Current Trends in Linguistics

10

Linguistics in North America

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MOUTON

CURRENT TRENDS IN LINGUISTICS

Edited by

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VOLUME 10

Linguistics in North America

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1973

MOUTON

THE HAGUE · PARIS

LIBRARY OF CONGRESS CATALOG CARD NUMBER: 64–3663

Printed in the Netherlands by Mouton & Co., Printers, The Hague

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VOLUME 10

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AREAL GROUPINGS

AREAL LINGUISTICS IN NORTH AMERICA

JOEL SHERZER

0. INTRODUCTION

At a conference on the *Universals of language* held in 1961, Roman Jakobson (1966: 274) stated that:

> We most urgently need a systematic world-wide mapping of linguistic structural properties: distinctive features, inherent and prosodic — their types of concurrence and concatenation; grammatical concepts and the principles of their expression. The primary and less difficult task would be to prepare a phonemic atlas of the world.

With particular regard to North American Indian languages, Dell Hymes (1956) observed that such work was but in its initial stages and that what was greatly needed was a detailed study of the distribution of the phonological and morphological characteristics of North American Indian languages. The need was restated in Hymes' discussion (1961) of the pioneering work of Dixon and Kroeber. Emeneau (1953) also calls for the mapping of linguistic traits in North America.

This study attempts to respond to the needs made explicit by these scholars.[1] It will deal with the following topics:

1. The history of areal-typological studies in North America.
2. A framework for the presentation of areal linguistic phenomena and a discussion of the *culture area* and *linguistic area* approaches to culture and language.
3. A determination of the linguistic areas north of Mexico and a comparison of these with the culture areas north of Mexico, together with a discussion of the types of *sociolinguistic* or *communicative conditions* which gave rise to the various linguistic areas.

[1] This article is a revision and expansion of Chapters 1, 2, and 26 of my unpublished Ph.D. dissertation: *An areal-typological study of the American Indian languages north of Mexico*, University of Pennsylvania, 1968. In that study, the distributions of many phonological and morphological traits were investigated, using Driver's 'culture areas of North America' (1961) as a frame of reference. In the discussion of these distributions, an attempt was made to determine the relative roles of genetic relationship and language contact. Finally, linguistic areas were delineated on the basis of a number of diagnostic traits and these linguistic areas were compared with the culture areas. It is the results of this research which are reported here. The original research was supported by a Woodrow Wilson Dissertation Fellowship. More recent work has been supported by NSF-USDP Grant GU-1598. I would like to thank William Bright, Regna Darnell, Mary Haas, Dell Hymes, William H. Jacobsen, Jr., Michael Krauss, Brian Stross, and Rudolph Troike for their many helpful comments.

4. Implications of results for problems in North American Indian language history and for a theory of language change.
5. Suggestions for future research: ethnohistorical, linguistic, and sociolinguistic.

1. AREAL LINGUISTIC STUDIES IN NORTH AMERICA: AN HISTORICAL PERSPECTIVE

Similarities among languages are due to one of four causes:

a) retentions from a common ancestor
b) universals of linguistic structure
c) independent convergent development
d) diffusion

In the field of North American Indian linguistics, most discussion of language history has been concerned with a). People have argued about how many families or stocks there are in North America, if and how these families are related to one another (problems of relationship at great time depth), and how they are internally subdivided (problems of subclassification). Concern with b) has grown rapidly in recent years and implications for a study of language history have been drawn (see Greenberg 1966; Kiparsky 1968). Although c) and d) have received relatively little attention in the study of American Indian languages and, unfortunately, have often been viewed in opposition to a), we can nonetheless indicate the existence of an interest in areal-typological problems.

1.1 *The Areal and Typological Perspective of American Indian Linguistics in the Early Part of the 20th Century*

One of the reactions of Franz Boas against the evolutionary and psychological generalizations of the period which preceded him was to insist on the treatment of each language and culture in its own right, rather than forcing descriptions into supposed stages in the development of man. Grammars written by Boas or those influenced by him reflect the Boas point of view. These grammars describe the linguistic processes possessed by the language in question, contrasting them with languages in the area with which they disagree and showing similarities with other languages when they occur. In this sense, the Boas style might be termed 'areal-typological' as distinct from the 'diachronic' styles which were used previously.[2] The latter often merged synchrony and diachrony in the same study.

Contemporary readers of grammars written in the early 20th century might be surprised at the references made in the body of the text to other languages in the area.

[2] Boas' approach to linguistics seems to have been modelled on his approach to folklore (Dell Hymes, personal communication).

One might even be led to suspect that Boas' interest was in proving diffusion directly within grammatical descriptions. Actually, Boas' great concern with diffusion of grammatical traits came later, in his arguments with Sapir. The typological concern in the Boas-style grammar is in the tradition of von Humboldt and Steinthal, who greatly influenced Boas. Boas, with these predecessors, apparently believed that a grammar should represent the way(s) in which a particular group of people viewed and verbalized the world around them. Such a grammar is of course entirely synchronic; it is not at all concerned with how the linguistic structures described in it originated. The areal perspective in the Boas style is also essentially synchronic. It gives the reader a perspective by informing him of the ways in which this new language is similar to or differs from languages with which he may be familiar. The possibility of diffusion might be implicit; it is not explicit in the Boas style. It is, in fact, in Dixon, Kroeber, and Sapir that we find the transition from the Boasian areal-typological style of grammar writing to actual discussions of diffusion.

There are many examples of grammatical descriptions written with the areal-typological perspective. In the context of his "Notes on the Chemakum language" (1892), Boas discusses the occurrence of pronominal gender on the Northwest Coast. Boas' "Sketch of the Kwakiutl language" (1900) describes the grammatical processes of Kwakiutl in the context of the grammatical processes found in other languages of North America. Swanton's "Morphology of the Chinook verb" (1900) provides a general picture of Northwest Coast phonetics and shows the ways in which Chinook differs from other Northwest Coast languages. Kroeber's "The Washo language of east central California" (1907) is perhaps the best example of what is called here the areal-typological style of grammar writing. In this study, Kroeber refers constantly to other California languages and attempts to define Washo's areal and typological status within California. We are told that although the language exhibits the central California phonetic type, it is only partially included within the central California morphological type. Kroeber's "The languages of the coast of California south of San Francisco" (1904), and "The languages of the coast of California north of San Francisco" (1911b) are also both written in the areal-typological style. In Boas' "Tsimshian" (1911:296) there is an attempt to place Tsimshian within the framework of North American Indian languages:

> In this respect Tsimshian resembles the Athapascan with its groups of verbal stems, the Salish and Takelma with their modes of reduplication, and the Iroquois with its classes of verbs.

Sapir is clearly in the tradition of his teacher Boas when he writes of Takelma (1922:8):

> In its general phonetic character, at least as regards relative harshness or smoothness of acoustic effect, Takelma will probably be found to occupy a position about midway between the characteristically rough languages of the Columbia valley and the North California and Oregon coast (Chinookan, Salish, Alsea, Coos, Athapascan, Yurok) on the one hand, and the relatively euphonious languages of the Sacramento valley (Maidu, Yana, Wintun) on the other, inclining rather to the latter than to the former.

In concluding his discussion of Takelma, he writes (282):

> Some of the more important of these typical or at any rate widespread American traits, that are found in Takelma, are: the incorporation of the pronominal (and nominal) object in the verb; the incorporation of the possessive pronouns in the noun; the closer association with the verb-form of the object than the subject; the inclusion of a considerable number of instrumental and local modifications in the verb-complex; the weak development of differences of tense in the verb and of number in the verb and noun; and the impossibility of drawing a sharp line between mode and tense.

1.2 *Attitudes Toward Language History in the First Part of the 20th Century among American Indian Scholars*

At the beginning of the present century, the Powell classification of American Indian languages (1891) was generally accepted as a reference point, although efforts at revising it by combining the families Powell had identified into larger groupings were already beginning. Similarities among unrelated languages in the same area, whether lexical, phonetic, or grammatical, were often interpreted as due to diffusion. It must be stressed that this view was not limited to Boas, as is often supposed, but was shared by most scholars in the period. In fact, the real empirical work in areal linguistics in the period was done not by Boas, but by Dixon, Kroeber, and Sapir. The following quote from Sapir's "Preliminary report on the language and mythology of the Upper Chinook" (1907:542) is indicative of the attitude current at the time.

> It is of considerable theoretic importance, therefore, to note that the neighboring Sahaptian dialects, quite similarly to the Klamath, make an extended use of such case-suffixes. We would then have here a good example of the *grammatic*, not merely lexical, influence that dialects of one linguistic stock may exert on geographically contiguous dialects of a fundamentally distinct stock.

In "A Chinookan phonetic law" (1926), Sapir refers to the 'well known fact' that the change of 'k' sounds to 'tc' sounds is found in a (nearly) continuous area from a northern point on the west coast of Vancouver Island south to the mouth of the Columbia. In his famous "Time perspective" article (1916:458), Sapir states that

> It is well known to students of language that striking phonetic and morphologic similarities are not infrequently found between neighboring languages that, so far as can be ascertained, are in no way genetically related. Such resemblances, insofar as they are not merely fortuitous, must be due to the assimilatory influence exerted by one language over another.

In this article, Sapir uses evidence of grammatical diffusion to make historical inferences. He points out, for example, that resemblances between Tsimshian, Kwakiutl and Salish indicate a much earlier contact of Tsimshian with these languages than with its present neighbors, Haida and Tlingit. Similarly, the existence in Maidu of such Hokan features as instrumental prefixes and local suffixes in verbs leads him to infer long contact between the Penutian Maidu and Hokan speaking peoples.[3]

The only real areal studies in this period were carried out by Dixon and Kroeber in California. The quantity of work is impressive, especially when one considers the fact that practically no areal studies were to be undertaken in the following generations. We have: 1. Dixon and Kroeber, "The native languages of California" (1903), an attempt to describe the phonetic and grammatical types present in California and to place them areally; 2. Kroeber, "The Yokuts and Yuki languages" (1906), a study of the similarities and differences which are found in these two unrelated California languages; 3. Dixon, "The pronominal dual in the languages of California" (1906), a study of the distribution of one grammatical trait; 4. Dixon and Kroeber, "Numeral systems of the languages of California" (1907), a detailed discussion of the distribution of different types of numeral systems; 5. Kroeber, "Phonetic constituents of the native languages of California" (1911a), a preliminary areal study of California phonetics; and 6. Kroeber, "California kinship systems" (1917).

Kroeber also stresses the importance of recognizing areal influences in his "The determination of linguistic relationship" (1913) in which he points out that the types outlined by himself and Dixon in the 1903 article were as much a result of diffusion as of common origin. Kroeber's continuing or perhaps renewed interest in linguistic diffusion and typology is evidenced by two articles written near the end of his life: 1. "Possible Athapaskan influence on Yuki" (1959) and 2. "On typological indices I: Ranking of languages" (1960). Kroeber's contribution to the study of North American Indian language history (diffusional and genetic) is discussed in detail in Hymes 1961.

1.3 *Extension of Genetic Perspective: Relationship between Diffusion and Common Origin*

In the second decade of this century, students of American Indian languages began grouping the Powell units into larger genetic stocks. The former students of Boas lead the new trend. In 1913, Dixon and Kroeber announced new California groupings in "New linguistic families in California". In 1919, in "Linguistic families in California", the same authors admitted to an earlier conservatism and supplied sound correspondences for the linguistic stocks they now proposed. Swanton (1911, 1924) showed Natchez and Muskogean to be related and suggested a Haida-Tlingit-Athabascan relationship. Sapir (1917, 1921a, 1925) intensified work in both the Hokan and Penutian families as well as suggesting further relationships for each. He grouped Wiyot, Yurok, and Algonkian (1913b); Haida, Tlingit, and Athabascan (1915b); and the various Uto-Aztecan languages (1913a, 1915a).

[3] Sapir expresses similar views about the diffusion of linguistic traits (and uses the same examples) in a posthumously published paper (Sapir 1947). In order to better understand the development of Sapir's views with regard to language history, it would be useful to know exactly when this paper was written. Its style and general point of view suggest that it was written early in Sapir's career, although later additions (and perhaps editing by others) were no doubt made. I am grateful to Dell Hymes for calling this article to my attention.

In the light of the earlier focus on areal and typological relationships, the new trend in American Indian linguistics required a theoretical framework in order to explain the relationship between evidence of diffusion and evidence of common origin. This theoretical framework was provided by Sapir, who for many years to come was to represent the view that with careful scholarship, one can achieve great time depth in linguistic history. Sapir claimed that it is possible to separate those aspects of grammar which are superficial and likely to have resulted from diffusion from a 'deeper' and more 'profound' kernel of grammar which reveals genetic origins. As is pointed out by Hoijer (1941), perhaps the clearest account of Sapir's theoretical position as well as his methodological approach is to be found in his "The Hokan affinity of Subtiaba in Nicaragua" (1925). Here, Sapir states that (491):

> the most important grammatical features of a given language and perhaps the bulk of what is conventionally called its grammar are of little value for the remoter comparison, which may rest largely on submerged features that are of only minor interest to a descriptive analysis.

Sapir goes on to show that Subtiaba has undergone considerable structural influence from its unrelated neighbors. Nonetheless, he is still able to isolate traits which betray what he feels is an unmistakable relationship to Hokan.

It must be stressed that Sapir did not deny the possibility of considerable areal influence in grammatical structure, as the traditional 'Boas-Sapir controversy' view holds. Rather, he felt that one could reconstruct both internal and external developments in language. Thus, in "A characteristic Penutian form of stem" (1921a), Sapir shows that the 'fundamental type' of Penutian language is a predominantly inflective one. He then traces the various structural changes in the Penutian languages as having resulted from intimate contact with unrelated neighbors.

The 'Boas-Sapir controversy' cannot then be simplified to the view that one man saw all structural similarities as resulting from diffusion; the other, as resulting from common origin. Such a view is patently false; it is also an insult to the intellectual merit of both men. Boas was quite capable of accepting genetic relationships beyond the Powell framework. Sapir has provided us with some of the best analyses of the diffusion of structural traits. Boas felt, however, that at a certain time depth, one could no longer separate traits due to diffusion from those due to common origin. He even believed that under certain socio-cultural conditions, 'mixed-languages' might arise (see Boas 1929). Boas' articles on the subject are disappointing in that they repeat the same examples of diffusion from the Northwest coast which Sapir and others had already accepted.

In an important article, Emeneau (1956) has reviewed Sapir's position. He points out that although Sapir's view is very attractive, it is not always so easy to distinguish the 'superficial' from the 'profound' in grammatical structure. Emeneau feels that we should undertake areal studies in North America in order to better understand some of the historical problems which seem without solution.[4]

[4] See also Emeneau (1962). I am grateful to William H. Jacobsen, Jr. for calling my attention to this relevant article.

1.4 *The 'Bloomfieldian' and 'Post-Bloomfieldian' Era: Little Emphasis on Areal-Typological Problems in American Indian Research*

The 'Bloomfieldian' and 'post-Bloomfieldian' era of American linguistics can be characterized as one in which scholars applied newly codified descriptive techniques to grammar writing.[5] It was generally felt that actual grammars should be free from both historical and typological concerns (see Hockett 1954). Most historical studies were limited to listing phonemic correspondences between languages, whether the languages being compared were thought to be closely or distantly related. Arguments tended to focus on such questions as subgrouping within well established language families or how many cognates are necessary in order to prove relationship between two languages.

There are, however, a few exceptions to the above generalization. The earlier interest of Boas, Sapir, and Kroeber in areal and typological research was reflected in the work of a few scholars who had been influenced by these men. Jacobs continued to write linguistic descriptions in the areal-typological style characteristic of the early part of the century. Thus Jacobs (1931) writes of Northern Sahaptin (99):

> Acoustically northern Sahaptin is much less harsh than the neighboring Salish and Chinook stocks and somewhat less so than the related Molale-Cayuse language ... Occasional clusters of velar and exploded consonants remind one of the harsher phonetics of the north.

Of glottalized sounds in Northern Sahaptin, Jacobs writes (106):

> The glottalized sounds are on the whole uttered with almost as startling a crackle as the fortis glottalized sounds of the Salish language to the west and north. They are given far more explosive effect than is found in the coast Oregon languages such as Kalapuya and Athabaskan.

Jacobs (1937, 1954) also provides evidence of areal influences on the Northwest Coast as well as a socio-cultural explanation of the supposed direction of influences.

Velten's "The Nez Perce verb" (1943), although essentially a descriptive study, contrasts traits of the Nez Perce verb with those of Indo-European languages and shows similarities with other languages of the Nez-Perce area.

The late Morris Swadesh is thought of by most linguists as someone who tried to arrive at greater and greater linguistic time depth, including the possible reconstruction of the origin of language. This is true. However, Swadesh also continued Sapir's interest in tracing areal influences. In "A structural trend in Nootka" (1948), Swadesh points out that in the recent history of Nootka, many old postposed particles have become suffixes, under the influence of neighboring 'suffixing' languages of the North-

[5] The major basis of this codification was Bloomfield (1933). It is interesting to note that in this book, Bloomfield does briefly discuss the question of areal linguistic influences (468–75). He suggests that such influences are due to the imperfect learning of a second language by large populations. Bloomfield does not, however, undertake this type of research himself; nor did this section of his influential book receive subsequent attention by 'post-Bloomfieldian' scholars.

west coast. In "Salish phonologic geography" (1952), he traces sound changes which spread across genetic boundaries. In two recent books (1966, 1971), Swadesh stresses the importance of areal influences on linguistic structure, while at the same time attempting to demonstrate genetic relationships at great time depth.

Voegelin's "Culture area: Parallel with typological homogeneity and heterogeneity to North American language families" (1961) is the only attempt ever made to compare North American culture areas with linguistic areas (not genetic subgroupings!). (See also Voegelin 1941, 1945a, 1945b for some discussion of areal linguistic phenomena in North America.) Although this brief article suffers from a lack of an explicit framework and considers relatively little linguistic data, it is very important in that it indicates a fruitful area of research. A comparison of culture areas and linguistic areas is attempted in the present study.

One areal study in the Dixon-Kroeber tradition to come out of the period under discussion is V. Hymes' "Athapaskan numeral systems" (1955), inspired by the work of Harold Driver and his associates. Although Driver and Massey's very useful study (1957) maps many cultural traits in North America, the traits investigated are all non-linguistic.

With the exception of the studies listed above, then, most work concerning American Indian language history in the 'Bloomfieldian' and 'post-Bloomfieldian' era tended not to deal with areal-typological problems. Scholars worked on the details of relationship within such language families as Algonkian, Athabascan, Siouan, and Uto-Aztecan (or else tried to relate these units to other languages or language families). Language history, then, was viewed mainly in genetic terms. It seems to have been generally believed that neighboring languages did not seriously influence one another structurally.

It seems useful to indicate at this point that the present study is concerned with the distribution of phonological and morphological traits in the languages north of Mexico and not with lexical or vocabulary items. Information about lexical borrowing among American Indian languages would tell us much about the cultural relationships of the groups involved and throw further light on linguistic relationships as well. Unfortunately, there are very few studies dealing with this topic,[6] again apparently because of the predominant focus on genetic relationships. (Though, of course, one of the primary tasks of the student of genetic relationships ought to be to sift out lexical similarities among languages into those due to common origin, to borrowing, to chance convergence, etc.) Noteworthy in this regard, then, are Bright's discussion of lexical borrowing in the Karok-Wiyot-Yurok area of California (1959), Callaghan's collection of borrowed items in Lake Miwok (1964), Jacobsen's list of words borrowed into Washo from neighboring languages (1966), and Troike's study of Nahuatl loanwords in Coahuilteco (1961) and a Gulf loanword in Caddo (1964).

[6] Boas 1889 was an exciting suggestion of the value of lexical borrowing as a key to cultural contact among groups — this was never really followed up in subsequent Amerindian research.

1.5 *Recent Trend in American Indian Research: A Return to Areal-Typological Interests*

A survey of recent descriptive and historical studies shows renewed interest in areal and typological problems in North America. Aoki compares reduplication in Nez Perce with that of nearby languages (1963) and suggests that vowel harmony in Sahaptian might have resulted from an increase in the stock of vowels due to diffusion (Aoki 1966; for other views on this problem see Rigsby and Silverstein 1969 and Zwicky 1970). Haas studies consonant symbolism as an areal phenomenon in Northwestern California (1970). Jacobsen places Washo typologically and areally with respect to other languages of California and the Great Basin (1966, 1967) and discusses the role of areal pressures in the development of the proto-Sahaptian vowel system (1968). Langdon points to Athabascan languages as a source of lateral sounds in Yuman (1971). Diachronic studies by Callaghan (1964), Pitkin and Shipley (1958), Shipley (1966), Silver (1964), and Ultan (1964) discuss phonological diffusion in California. Finally, Kinkade (1969) argues that in spite of the striking structural similarities among the Chemakuan, Salishan, and Wakashan languages of the Northwest Coast, these language families are not genetically related (i.e. *Mosan* is not a valid genetic unit); and that the similarities must be due to diffusion. It is interesting that the typological similarities of the Mosan languages were once thought to be 'deep' in their linguistic structure. Armed with a richer or more abstract notion of what is 'deep' in language, it is now possible to argue that they are superficial or close to the 'surface' and perhaps due to diffusion rather than common origin.[7]

The aim of this section has been to show that there does exist an 'areal-typological' tradition in North American Indian linguistics. However, since this tradition has not been a dominant one, it has not developed rigorous frameworks or methods of analysis. Nor have areal-typological studies been carried out systematically. Therefore, it is not possible to speak of significant 'results' of such work. It is for this reason that the research which is reported here was undertaken.[8]

2. A FRAMEWORK FOR AREAL LINGUISTIC STUDIES

In Sherzer 1968, the distributions of many linguistic traits (phonological and morpho-

[7] Even if the Mosan languages are genetically related, the typological similarities discussed by Kinkade seem to reflect parallel developments due to intimate contacts; i.e. they are not retentions from a common ancestor.

[8] After this article was submitted I became aware of Mary Haas' recent book, *The prehistory of languages* (1969). An entire chapter of this book (Chapter 5: "Prehistory and diffusion") is devoted to areal linguistic studies, drawing on North American Indian languages for examples. This chapter is especially significant in that it provides a framework for the presentation of areal patterns in phonology. Haas' recent and important work in areal linguistics is also reflected in her "Language and taxonomy in Northwestern California" (1967) and "Consonant symbolism in Northwestern California: A problem in diffusion" (1970). Evidence of her earlier interest in North American Indian areal linguistic phenomena is her "Noun incorporation in the Muskogean languages" (1941) in which she shows that Muskogean, like several other American Indian language families, possesses noun incorporation.

logical) were presented, using Driver's 'culture areas of North America' (1961) as a frame of reference.[9] In such an investigation, some traits provide much more interesting results than others. Yet, no discussion of this question exists. For that reason, it was considered necessary to map as many traits as possible for all American Indian languages north of Mexico. It seems useful to indicate here the types of problems that are involved, as a way of offering suggestions for further research.

First, there is the problem of comparability. It is often difficult to relate one author's terminology with that of another, especially if the two descriptions are written in different periods or in different analytical frameworks or styles. It was thus decided to begin by studying those traits which have already been mentioned in the areal and typological literature, since, having attracted attention in this respect, they are thus fairly well reported. Some of these are: a glottalized stop series, a profusion of lateral sounds, a distinction between a k-series and a q-series of consonants, instrumental prefixes in the verb, the use of distinct verbal stems for singular and plural nouns (subjects or objects), prefixation and suffixation of personal pronouns in the noun and verb, a nominal case system, stem reduplication, incorporation of the noun into the verb, pronominal dual, nominal gender, the marking of the opposition between visibility and invisibility of objects in demonstratives, and the existence of nominal possession classes (inalienable/alienable). To these were added some others which seemed equally capable of being adequately handled in terms of available data. Some of these are: nasalized vowels, glottalized sonorants, locative-directional markers in the verb, source of information or evidential markers in the verb, an opposition between inclusive and exclusive in the first person dual or plural of pronouns, and numeral classifiers.

A second problem involves the adequacy of available descriptions which are used as sources. In phonology, for example, 'pre-phonemic' descriptions must be phonemicized, and errors (both in the original and secondary analysis) are of course possible. In both phonology and morphology, it is advisable to look at all available descriptions and to avoid using 'restatements' as much as possible, since these may manipulate the data in such a way as to conceal the trait being looked for.

A third problem concerns the relative universality of the trait in question. Traits which seem to be universal in language, e.g. the presence of consonants, the distinction between nouns and verbs, or the existence of a transformational component, are of course not interesting from the point of view of an areal linguistic study. On the other hand, areal-typological investigations may lead to the discovery of certain types of universals, especially of the implicational variety (see Greenberg 1966: Introduction). Even traits which are extremely common in language, although not universal, for example, the presence of a particular sound, like p or t, rarely lead to interesting results in an areal study (except in a negative sense, i.e. the absence of such common traits may characterize a small area — for example, nasal stops are lacking in a small

[9] See Chapters 3 and 15 for a list of the traits investigated and a discussion of them.

region of the Northwest Coast of North America). Most fruitful for areal-typological research seem to be traits which are relatively rare in language, such as glottalized sounds, voiceless laterals and nasals, nominal and verbal classifiers, nominal and pronominal dual, and a nominal case system overtly marked in the noun. It is precisely such relatively rare traits, often selected by scholars as identifying, characteristic, or diagnostic features of a language, a family, or an area, which proved useful here in the determination of linguistic areas.

Fourth, in an areal study, one wants to consider traits which are likely or susceptible to be borrowed from one language into another. Of course, we still know very little about how to identify such traits, although we suspect that they tend to be 'surface' rather than 'deep' aspects of linguistic structure (in terms of the dichotomy set up by generative-transformational grammar). By investigating many traits, we contribute to an understanding of this intriguing problem of language history.

Finally, one suspects that it will prove more rewarding to look for diffusion of linguistic traits in certain areas of the world than in others. It is by investigating all of North America north of Mexico that we have been able to draw inferences regarding the types of socio-cultural conditions under which such diffusion is likely to occur.

In the discussion of the relationship between *culture areas* and *linguistic areas*, the following terminology is used (adopted in part from Wolff 1959):

whole areal trait: a trait found in all languages of a given culture area.

central areal trait: a trait found in most languages of a given culture area and the locus of whose distribution is the center of this area.

regional areal trait: a trait with a continuous or almost continuous distribution within one region of a given culture area.

family trait: a trait in language x which x has retained from proto-language A. We can speak of a family trait of x or of A. (For example, obviation is a family trait of Cree or of Algonkian.)

In comparing culture areas with linguistic areas, it is important to recognize important differences between the two. A *culture area* has been traditionally defined as an area in which *many* cultural traits cluster (see, for example, Driver 1961; Kroeber 1939). In some cases, so many traits cluster in a particular culture area that it becomes difficult if not impossible to distinguish the cultures (or parts of them) in question *by this method.*[10] An example of this extreme case is the Hupa-Karok-Yurok region in northern California (see Sapir 1921b:214).

It has often been observed that language is the most self-contained or conservative part of culture. In spite of the great similarity of Hupa, Karok, and Yurok cultures, the languages, all unrelated (or, at best, extremely distantly related), are quite distinct from one another (for further discussion of this question, see Bright and Bright 1965; Haas 1967). Linguistic traits, especially grammatical traits, do not spread with the ease that many non-linguistic cultural traits seem to. This is apparently due to the

[10] Of course, there are approaches to the notion of culture other than the listing of traits.

fact that on the one hand, linguistic phenomena are usually less conscious than other cultural phenomena and on the other, that their diffusion requires very intimate contact between groups, including bilingualism.[11] We are arguing, then, that agreement in a few linguistic traits may often be more significant than agreement in many non-linguistic traits as an indication of the nature of relationships among groups in an area.[12] Any definition of linguistic area, then, cannot be strictly analogous to the above definition of culture area, since a cluster of *many* linguistic traits occurs only in areas where all the languages are related closely. As we shall see, there are instances in North America where the boundaries of a linguistic area (as defined below) and a genetic area (all languages in the area are members of one family) are considered to coincide. Nonetheless, there is also a sense in which it seems valuable to delimit linguistic areas which do not coincide with genetic areas.

A *linguistic area* is defined here as an area in which *several* linguistic traits are shared by the languages of the area and furthermore, there is evidence (linguistic and non-linguistic) that contact between the speakers of the languages contributed to the spread and/or retention of these traits and thereby to a certain degree of linguistic uniformity within the area.[13] It is important to remember that languages which are unrelated or distantly related may very well and probably do disagree with regard to many traits and yet still be in the same linguistic area according to the above definition, since they share *several* traits (which one might want to call diagnostic traits). What is significant, then, is that linguistic structure, usually impervious to influences coming from outside its own internal mechanism, has been affected by linguistic contact. A good example is the Northwest Coast-Plateau, here considered a linguistic area (see more complete discussion below). In this area are found languages belonging to eight families — Chemakuan, Hokan, Kutenaian, Na-Dene, Penutian, Ritwan, Salishan, and Wakashan; the cultures of the speakers of these languages are in some cases markedly similar. In spite of the fact that the languages are quite distinct from one another from a genetic point of view, they share a complex of traits which is not found in any other area of North America. Some of the traits in this complex are a glottalized stop series, nominal and verbal reduplication, and numeral classifiers.

There are problems involved in the delimitation of linguistic areas just as there are in the delimitation of culture areas. We have said that in a linguistic area several traits are shared by the languages. We have not said how many traits or what kind of traits. (For example, what exactly is a diagnostic trait?) Nor have we discussed the bound-

[11] It would no doubt be possible and useful to rank cultural phenomena according to such a dimension. At one end would be traits which diffuse rather easily (and often are related to ecological adaptation), such as various types of artifacts and clothing. At the other would be traits which require contacts between groups in order to spread in an area, such as certain aspects of social organization, folktales, and linguistic traits.

[12] Dell Hymes (1956) points to the presence of two sounds, f and f^w, in mutually unintelligible Kalapuya and Molala as evidence of intimate, face-to-face contacts between the two groups.

[13] We use the term *linguistic area* from Velten (1943) and Emeneau (1956) rather than 'convergence area', suggested by Weinreich (1958).