory" is also distinguished.

Whorf gives us a simple example in "'I ate₁" which means "I am not hungry" and "I ate₂" wherein "I am hungry".

Whorf also illustrates the highly abstract use that might be made of such distinctions when he says that one might

"use tense 1 in speaking of the past involution of Monads, which has enabled the world to be in its present state, while he might use tense 2 for, say, long-past planetary systems now dis-integrated and their evolution done."¹³

. . .

In another section of Language, Thought, and Reality Whorf adds that the Chichewa grammar also has seven "voices" that distinguish a number of relations "among subject, verb, and predicate (including object)".¹⁴

Coeur d'Aloene

Among the Coeur d'Aloene of Idaho the linguistic structure has three causal verb forms which discriminate three causal processes. Whorf explains and exemplifies each of these processes.

One causal verbal form discriminates "growth, or maturation of an inherent cause", like a plum made sweet by ripening. A second causal verbal form distinguishes "addition or accretion from without", as in sweetening coffee with dissolved sugar. And the third causal verbal form involved the second process affecting something, such as dissolved sugar, to make syrup which sw eetens pancakes.¹⁵

Nootka (Vancouver Island)

This language is without subject or predicate, a sentence is one word root and suffixes. There are no parts of speech.

It appears that their vocabulary of terms are used "not so much to the utility of their immediate references as to the ability of the terms to combine suggestively with each other in manifold ways that elicit novel and useful images." This is a "chemical" combination whereas English makes heavier use of "mechanical" mixture.¹⁶ (My underlining)

At the same time that Whorf illustrates the chemical combination he shows in an example that the perception of the following two constructions would differ for Nootka and for English:

English: "'The boat is grounded on the beach'"

and

"'The boat is manned by picked men'"

We would suggest there is similarity in that "each is about a boat, each tells the relation of the boat to other objects..."

The first statement about , would be:

Nootka: "tlih-is-má"

i.e. "it is on the beach pointwise as an event of canoe motion" But there is no unit like our "boat" or "canoe". So "tlih" is "moving pointwise something like "a vector in physics".

The second statement

Nootka: "lash-tskwiq-ista-ma"

i.e. "they are in the boat as a crew of picked men"

or "the boat has a crew of picked men".

Whorf indicates "the whole event is 'in process'".

Japanese

Whorf illustrates that in Japanese two subjects that are differently ranked:

Japanese:

"wa" Subject 1

"ga" Subject 2

converge on some "predication"

In English we would have only one subject converging on one predicate.

He gives this example:

in the English sentence

"Japan is mountainous"

in Japanese

"Japan₁, mountain₂ (are*) many"

Whorf explains why greater "conciseness" and precision occurs with this distinction :

"Instead of the vagueness of our 'mountainous', the Japanese can, with equal compactness of formulation, distinguish 'mountainous' meaning that mountains not always high are abundant, from 'mountainous' meaning that mountains not abundant relative to the whole area are high."

Whorf suggests that this could have powerful potential in scientific operations, were it developed.¹⁸

*plural not ordinarily used

Hopi

Dimensions of Hopi Structure were considered previously. Elsewhere Whorf comments that almost all of our verbs isolate "actions", thus we see action in almost every sentence. We constantly impute "fictional" action in nature, as in

"A light flashed" or "it flashed"

where we have set up an actor to act even though light and flash are the same.

In contrast Hopi say

"rehpi" - "flash occurred"

They have verbs without subjects.

Whorf suggests that if this characteristic were utilized it would probably yield greater understanding of the universe. He thinks that our scientists might do well to consider "states" instead of "actions and forces" but would caution us not to objectify "state" as our scientists are prone to do. He concludes:

"Perhaps, in place of the 'states' of an atom or a dividing cell, it would be better if we could manipulate as readily a more verblike concept but without the concealed premises of actor and action."¹⁹

Linguistic Structure - Footnotes

From: Whorf, Benjamin, Language, Thought, and Reality
The M.I.T. Press, 1967.

- (1) P. 138
- (2) P. 140
- (3) P. 139
- (4) P. 141
- (5) P. 156
- (6) P. 147
- (7) P. 140
- (8) P. 141
- (9) P. 146
- (10) P. 148
- (11) P. 265
- (12) P. 241
- (13) P. 265
- (14) P. 80
- (15) P. 266
- (16) P. 237
- (17) P. 236
- (18) P. 265
- (19) P. 244

Social-Psychological

Foundations

Social-Psychological Foundations

Lower animals without language, or human beings at the pre-linguistic level "reach" perceptible aspects of their environment through sensory contact with "stimuli" that are instrumental to survival in that environment. Even distinctions beyond the mere "survival" level might be attained with the learning distinctions possible through the use of our senses and the "natural sign", such as somewhat noxious or somewhat erotic stimuli.

Experimental psychologists have shown us the richness of discriminatory possibilities that can be attained, even though they do not necessarily agree that explanation for these discriminations can be satisfactorily explained in terms of the 1st signal system-natural sign kind of inter-relational possibilities, and even though the really "heavy" distinctions do not ordinarily appear in "nature" and must be conceived by a problem creating, "symbolic" creature, i.e., the human being. As it is, for example, the "natural environment" does not hold the kind of "twists" of environmental and organism relationships leading to rat psychoses, nor, I doubt, the interconnected steps to achieve a more complex response, such as running machinery.

Through the use of our second signal system--language--we are able to "label", symbolically, perceptible aspects of

our environment, internalize them, and "mentally" carry them around with us. How we "group" perceptible aspects varies so that in one culture the primary grouping might be "process" grouping rather than grouping by "subject entity". Shapes and space are apparently given to the senses in basically the same form, not in the sense that they exist from birth, but rather that they are distinguishable in the same way.

Once perceptible aspects are labeled there are, of course, innumerable unique ways that they can be interrelated. The potential interrelationships are endless and are only limited by the extent to which we might suggest limitations by setting out only one particular dimension, e.g., reverberatory potential, but since reverberatory potential would be connected with other reverberatory potential...even on this aspect alone it could be endless. Thus it is suggested, that even at this level "nature" does not have to be perceived in any one linguistic way but has innumerable possibilities. We must be careful not merely to conceive of "nature" in terms of the nominative, since we are then prone to limiting ourselves to what material "entities" we can pull out, and missing other potentials.

We are also able with the second signal system to construct

various types of significance to what we have "cut out" from nature. Even linguistically similar "cuts of nature" can be dealt with in somewhat different ways.

Upon humanities' "essential" relations for survival: food procurement, protection, and procreation, we humans have utilized our second signal system to construct exceedingly complex procedures to follow, with accompanying rules and sanctions, and we have constructed forceful reasons why they should be followed. We even construct fiction to reinforce these reasons, and judgements are made upon those who fail to adhere to those standards.

We ourselves do not escape being labeled and interrelated with the outside as an organism in contact with an internal and external "physical" environment which has been "cut out" in particular ways, and a uniquely constructed "symbolic" environment that transcends, but may relate to, the more directly "perceptible" aspects.

It is natural for us to not believe that there are differences in linguistic structure. The rudiments of what we know as "reality" begin with sensory experimentation with our environment and ourselves, and include selective perception of stimuli and the push toward a variety of stimuli, in connection

with areas of survival: food, warmth, irritating stimuli such as pain, dampness, soft touch. Comparatively speaking, our "inactive" status in relationship to the total survival environment may make us less sophisticated in distinguishing wider relevant "survival" stimuli which a young chimp might be exposed to since it is not placed in a secluded room for hours each day where it sleeps, naps, and is generally confined. Our early babbling becomes more and more selective as to sounds produced until we have only a few remaining sounds from our original potential repertoire, and we vaguely begin to bring up crude sounds (imitative of but far from well articulated sounds of our later language) in connection with general stimuli before we learn to apply those sounds to more selective, and consensually agreeable, stimuli or configurations. Eventually we utilize the sounds when the stimuli are not present, i.e., when stimuli are not within direct reach of our senses, and begin the formidable task of constructing, linguistically, our world view. We develop "reasoning" (albeit we have sensory elements and connections that have preceded and are necessary for language to begin to do its work) when we learn the correct "operations" to impose on the world out there, and in here, too. Piaget saw these operations as universal; I suggest that the process of developing operations to attain human thinking (compared to animal thinking), is universal,

but the nature of the operations themselves varies with "different" linguistic structures.

However, as indicated, learning "reasoning", (i.e. operations based on linguistic relativity) which is thought to be tied in with that "obvious" world out there, constructs "reality". Thus the way one would "test" whether the reasoning was universal, in the nature of things, would be to check it with what is out there. If what is out there seems to give us a lot of answers to our questions, and seems to generally fit, we assume that we can accept that our reasoning is legitimate. This is the only way we can conceive of checking a reality that is primarily composed of operations that have been composed from our Linguistic Structure! And, besides, if we can "make up" this world, we can "make up" ourselves; and that is neither possible nor acceptable to most of us.

It is even difficult to accept that the awareness a person has of existing, in the sense that he is a pulsating something in a pulsating world, comes from linguistic "labeling", constructing or integrating the "labeling", and then "looking upon" the integration. So "Mary Jones" is such an integration and can feel her heart beat and her lips pressed and the pressure of her legs on the chair upon which she "sits" and hear and feel

her own breathing and know it is all Mary Smith; the integration is extended to that "pretty reflection in the mirror", and to the "poor character" symbolic label imposed on that integration by an unwary or unthoughtful parent. She becomes "connected" with the social world by further symbolic labeling, "girl", "daughter", "sister", "cousin", "patient", "customer", "student", and begins to apply similar identities to others. Depending on her exposure, she may even gain a national, international, or cosmological identity. Internally she "feels" hurt, happy, angry, embarrassed, deeply ashamed. (These terms are insufficient to suggest the emotions that can be "constructed" world-wide as they vary considerably cross-culturally). She thinks those feelings are naturally given when actually they are symbolic interpretations of suggestions of physiological response tied in with important symbolic distinctions that have already been made; and they are now symbolically tied to "these gut sensations" which in turn are sometimes even identified as sadness, happiness, etc. instead of reactions to interpreted symbolic stimuli that she has been taught to respond to. The fact that almost her entire "internal and external world" is constructed on a linguistic basis is difficult to accept, but it still can be dismissed as linguistic assistance in human potential or some such. The more radical claim that the construction of the internal and external

can vary by virtue of Linguistic Structure and is not indigenous to the human being in any one given way is even harder to reconcile with our everyday notions. We do not like to consider ourselves in a state of plasticity to that extent. Especially if we have been taught to very fondly gaze upon our accomplishments and ourselves as being the most civilized in the world.

Once our perception is developed, organized linguistically through our second signal system, interrelated so that one part is perceptually constructed in relationship to other parts, and these perceptions are constantly reaffirmed in our contacts (everyone "sees" it that way), then there would be no reason to doubt the reality of such perceptions. They are our given reality. Apparently even in the "civilized" Western world, the "reality" of our perceptions was not questioned until examination of the nature of our senses and the nature of outer reality was well on its way and we began to question how our senses picked up what was out there.

It is difficult to imagine how questioning of the universality of linguistic structure could ever have arisen were it not for contact with cultures with other linguistic structures, attempts to penetrate language structures, and for the reinstatement of Panini from India. Even our developing Western

linguistic sciences did not seriously consider the possibility of different linguistic structures for several centuries; even now they are slow accepting this possibility and often resist it.

It appears then that the particular "lines of organization" or grouping in language, and the structural interconnected essences integrating the grouping, is of vital consideration to us. They would probably constitute something like Whorf's "Rapport", "Gestalt", "Patternment" or "Grammar"; important groupings would be something like the "Dimensions" referred to above, i.e., the particulars of each Linguistic Structure. A "dimension", for example, might be "objectification" of the feeling of getting later and later, whereas we construct "time" upon it, or it might be objectification of a non-perceptible "mind". The understanding of any statement then must involve understanding how dimensions interrelate or combine chemically to form the mixture or gestalt that is an utterance. I believe we could understand how any utterance is then generated by virtue of a sophisticated insight concerning interconnecting dimensions. We could also extend Piaget's "operational" stage to incorporate different operations cross-linguistically. Vygotsky, admired by Piaget posthumously, might have been instrumental in such an extension had Piaget read him earlier.

Vygotsky, unlike Piaget, saw that language differences bear on perception, and considered this issue from the developmental side. But possibly, Vygotsky understood it only from a variable potential within our linguistic structure rather than as a cross-linguistic difference.

It would seem that linguistic structure should "endure" continuously were it not for some intrusion on the structure itself. Although I would not bar such possibilities, I fail to see where changes internal to the culture would predicate changes in linguistic structure. Even changes internal to the culture would not occur if some environmental change did not stimulate such change. It seems that a direct intrusion into the linguistic structure itself would be necessary before changes in the linguistic structure could occur. Such intrusion might take the form of some sort of a merging--aggressive, co-operative, or necessary--of tribes with different linguistic structures; a mass merging of individuals where one member of one tribe might marry someone in another tribe with the result that either whole linguistic patterns or small linguistic aspects from the outside tribe merge with those of the host tribe and are internalized in the offspring. But this does not mean that linguistic structural change is inevitable; these new forms may sometimes end being incorporated into or

"bastardized" with the host structure.

This is change, of course, of a different sort from change in the language due to "dropping" out of symbolic entities for referents no longer present or useful in the culture such as a food no longer environmentally available, rituals that grew up around that food, or a kind of bride price paid where the environment no longer affords the possibility of obtaining that kind of bride price.

The fact that actual contents of culture are subject to great variation over time does not imply that the structure of the language has to change, even though apparently drastic pronunciation or vocabulary differences over time may make us assume wrongly that such rapid changes have to be wrought on the structure of the language.

Even "distinction" terms such as what we would call "adjectives" or "adverbs" would be subject to considerable variation without structural change. One can conceive that the conditions of the environment and culture would no longer necessitate fine discrimination, e.g., of snow texture, but structurally the language would continue to hold the capability for making such fine distinctions where it was of cultural significance, e.g., in discrimination of plant endurance. If it were a structure

that focuses on "subject" and "verb", we would understandably expect numerous droppings and addings of terminology as arenas of subjects and their actions change with, for example, new economic occupations, status, and emerging techniques of production. Perhaps religious "positions" would also be changed in relationship to the emerging occupations and corresponding social status. These numerous changes in the culture are described with the assumption there are no exterior cultural influences, that the only influences result from changes in the environment - partly as the result of the cultural impact on that environment and partly as a wider environmental impact on the culture, such as the loss of certain kinds of fowl from a region where fowl may have been a minor or intricate part of the culture. One must stretch the imagination to also encompass the changes in culture that could occur with the addition of exterior cultural stimuli, even with linguistic structure held to be the same between the two cultures. (If the foregoing potentials are coupled with linguistic difference impact the resulting potentials become even more formidable.)

It would appear that science - hard science - should be very instrumental in weakening this autocratic rule of language; but the ideas science imposes on the world are already rooted

in Linguistic Structure; hence science cannot bring to a problem, controlled observations which are not already steeped in language's immanent preconceptions. Observations which directly contradict our linguistic statements, it would seem, are necessary before the established relations can be questioned. But even if such contradictory observations surface, the scientist may just respond with bewilderment and continue further observations (and rechecking), hoping to find an answer in those observations, whereas a reinterpretation of the observations may be called for.

Perhaps it is in this reinterpretation that the Linguistic Structure can potentially be confronted. Sometimes these reinterpretations might still "borrow" from within the existing linguistic structure; so what might happen then is that, e. g., the predicating of the nominative might be shifted. At other times serious reconstructions of science might lie in a deeper reinterpretation which entails coming face to face with one's Linguistic Structure. Out of this might come the realization that the present state of Science itself was conceived within a Linguistic Structure which led to the supposition that objectifiable perceptions hold the answer to everything.

The task of the behavioral sciences, in adopting other linguistic

structures, would be even more formidable as behavioral implications born of the new linguistic structure, already having internal and external structure, shake up one's very foundation of identity -- what one thinks and feels in relationship to one's internal and external being. We do not have as much to lose if we question planetary motion or gravity as we do when we try to ascertain reasons for "deviant behavior" within our cultural bounds, or "mental illness" or even an explanation for cancer and our brand of health care. Not that the hard sciences are without such implications -- they are not; but it is more strongly apparent in our soft sciences and their sensitive proximity to our visible values and our basic being.

I suppose some attempt ought to be made to grapple with delineations regarding what constitutes thinking, thought-world, and world view. If we say that higher conceptualization is "inter-relationships of 'concepts'", and that "concepts" are whatever "perceptual groupings" (don't think NOMINATIVELY here!) are integrated with the second signal system, and that each different Linguistic Structure would have different perceptual groupings, and we are sensitive to how these perceptual groupings are in turn integrated and then applied to that culture, then we are beginning to get a suggestion of what

the idea of "thought-world" entails.

Maintaining the essentialness of the Linguistic Structure then, we can see the "play" between its delineations referred to above -- not that they direct the Linguistic Structure, rather, they make a difference in what the "World View" contains. This would imply that if we were to hypothetically transfer from one Linguistic Structure to another either differences in "contents" or even changes such as in bride price or fowl, this could have some effect on the descriptive world view, but not the structure, linguistically, of the world view.

However, attempts to hypothetically transfer that Linguistic Structure intact to another or second culture may be extremely difficult if not impossible since the patterns of behavior, i.e., positions or roles, in the second culture would likely be effected by the second Linguistic Structure as would techniques, ideas, etc. Attempts to utilize elements of the transferred language in its original form would undoubtedly bypass actual practicability, and be impossible to include within the context present for the second linguistic framework. So the transferred Linguistic Structure could not insure salvaging any inclusive aspects of the second culture.

Much of what we call "thinking", then, would be learning new interrelations imposed on our perception, creatively coming up with other interrelations within our own linguistic framework, trying to figure out why something does not seem to fit, e.g., because of a contradiction with actuality, as when our calculations of planetary movements were off.

But as I have already suggested, this kind of thinking needs assistance. We cannot reflect upon our Linguistic Structure until we have reconstructed the bases of our thinking. Then, perhaps, (Whorf wasn't sure) we can greatly expand the "arena" of our thinking.

So, almost all of what we call thinking is various degrees of simplicity and/or hierarchical complexities built upon and within and bounded by our LINGUISTIC STRUCTURE.

Thus thinking is constructed within the autocratic rule of the Linguistic Structure, and its contents vary considerably within that framework with different degrees of acuity of perception. Within that linguistic framework we can "play around with" thinking, our thoughts shifting considerably with particular cultural change but still maintaining the same linguistic structure, perhaps even gaining proficiency in including "variables" and constructing simple or exceedingly

complex hierarchical "relational" edifices. "World View" is vitally constructed on the basis of Linguistic Structure, but its "face" appears transformed in the Linguistic Structure's interrelationship with "culture", so that changes within the culture (not necessarily very drastic) can appear to drastically transform that face when, in reality, the same "bone structure" of a language permits such "radical transformations.

An

Additional

Approach:

"Grafting"

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It is suggested that an alternative approach of "grafting" be utilized, which may involve direct and more obvious benefits to us and may, also, have consequences for more rapid, concentrated, and integrated efforts in our various sciences concerning the Linguistic Relativity Principle.

This approach involves taking important dimensions from Linguistic Structures that are different from SAE and "grafting" them on to our theoretical or applied sciences. These dimensions of Linguistic Structure would already have been designated as superior to ours in general world view and in the concomitant perceptions and directions of thinking that are perpetuated. Or, they may have been found to be superior in their increasing perceptual acuity. In effect, this approach involves taking suggested "superior" or merely "different" linguistic structure dimensions from languages other than SAE to illuminate questionable dimensions of SAE Linguistic Structure.

What would be the rationale for thinking that these other "dimensions", assuming that they "cut" reality in the ways designated, would be more scientifically productive? It would probably be based on our view of the "progression" of science over the last few centuries, and the accepted current scientific findings in the physical arena.

Perhaps our Linguistic Structure is more relevant to earlier eras of our historical context. For example, "the book is red", suggests that we viewed "red" at one time as a quality given in the nature of itself; in a similar vein, "the sun rose" suggests the sun actually moving up from the "east", moving around, and back down in the "west"; "up" and "down" are accepted as absolutes in our language; and "time" is treated as a chopped up continuum stretching out to the "past" and forward to the "future".

It should be noted that it is necessary to correct misunderstandings developed as a result of such structure as we become "scientifically" aware that these are distortions which have developed from the way our language is structured. But our unsystematic and fragmentary efforts at re-education for the sake of undoing the damage should leave us doubting that we have corrected even the most obvious errors in our thinking. Too many distortions remain. Most of us may be ignorant of such errors or continue to be unconvinced that such errors are disengaging our multi-disciplinary efforts.

Implications that Linguistic Structures differ in regard to how they influence acuity of perception, thinking, and world view may give us more answers to our "scientific" questions and, perhaps even more importantly, reveal alternative world

views that may have profound implications. There is the potential that entirely different life systems might be penetrated, perhaps even constructed, which would far excel us in depth and breadth of feeling, of human interaction, in organization of the social system, in life goals and in what mind holds for us.

Once we have a hint of how we have been locked in, we will wonder why we did not abandon our "prisons" long ago.

It is also possible that Structures being lauded in comparison with SAE may also eventually be "outmoded" in the "revelability" of the "actualities" of the universe. Of course, our look at Linguistic Structures must be much wider than an inferiority/superiority comparison. A next comparison may find the formerly "superior" language lacking in some important distinction, so a great many comparisons should be made.

This new approach would involve a general consideration of the framework in which efforts in our Sciences have been constructed. The illuminated SAE dimensions would then be considered as to what they might suggest about the framework of efforts in our Sciences. Perhaps suggestions would then arise as to possible ways our Linguistic Structure has imposed the framework of efforts in our Sciences. We could go

to others besides Whorf for suggested dimensions in studying the extent to which our Linguistic Structure may be "influencing" the framework of our efforts in the Sciences.

It might be objected that there are a complexity of variables which, over time, must be considered to explain the framework of research in our Sciences. There should be no "problem" incorporating such variables as part of a more extended application of the "grafting" suggested, so that alternate explanations of the framework of scientific efforts would also be weighed. The suggested impact of Linguistic Dimensions should also be considered in such alternative explanations.

Many unrecorded languages have disappeared even in recent times, some have been recorded and are now extinct, some were only partially or incompletely recorded. Many were recorded without the benefit of more advanced linguistic techniques of deriving "meaning" which are now available.

Even today linguistic data is being gathered without utilizing advanced techniques of deriving meaning, perhaps because meaning is not the area of interest, or because the idea that meaning could be derived through syntactical-morphological analyses is not widely accepted. Thus we have limited resources with which to work, and our search may take us far

afield from "traditional" resources such as linguistics and anthropological linguistics, to a limited area within anthropological linguistics, an even more limited area within linguistics, and to socio-linguistics. More diffused linguistic information may have to be gathered through the study of literature, informal accounts of cross-cultural experiences and insights, and missionary attempts at translating, songs, music, and art.

So the Linguistic Structure "dimensions" to work with may be limited by such considerations, and their reliability will vary, depending on what resources are being utilized.

Implications
of
The Linguistic Relativity Principle

Implications of The Linguistic Relativity Principle

There are wide and extensive implications of the Linguistic Relativity Principle. Some involve limited areas of reconstruction which do not entail drastic changes. Others relate to sweeping changes in the essence of existence in cultures, the world, and the universe.

In what follows I suggest some of the directions these implications may take.

The structure of a person's native language is utilized by that person to "generate" any and all statements utilizing that language. When another language is learned, also with a "generative" linguistic structure, the structure of the originally learned language can seriously inhibit the learning of the second language. In Language, Thought, and Reality (P. 225) Whorf indicated that awareness of the generative set imposed on the learner by the native tongue could greatly facilitate learning of other languages. And, doubtless, immediate awareness of the general linguistic structure of the second language would ease acquisition. It suggests that we utilize our native linguistic structure to frame or construct a statement in the second language, thus resist learning the second language and, undoubtedly, greatly distort the actualities of the second language.

We may drastically reinterpret our archeological conclusions, especially those we see as constructed on the basis of limited SAE assumptions about reality. In many anthropological studies of culture, we may have strongly "sifted" our observations with SAE Linguistic Dimensions or missed intentions of descriptions from members of the culture being studied because we did not attain sufficient depth of "vocabulary" and, especially, Linguistic Structure intricacies. Sometimes we can subject this already accomplished work to a higher level of linguistic analysis and salvage those efforts.

Western philosophy may be forced to re-evaluate its assumptions about the nature of existence, nature of reality and underlying logical presuppositions when confronted with the implication of Whorf's Linguistic Relativity Principle that "SAE Linguistic Structure develops a "form-plus-substance dichotomy" from which "philosophical views most traditionally characteristic of the 'Western world' have derived huge support". He specifies these philosophical views as "...materialism, psychophysical parallelism, physics--at least in its traditional Newtonian form--and dualistic views of the universe in general". (Language, Thought, and Reality, P. 152)

Any release from mental closure at a general perceptual level should be beneficial in opening up vistas in architecture, art,

music, and dance. This should be the case whether we express explanations for occurrences in art form utilizing our standard art "representations" for reality or if we argue that our "representations" of our reality are controlled by SAE Linguistic Structure.

I feel that what art deals with and how it expresses its subject matter is considerably affected by Linguistic Structure. Somewhat like other aspects of culture, art can be subjected to movement away from the control of Linguistic Structure and thus away from a limited, particular World View. Cross-cultural and cross-linguistic experiences, even fragmentary experiences, of the group or of the particular artist which vary from the native World View significantly imposed by the Linguistic Structure, can effect such movement away from the control of Linguistic Structure.

In artistic as in other endeavors we can use our insight from comparison of Linguistic Structures to enhance our own reality or to extend ourselves into other realities.

It seems more difficult for us to accept the presence of different emotions (different from those we have come to know in the SAE context) than of different perceptions. Omission of consideration of human emotion by such notables as Saussure, Sapir, Boaz, and Whorf as an area of human behavior affected greatly

by Linguistic Structure needs to be overcome. Why emotion has been neglected, comparatively speaking, entails an extensive analysis not within the scope of this work. But there is no reason why emotion in its construction, internal aspects and expression should not be subjected to analysis of the impact of Linguistic Structure along with Perception, Memory, and Thinking.

Interpersonally, use of other Linguistic Structures could develop within us a greater appreciation of human intricacies and potential that we seem to bypass in our dichotomous perception--"good-bad", "Democrat-Republican", "Christian-non-Christian"--of other human beings.

The Linguistic Relativity Principle could be addressed to our concerns about priorities in science and applications that are directly destructive to life such as the nuclear bomb, fertilizers, insecticides, additives and other pollutants. Myopic focusing on profit-making and materialistic priorities is drastically dictating world changes. The LRP reveals that it is not inherently necessary that we continue to move in these directions. There are almost totally different schemes that could be revealed and utilized. These schemes could even be buttressed by a new "religion", with metaphysical overtones achieved by a comparative multi-Linguistic Structural approach.

Our SAE Linguistic Structure may be limiting our understanding of social problems rooted in our social and cultural system. It may be responsible for our slowness in coming to grips with field theories of deviant behavior and mental illness; for centering on explanations that utilize objectification of deviant behavior, mental illness or physical illness. (This characteristic of SAE Linguistic Structure is indicated in Whorf's Hopi-SAE comparison of Linguistic Structure). We tend to concern ourselves with this objectification rather than the total process leading to the "illness". Other Linguistic Structures could be used in such a way as to extend theories in the behavioral and biological sciences. For example, field theory could be enhanced and utilized to support a view that would act to prevent deviant behavior, mental illness, and cancer if it focused on how the total process leads to these mental and physical problem areas. The richness of possibilities as we extend our look at Linguistic Structures, will probably greatly expand such possibilities of insight.

Thus far I have primarily been indicating implications of the LRP in areas of limited reconstruction that do not entail drastic or total changes in our cultural and social systems. Other more significant implications relate to sweeping changes in the

essence of existence, in cultures, the world, and the universe.

This comes with the realization that there are whole world views and realities contingent upon these world views, developed importantly through Linguistic Structures. Within such world views are realities that involve alternative "life schemes" and their social patterns, including how life is spent, to what ends human potential is utilized, and construction of concomitant "personalities". We can hardly visualize the human "mind" that can be created in extending far beyond the limiting relationships we know in our culture within our SAE Linguistic Structure.

Epilogue

Epilogue

What is the Linguistic Relativity Principle? Is it true? What criticisms of the LRP have been made and where do these criticisms leave the Principle. How far has substantive work about the Principle gone? What other alternative explanations are offered by those who do not support the LRP; are these explanations more satisfactory? There is a vital need to have an adequately researched and integrated foundation of social-psychology upon which to base the LRP or any other alternative explanation. An alternative research approach is suggested utilizing different Linguistic Structures and grafting chosen Linguistic Dimensions to SAE Linguistic Dimensions. This approach may be immediately applicable. Various media are suggested which may be useful in clarifying differences in World View arising from differences in Linguistic Structures, making such insights more widely available.

Whorf said that Linguistic Structure strongly controls World View, Thinking, Observations and Evaluations. It is necessary to clarify Whorf's view of each of these terms and their inter-relationships. His qualification of the impact of Linguistic Structure on Culture is made clear as is his careful adherence to scientific standards of Linguistic data gathering.

Such clarification is necessary since misinterpretation of the LRP is apparent in the literature. Most such criticism suffers from various degrees of incomprehension of this Principle, some of a more serious nature than others. Much of this criticism is counter-productive, some of it unethical, and may be rooted in Western ethnocentrism and empire building. This criticism leaves the actual status of the LRP unmarred. What still remains

to be done is much of the substantive work - linguistic structure data gathering, analyses and penetration of World Views and concomitant Thinking, Observation, and Evaluation. This work needs to be supplemented with substantive research and integration in a Social-Psychological Foundation that fully penetrates issues such as developed in this manuscript. Full consideration of such issues involves multi-disciplinary cooperation. In probing these issues questions arise that can be satisfactorily answered only with assistance from almost every academic discipline. The emphasis in this work needs to be on co-operative effort in order to overcome some of the intra-disciplinary myopia that seems to arise with autonomous disciplinary consideration.

There are explanations in disagreement with the LRP. For example, there are rationalists who may see categories of perception as universally inherent, or culturalists who may see World View, Thinking, Observations and Evaluations as emanating from culture with language as a vehicle of expression. Those who hold to principles or explanations at variance with the LRP have no reason to close off the LRP as no alternative explanation has satisfactorily handled those issues at the heart of the LRP. On the contrary, alternative explanations of World View, Thinking, Observations, and Evaluations stand

to benefit from Social-Psychological Foundation research as they too must show a satisfactory handling of those issues. If an alternative explanation can eventuate in a better integration of this Social-Psychological Foundation then substantive research should reveal this. Meanwhile, a mutuality of effort coming from various approaches should have as a primary goal satisfactory integration of knowledge, and not empire building.

Along with such emphases furthering the development of Pure Science I suggest an extension of methodology to include an approach utilizing other Linguistic Structures in an effort to expand scientific approaches in our academic sciences. We could benefit immediately from such efforts. The nature of this methodology also allows growth in Pure Science.

I suggest that we have enough knowledge of "superior" Linguistic Structures to permit beginning this pursuit immediately. From this research, a kind of "pilot" experimentation, we can reap benefits in several theoretical and applied areas.

As explanations for phenomena in the physical and behavioral sciences have not been shown to be sufficiently predictive, they are in need of restructuring. I contend that SAE Linguistic Structure is slowing our progress.

For this "pilot" experimentation I center particularly on the efforts of our "hard" sciences to explain cancer and efforts of our soft sciences to explain mental illness, and deviant behavior. I suggest how we might begin such pilot-experimentation by revealing the present framework of explanation for these maladies and by giving limited suggestions about how our Linguistic Structure could be instrumental in slowing scientific progress and how other Linguistic Structures may be of assistance.

In addition, as more languages are subjected to Whorfian-type Linguistic Structure analyses, I suggest facilitation of understanding of such structures through the use of several media. Thus facilitation of understanding may permit us to benefit more quickly from LRP implications. These implications are dramatic. Primarily because they stand to have an impact on everything we know. Consideration of the LRP can eventuate in our seeing our World View, Thinking, Perception, Emotion, Philosophy, Science, Religion -- almost everything we are and "know" as variably constructed, in accordance with the particular Linguistic Structure we have internalized. The choices that might eventuate as to what we will be and the whole organization of our existence may be astounding. Penetrating understanding of the Universe

may call for utilization of a combination of such Linguistic Structure choices.

One assumption is that we will one day attain the knowledge to make such choices available and another that we will have some say in what is selected. Perhaps more conservative decisions will be made and we will borrow from Linguistic Structures and apply this to our own limited "world" which is still basically controlled by our given Linguistic Structure.

Or, perhaps we will construct unique Linguistic Structures for, as we gather the knowledge of many Linguistic Structures, we should become experts in the Science of Linguistic Structures including what goes to making up so many different Linguistic Structures.

There are many influences that can extend our "tunnel vision". I see a great extension of our World View arising with the opening up of understanding of Linguistic Structures. In fact, I see this opening up as vital to the success of many other attempts to extend our World View.

In a variety of settings and for a number of reasons, there are increasing contacts between people of various cultures throughout the world. Travel for reasons of pleasure, education, economics, politics, and religion is increasing. No longer are travelers coming from the United States and Europe alone but to and from all parts of the world. The supranational corporation is transporting employees to various parts of the earth; student and faculty exchanges are still with us; and many people travel to far areas of the earth to join others in international symposiums and conferences. Increasingly, representatives of innumerable businesses are regularly commuting between East and West and North and South. There is ample opportunity to compare World Views or aspects of World Views.

Technological advances make it possible to view or hear events from all over the world. Various cultures are drawn into homes around the world through films, film strips, and recorded music.

National Theatre brings live plays directly to areas at some distance from urban cultural centers in the U.S. and promotes challenges to limited perspectives. Now the International Theatre gives to many the opportunity to probe deeply into lives in other cultures. Such influences can prompt extensions of World View.

Schools such as Union Graduate School and the Institute of Discourse attempt to encourage the amelioration of ethnocentrically based cultural myopia.

One UGS learner (Washington Colloquium, November, 1976) is attempting an integration of basic therapeutic tenets in U.S. psychology utilizing Far Eastern philosophies. A number of UGS learners (Maine Colloquium, August, 1977) are seeking conditions promoting greatest creativity. The part World View expansion plays in creativity should be fruitful in such endeavors.

We have only to look around us to see a variety of potential extensions of World View. In a recent Symposium (N.W.M.S. University, November, 1977) a number of speakers reflected a growing interest in extensions of World View. Transcendental meditation was described by Dr. Parris Watts, Chairman of the Health-Education Department, Emporia State University, as

allowing us to improve our spiritual aspects beyond religion to value clarification of our inner selves and at the same time to obtain optimal physical body functioning, body fitness and mental health; health for human wholeness. Many have attested to the benefits of transcendental meditation despite our scientific-industrial framework.

In this same Symposium another speaker, Dr. Edgar Albin, Professor of Art, S.W.M.S. University, stated that American education has been "woefully slow in interdisciplinary efforts" and sees no place in the university for "selfish competition and empire building". He exemplified the necessity of growing beyond our limited disciplinary "World Views" and "opening windows" in a question he posed:

"What about the relationship of Cubism to the nature of reality since Bergson and Einstein? This won't be done by selfish little empire building."

Kung Fu, Karate, and Judo have been widely explained and illustrated and students may take classes in these arts.

I saw a play performed by students of a national school for the deaf in Washington, D.C. and experienced another kind of World View expansion centered on the senses. I had the impression that such viewing would be limited to select audiences. Last week such a play was performed in a small community in Northwest Missouri and is being performed in many such communities.

Attention to a deeper kind of communication capability in lower animals and plants is challenging some of our assumptions about the limited capabilities of "lower" life. Such challenges are giving us a glimpse into wider conceptions of interrelationships of forms of life and potentiality in the universe.

Others are challenging accepted modes of writing in attempting to express more effectively deeper and wider experientiating that has been too strongly delimited by our modes of writing and in our language. Ordinary uses of words, phrases, and constructed images are extended dramatically to convey the need to break such limitations.

Even interest in needlework from other cultures contains the potential for a growing in understanding of the contexts in which such needlework was created.

Our own Indian groups afford lessons in ecological give-and-take and respect for the balance of nature. American Indians speaking on many campuses two or three years ago strongly emphasized this aspect of their world view.

Western doctors visiting China and other parts of the Far East are becoming increasingly impressed with utilization and

benefits arising from acupuncture, the Chinese "barefoot doctor", and herbal remedies. Wholistic approaches to health, rooted in earlier cross-cultural comparisons, have recently been more strongly revived. They join other voices of opposition to the "health care" emphasis of the American Medical Association. Medical practice in the U.S. primarily entails pharmaceutical and surgical "remedies" rather than prevention and totalistic health care, advocated by many voices of opposition.

All of the above exhibit expansion of viewpoints reaching almost every area of our lives. If we can learn from them we can hope to expand our ways and increase our alternatives in every arena of life.

In no way would I wish to discourage such extensions of World View. However, I strongly feel that many such alternative ways are taken up in such a way as to not conflict with our given Linguistic Structure and World View. Primarily, we do not get the full impact of the messages they contain. (Likened somewhat to the "local" provincial reception in the U.S. of Sinclair Lewis' The Jungle wherein we missed his deep message of the need for a complete reconstruction of our society).

In a sense my concern here is similar to my concern about borrowing limited aspects of a Linguistic Structure and failing to implement a sufficiently total framework wrought by that Linguistic Structure. Such limited "loans" may help us momentarily solve "a problem" but where are we then? Do we revert back to our Structure and turn to the next "problem". Also, does the next "problem" exist because we have not really learned?

Perhaps in such partial reconstructions of Linguistic Structure as with our borrowing from alternative ways of life, we deceive ourselves that we understand and incorporate other World Views when in actuality we remain almost as closed as ever. Perhaps we have a bigger lesson to learn. That lesson may be opening ourselves up to "TOTAL WORLD VIEWS" and how they are formed. I think that lesson is inherent in the roots of our beginning "contact" with language, and where we have gone with it since. Opening up will take a lot more than half-way borrowing of Linguistic Structures or Alternative Ways of Life.

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