

Language Death in the Valley of Puebla: A Socio-Geographic Approach

Author(s): Tim Knab and Liliane Hasson de Knab

Proceedings of the Fifth Annual Meeting of the Berkeley Linguistics Society (1979), pp. 471-483

Please see “How to cite” in the online sidebar for full citation information.

Please contact BLS regarding any further use of this work. BLS retains copyright for both print and screen forms of the publication. BLS may be contacted via <http://linguistics.berkeley.edu/bls/>.

The Annual Proceedings of the Berkeley Linguistics Society is published online via [eLanguage](#), the Linguistic Society of America's digital publishing platform.

Language Death in the Valley of Puebla:

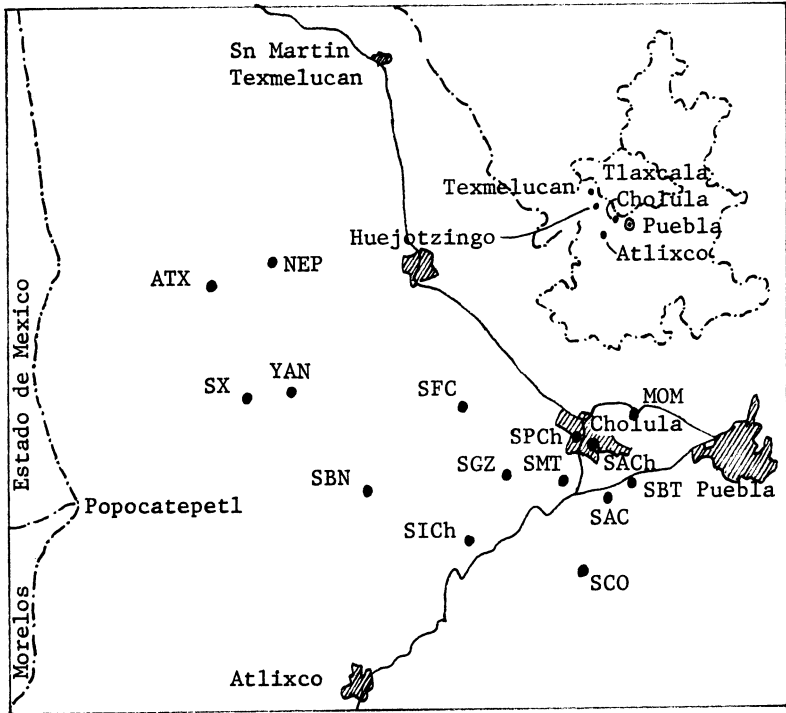
A Socio-Geographic Approach

Tim Knab
 Instituto de Investigaciones
 Antropológicas, UNAM, México

Liliane Hasson de Knab
 Instituto de Geografía,
 UNAM, México

The Valley of Puebla in the Mexican central highlands is an area where Aztec has been spoken since before the conquest. Within the last seventy five years the language has been undergoing rapid replacement by Spanish due to changing social and economic relationships in the region. The area under study extends from the city of Puebla in the East to the snow-capped volcanoes, Popocatepetl and Iztaccihuatl, in the West. The city of Atlixco is on the southern boundary of the area and the town of San Martin Texmelucan is the northern most town in the area. (See map) These relationships between Spanish speaking centers of Puebla and Cholula and the indigenous communities define communication networks in the region. We will argue that the process of language replacement and its ultimate end, language death, are the result of changing relationships between the capitalist national economy of Mexico and indigenous communities. We propose to show this relationship by means of concrete social, economic and linguistic patterns throughout the area rather than through such ephemeral things as language attitudes, prestige, identification and solidarity that other investigators consider essential (Hill and Hill, 1978:153). Language prestige, solidarity and the like are the result of changing social and economic patterns rather than vice versa, and in no way constitute an adequate explanation for the phenomena involved in the process of language death.

1 Language Death, which we will take to be the complete and total replacement of one language by another as a vehicle of everyday face to face communication within a particular speech community, is the final stage in the process of language replacement. We recognise four other stages in this process that are defined by changing language functions within the community and are characterized by differing mixes of three types of linguistic competence. In communities undergoing the process of language replacement, it is possible to distinguish fluent speakers of the language undergoing replacement from the semi-speakers of the language (Dorian, 1977) who follow the receptive norms of fluent speakers but not the productive ones (Dorian, 1978:606). Rememberers, who have perhaps some limited productive capacity in the language with a relatively greater



Map 1. The towns included in this are: Atexcac (ATX), Santiago Xalitzintla (SX), Nepoalco (NEP), Yancuitalpan (YAN), Santa Buenaventura Nealtican (SBN), San Francisco Coapan (SFC), Santa Isabel Cholula (SICH), San Gregorio Zacapechpan (SGZ), San Pedro Cholula (SPCh), Santa Maria Tonantzintla (SMAT), Momoxpan (MOM), San Andreas Cholula (SACH), San Bernadino Tlaxcalantzingo (SBT), San Antonio Cacaloltepec (SAC), and Santa Clara Ocoyucan (SCO).

passive understanding of the language, constitute the third type of competence encountered. Language form is undeniably altered in the process of language replacement. (Dorian, 1973, 1977a, 1977b, 1978; Hill, 1973, Hill and Hill, 1977, 1978; Dressler, 1972, etc.) Simplification of language form is characterized in terms of lexical, phonological, morphological and syntactic indices which together form the index of language attrition.

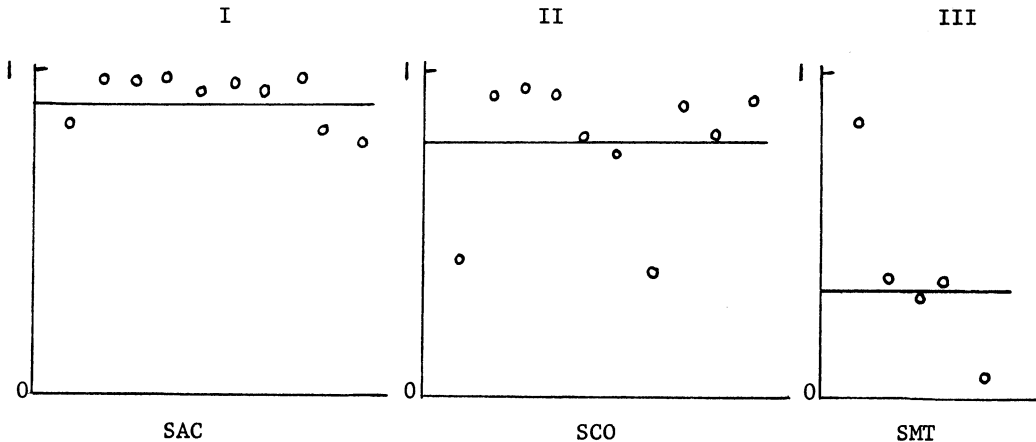
Language replacement in the Valley of Puebla appears to be a fairly regular process. Both the rate of change and the features characteristic of each stage of language replacement are constant in the area. Alterations of language form are the result

of two distinct types of phenomena. First of all, there is the decreasing language function due to fewer competent speakers and restricted contexts of use. Second, there is human memory capacity which in the final stages becomes crucial. Initially, memory is only reflected in minor variations but in the final stages of replacement it can account for major reorganizations of the linguistic system itself.

Changing language functions within the community are the basis for defining the four stages in this process of language replacement. The first stage in this process is that of a viable language but with a reduced function. This is the situation where the majority of children still learn the language as a first language or at least learn it along with Spanish due to the presence of fluent Aztec speakers in the household. Aztec is a household language at this time with little use outside the home. Models for formal speech genre at this stage have for the most part fallen into disuse and thus children no longer learn the most complex forms of speech. The second stage in the process of language replacement is where the majority of speakers are thirty years of age or over. The few younger speakers are generally what Dorian has termed semi-speakers. At this stage, Aztec functions alongside Spanish as a limited household language in those homes where it is still spoken. The third stage in this process is where less than ten per cent of the population still speaks the language with any degree of fluency and the majority of these individuals are fifty years of age or over. At this stage Aztec no longer functions as a household language and must be considered moribund. The few younger speakers are generally semi-speakers and children fail to learn the language. Though there may remain one or two households where Aztec is still spoken in a community, this is below the critical mass necessary to maintain the language. The fourth stage in the process is where there are no longer any fluent speakers left, yet there are some individuals who could be considered rememberers. At this stage the language must be considered effectively dead despite the fact that there are some individuals with a minimal command of the language.

Each of the four stages can be characterized in terms of a distinct mix of the three types of linguistic competence. Graph 1 represents the lexical index for ten speakers from the town of San Antonio Cacaloltepec. The lexical index is determined on the basis of the proportion of 268 verbs retained by each speaker. Each speaker is requested to give both the Aztec and Spanish equivalent of each verb and only when the speaker was unable to supply a gloss from Aztec to Spanish and from Spanish to Aztec could the form be discounted. Borrowings were accepted as adequate equivalents, as once a borrowing is incorporated into Aztec it takes all the normal Aztec inflectional morphology. Graph 2 is of ten speakers from the town of Santa Clara Ocoyucan, which is at the

second stage of the process of language replacement (2). Over half of the speakers show a decrease in the lexical index with the two semi-speakers showing over a fifty per cent decrease in the lexical index (3). Graph 3 is of the lexical index of five individuals from the town of Santa Maria Tonantzintla. Here only one individual could be considered a semi-speaker with over a third of the inventory. The individual who was able to recall only 16 verbs must be considered a rememberer. At the fourth stage in the process it is only possible to find rememberers. The mean index of each aspect of the language form measured which is the result of the mix of competencies at each stage in the process, constitutes an adequate representation of the process of language replacement at each stage.

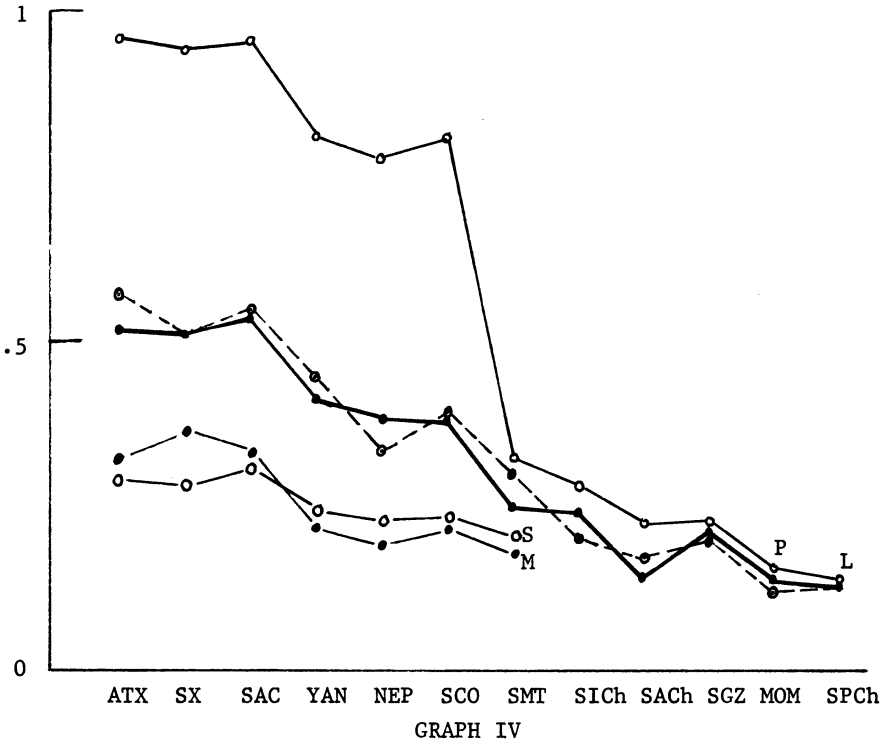


Graphs 1, 2 and 3 depict the lexical index for speakers, semi-speakers and rememberers from the towns of San Antonio Cacaloltepec (SAC), Santa Clara Ocoyucan (SCO) and Santa Maria Tonantzintla (SMT) respectively.

The four indices reflect lexical, morphological, syntactic and phonological aspects of simplification. These indices are based on the decline in the use of discrete features as well as the rate of success or failure of the application of specific rules (4). The nature of the lexical index has already been treated. The phonological index is based on the rate of success in the application of three vowel elision rules involving the formation of possessives and reflexives. The morphological index is based

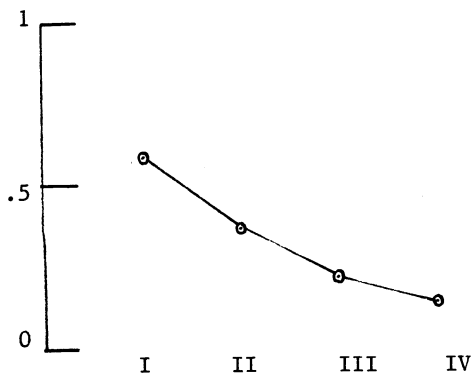
on the decline in the rate of use in a discourse sample of derivational morphology; specifically the causative, applicative and verbal noun derivations. The syntactic index reflects the decline in the use of subordinate clauses with Aztec heads in the same discourse samples. In cases where the state of language decay did not permit the collection of a discourse sample, the morphological and syntactic indices were not counted in figuring the mean index of attrition.

The mean lexical, phonological, syntactic and morphological indices for three communities at each of the four stages in the process of language replacement are represented on Graph 4 along with the mean index of attrition. The mean index of attrition shows less variation within the stages than between the stages. From this we have calculated the rate of replacement on Graph 5 for the purposes of this paper we estimate twenty to thirty years as the duration of each stage, or approximately one generation.



Graph 4 is a representation of the mean Lexical (L), Phonological (P), Morphological (M) and Syntactic (S) indices as well as the index of attrition which is the heavy line.

Although the rate of replacement is but a crude approximation of the process, it does provide us with a curve from which we can extrapolate in order to determine the degree of language attrition in a community undergoing the process of language replacement. Despite the inherent inter- and intra-speaker variability (Swadesh, 1948) in this process there is a certain degree of regularity at the level of community in the Valley of Puebla. With this in mind we have calculated the degree of replacement from the onset of the process for the fifteen communities on Map 2 in twenty year intervals. Extrapolating from the City of Puebla we have mapped the onset of the process in the area in the same twenty year intervals from 1900 onward. Puebla was originally chosen as the Spanish speaking center but even by 1900 Cholula was already for the most part Spanish speaking.



GRAPH V

Graph 5 represents the composite Mean Index of Attrition at each of the four stages in the process of language replacement. It should be noted that this is but a first crude approximation of the process.

2 We must understand the areas of concentration of speakers not as isolated regions. They are regions which due to their particular socio-economic history have developed specific types of relationships with Spanish speaking regional centers. The central system which is defined in terms of modern capital accumulation maintains peripheral regions in a subordinate relationship. It is not by coincidence that indigenous languages are maintained or lost in regions peripheral to Spanish speaking centers, but for solid socio-economic reasons. In fact some sociologists use the presence of speakers of indigenous languages in a community as an indicator of marginality (Gonzalez Casanova, 1965).

The existence of communicative networks which function only within a particular group sets such a group off; and in the case of our study implies either a type marginalization or integration with respect to socio-economic centers. When social and ethnic boundaries become blurred, as they are by integration into Mexican National Society, a reorganization of these networks becomes necessary. This is the case where everyday social and economic life becomes so thoroughly and inextricably linked with that of the Spanish speaking socio-economic centers, that language function within the group or community is reduced to below the survival level and the spiral of reduction, restriction and simplification begins the headlong plunge to extinction.

There are basically two manners in which peripheral communities can become a part of the socio-economic system of regional centers and thus the national life. Both systems of integration involve the reorganization of socio-economic relationships and thus communicative networks. The first of these two processes involves seasonal wage labor as the primary mode of participation in the socio-economic system of the regional center by peripheral communities. But a proportion of the community participates directly as laborers in economic activities of the center, and thus obtains some degree of purchasing power with respect to the center. This income serves directly the economic needs of the community and reinforces traditional institutions. At the same time seasonal wage labor serves the economic interests of the center in that it produces vast amounts of cheap labor when necessary (5). Seasonal wage labor permits the establishment of certain types of fixed and well delimited relationships with the central system. These types of fixed relationships can postpone the process of language replacement. The second process involves the production of goods and services for the socio-economic center according to the market demands of the center. This implies that everyday social relationships depend to a far greater extent upon the socio-economic center. Thus, communicative networks are defined to a greater extent in terms of relationships with the center. The relationships that peripheral communities have with the regional center determine what is produced, how it is produced, how much is produced and for whom it is produced. Marketing networks appear in the case of the region under study to be far more important with respect to the process of language replacement, than other factors, in that market systems and market forces for the most part dictate the rates and manners of production and consumption of both goods and services in the area. In both of the above processes consumption of the products of the regional and national economy is essential to the integration into the central socio-economic system.

At this point it becomes necessary to examine some of the socio-economic factors that play a decisive role in the reorganization of communicative networks that provokes the process of language replacement.

A. Communities at the first or earliest stage in the process of language death have already developed certain types of socio-economic relationships with regional centers--both at the levels of production and consumption--yet these relationships permit the maintenance of traditional intra-group relations; the language remains functionally adequate within the community. This type of relationship is based upon the production of agricultural goods for internal consumption with a relatively minor dependency on regional market systems and wage labor.

Santiago Xalitxintla (SX) will serve as an example of the type of community at the first stage in the process of language replacement. According to the census of 1970, there were 2374 inhabitants in the town at that time, of whom 25.6% were economically active (6). Almost all economic activity focused in the agricultural sector of the economy. The proportion of the population speaking indigenous languages according to the census was mistakenly low due for the most part to the strongly negative language attitudes. On the basis of interviews, we estimate that over 50% of the population speak the language and the children still learn the language. In Xalitxintla, agricultural production depends essentially on the needs of the community's internal consumption. The small excess of production is traditionally disposed of through the indigenous market system. Xalitxintla also produces stone grinders and other traditional stone objects which are sold through the indigenous market system.

B. Communities at the second stage in the process of language replacement are more closely linked to national life and participate more directly in the national economy through the regional centers. This can be seen through both regular and seasonal labor in industries associated with the regional center and the production of at least some goods for regional market centers.

Santa Clara Ocoyucan (SCO) will serve as an example of this type of town at the second stage of language replacement. Santa Clara is a town of 2596 inhabitants according to the census of 1970 of whom 22.1% are economically active. Of this portion of the population 88.5% are involved in agricultural activities. Santa Clara is also a municipal political center (cabecera municipal) or county seat which implies direct political, judicial and economic relation with the regional center. Another factor in the local economy that promotes language loss is the arid lands, with a relatively low productivity that force much temporary wage

labor. This temporary wage labor does not appear in the census data for 1970 (7). The relatively low agricultural productivity limits participation in traditional market systems which are now less accessible than the regional center of Puebla and at the same time facilitates the necessary communication with the regional center to augment meager income. This provides the wherewithal to purchase goods not produced in the community.

C. The communities in the third stage of the process of language replacement have developed a set of complex and necessary relationships with regional centers; relationships which rely upon the production and sale of goods within the regional market systems. Participation in the regional market necessarily implies a change in the system of production concomitant to the change in the marketing system. This also implies a thorough acquaintance with the market forces by residents of these communities, which necessitates a thorough integration into communicative networks based on regional centers. This is a major factor in reducing the functional load of the indigenous language.

Santa Maria Tonantzintla (SMT) constitutes our example of the third stage in the process of language replacement. There were 2303 inhabitants of this community at the time of the 1970 census of whom 24.6% were economically active. Of this proportion, 76.5% were involved in agriculture, 7.1% in industry and 15.4% in commerce. This distribution of the economically active population corresponds to the relatively greater integration of an essentially agricultural community into the socio-economic system through commerce. Here it should be noted that the change from the production of agricultural products for internal consumption and sale in the traditional market system to the production of flowers for the regional and national markets has allowed the community to attain a relatively greater degree of integration while maintaining an essentially agricultural base. Tonantzintla began producing flowers shortly after the Mexican Revolution in the early Thirties, and at present the majority of the community's economic activity revolves around commercial floriculture.

D. At the fourth stage in the process of language replacement, the language is to all intents and purposes effectively dead. Despite a small population of rememberers, the indigenous language no longer plays any part in the everyday life of the community. In such cases, communities have generally become an integral part of the regional or national socio-economic systems long ago.

Our example of this fourth stage in the process of language replacement is taken from the town of San Pedro Cholula (SPCh), which we take to include the major barrios of Cholula de Rivadavia (Bonfil, 1973:115). San Pedro Cholula is a city of 15,399 inhabitants of whom 24.7% are economically active. Only 15.7% of

the population is involved in agricultural activities; 43.2% is involved in industrial activities and 35.1% in commerce. Cholula became an integral part of the regional and national socio-economic system before the turn of the century and thus represents a communicative network thoroughly integrated into that of the Spanish speaking center of Puebla. The rise of the textile industry in the latter half of the last century was a major force in integrating Cholula into the socio-economic system of Puebla, and thus making it a parallel center at the beginning of this century.

From this short analysis of but four cases at various stages in the process of language replacement, certain general patterns become evident. Despite the fact that all communities participate, to a greater or lesser extent, in the regional or national economy and there is no such thing as the completely closed, self-sufficient community, it is the extent to which a community participates in regional and national market and labor systems that determines the type of communicative networks that can be supported within the community. Diminishing language function within the community precipitates the process of replacement. Changing relationships between peripheral communities and regional centers by altering communicative networks accelerate the process. Both alterations in the marketing patterns, by changing from production of goods or services for regional centers or switching from traditional market systems to those based on regional centers, and alterations in the labor patterns by seasonal wage labor or more direct participation in the labor market of the regional center, affect communicative networks within a community. It is thus the degree and type of participation by members of a peripheral community in the socio-economic system of the regional center that determine the type and form of everyday face to face communication and thus communicative networks that function to maintain or eliminate a language.

3. Linguistic aspects of the process of language replacement reflect far more profound changes in communities undergoing the process. Quantitative changes in the linguistic system are, however, both concrete and quantifiable in terms of the mean index of language attrition. This index not only provides a means of detailing the process of language change involved in language replacement, but it reflects the changing competencies of speakers, semi-speakers and rememberers as the mean. The actual mechanism of change is the changing mix of competencies in communities undergoing language replacement. Language form and function go hand in hand in communities undergoing replacement. Thus, quantitatively at the community level, language form follows function. Language replacement is the result of the language's loss of the functional utility within the community. This loss of utility and function depends directly on the way in which the

community participates in the socio-economic life of the nation. The type and degree of participation of a community is in turn determined by the needs of regional and national centers for products and labor of the community (8). From the point that the economic and social life of a community depends essentially on that of regional and national centers, the language of the community no longer remains functional with respect to social and economic needs of the community. Language function in this type of situation, in the Valley of Puebla, is progressively restricted and reduced to the point that language form is affected and the process of replacement is irrevocably begun.

In the Valley of Puebla once the process of replacement is begun, it is apparently irreversible. The rapidly changing socio-economic patterns in the region provoke the process and see to its irreversibility. The relation between changing socio-economic patterns and language replacement is unmistakable. The process of language replacement is a complex phenomena but it can be measured by means of various indices. These indices reflect in a real manner the process since they take into account the actual mechanisms of language replacement. Reorganization of social and economic patterns of everyday communication restructures communicative networks in such a way that the mechanism of language replacement is set in motion toward its ultimate end: language death.

Notes

1. This work was originally begun by T. Knab under a small grant from the American Philosophical Society's Phillips Fund, and later continued under a grant from the N.E.H. Youth Grants Program. The present work is the result of the project on language replacement of the Instituto de Investigaciones Antropológicas of the Universidad Nacional Autónoma de México and the project on the location of speakers of indigenous languages of the Instituto de Geografía of the same University.
2. For a more complete explanation of the indices see "The process of language replacement in modern Aztec dialects of the Valley of Puebla," Tim Knab, forthcoming.
3. Only five individuals could be located in Santa María Tonantzintla with any knowledge of Aztec.
4. These rules are a highly opaque set of rules involving both the long/short contrast and numerous lexically marked exceptions.
5. Mercedes Olivera points out that "This combination of consumer economy, in such communities, and wage labor on fincas and haciendas, in addition to stimulating the indigenous communities also produces cheap labor and subsidizes businesses, in that businesses do not pay salaries while workers from indigenous communities reside in their own communities" (Olivera, In press).

6. Population data is based on the 1970 National Census (S.I.C. 1971).
7. This data may vary from census to census depending on the time of year that the census is taken.
8. For an important discussion of the structure and use of cheap labor in a capitalist society see Claude Meillassoux (1975).

Bibliography

- Dorian, N. 1973. 'Grammatical change in a dying dialect' Lg. 49: 414-38.
- 1977a. 'The problem of the Semi-speaker in Language Death', International Journal of the Sociology of Language, 12: 23-32.
- 1977b. 'The Hierarchy of Morphophonemic Decay in Scottish Gaelic Language Death', Wd. 28: 96-109.
- 1978. 'The Fate of Morphological Complexity in Language Death', Lg. 54: 590-609.
- Dressler, W. 1972. 'On the Phonology of Language Death' Papers from the 8th Regional Meeting of the Chicago Linguistics Society: 448-57.
- Hill, J. 1973. 'Subordinate Clause Density and Language Function' in You take the High Node and I'll take the Low Node: Papers from the Comparative Syntax Festival. Chicago: CLS pp. 33-52.
- and K. Hill. 1977. 'Language Death and Relexification in Tlaxcalan Nahuatl', International Journal of the Sociology of Language, 12: 55-70.
- and ----- 1978. 'Honorific Usage in Modern Nahuatl' Lg. 54:123-155.
- Gonzalez Casanova, P. 1965. 'La Democracia en México', México, E.R.A.
- Bonfil Batalla, G. 1973. 'Cholula, la Ciudad Sagrada en la era industrial', UNAM: México.
- Meillassoux, C. 1975. 'Femmes, Greniers et Capataux', Paris: Maspero.
- Olivera, M. In press. 'La población y las lenguas indígenas de México en 1970. Mapas y Cuadros', in Olivera, Ortiz, Alvarez and Valverde, Poblacion y Lenguas Indigenas, UNAM: México.
- S.I.C. 1971. 'Censo General de la Población, 1970', Secretaria de Industria y Comercio: México.
- Swadesh, M. 1948. 'Sociologic notes on Obsolescent Languages' IJAL, 14: 226-35.