LANGUAGE MAINTENANCE IN MELANESIA

Sociolinguistics and Social Networks in New Caledonia

By Stephen Schooling

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Language Maintenance in Melanesia

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List of Abbreviations

ARA	Arama	MOU	Mou	PAO	Paola
BAL	Balade	NAP	Napomien	POU	St. Louis
KOE	Koe	PAI	Paita	TIA	Tiabet

Preface

The data upon which this study is based were collected in 1982 and 1983 under the auspices of the Summer Institute of Linguistics by the kind permission of the local territorial government of New Caledonia and in cooperation with the Institut Culturel Melanesien (ICM). The advice and support of the Director of the ICM—as well as that of leaders of the Roman Catholic Church, the Église Évangélique Autonome, and the Église Évangélique Libre—are acknowledged with much appreciation. Much practical help and information were also obtained from a large number of individuals, including SIL colleagues, residents of New Caledonia, and—by no means least—my wife, Janice, who has been a constant source of support throughout the various stages of this project.

This book includes a study that first appeared as a report to the sponsors of the fieldwork (Schooling 1982). Many improvements are directly due to helpful comments by Dr. R. A. Benton, Dr. J. Edmondson, and Dr. G. Huttar, all of whose counsel is gratefully acknowledged. Significant advice on statistical matters was provided by Mr. Peter Wild of the South Pacific Commission.

The results of this study are dedicated to the many people of New Caledonia who contributed to its completion through their hospitality, advice, practical assistance, and active participation in the testing procedures. Without their willing cooperation this study would not have been possible. Nonetheless, it is my hope that this present work, although modest in scope, will stimulate further research into the living languages of New Caledonia, which in turn will enable the trustees of this linguistic heritage to profit more fully from the rich potential of the languages they speak.

Stephen Schooling
Noumea, New Caledonia
November, 1990

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1
Introduction

When the missionary ethnographer Maurice Leenhardt arrived in New Caledonia in 1902, the civil authorities sincerely wondered why he had come, for in their opinion the native Melanesians were a dying race and would soon be extinct. Though that rather extreme view was never borne out, it has, nonetheless, been assumed even by linguists that it would be only a matter of time before all the languages of New Caledonia would be erased from living memory. Haudricourt (1951:153) and Capell (1954:113) both issued an urgent appeal to linguists to study the languages of New Caledonia before it was too late, as they felt that there was very little likelihood of saving the languages of the main island of New Caledonia. Even as recently as 1983 Shintani boldly stated that the language of Drubea is in the process of disappearing (1983:2).

Tourists and visitors to New Caledonia consistently report that everyone in the Territory speaks French, and general books, such as that by Thompson and Adloff (1971), by barely mentioning the vernacular languages at all, leave the impression that French is the only language of any significance. Statistics published by the government give the same impression, since 100% school attendance by children aged six to fourteen years has been claimed for many years and the latest census statistics indicate that 97% of the population over five years of age speak French. It is true that the notes issue a caveat indicating that the phrase "speak French" is very broad and depends entirely on the definition applied to it by the individuals answering the census questionnaire (Institut National de la Statistique et des Etudes Economiques 1983:84–85). Nonetheless, from merely reading this statistical information, one

would have difficulty doing anything but forming the overall impression that the French language is totally dominant in New Caledonia and that the relevance of any other languages (if there are any) will be entirely negligible for the latter decades of the twentieth century. Yet today, the vernacular languages of New Caledonia are alive and well, as the study presented in this book demonstrates.

The research described in the following pages has evolved over a period of nearly ten years, and, as so often happens, it has not developed entirely as might have been expected. It all began with a relatively straightforward desire to ascertain as scientifically as possible whether the predictions of widespread language death mentioned above were being realized. The results derived from a series of interviews and comprehension tests were that the vernacular is still the language of choice for the majority of rural Melanesians. It is the primary means of communication in the village and within the family. Melanesians find it adequate and appropriate for most of their needs and have a strong, positive attitude toward it, being consciously aware of their roots and their sociocultural identity and the importance of their language in connection with that identity. The vernacular is an integral part of the Melanesian traditional culture, providing the means for expressing the rich symbols and metaphors of the ceremonies and exchanges.

Though French has not replaced the vernaculars, it is used in a variety of settings. French is the sole, official means of communication in the educational system, from primary through higher education levels, and is used as a language of wider communication, helpful in contexts foreign to or outside the scope of ordinary daily life in the village. French thus serves to facilitate communication with Europeans or Melanesians who are visitors or temporary residents in a village and who cannot speak the vernacular.

These conclusions, however, provoked a further series of questions: Why have the vernaculars survived, contrary to Haudricourt's and Capell's predictions? What accounts for the use of vernaculars despite an educational system in which French is the sole means of communication? Why would vernaculars continue to be maintained when French provides a means of communication in a greater number of settings and with a greater number of people, particularly with people who do not speak the same vernacular? Certainly, it would seem that French should be the logical choice of language for all people in New Caledonia. It would serve as a common bond linking people of a wide range of geographic and linguistic backgrounds in all areas of their lives—from the schoolhouse, to the work place, to social and religious activities and events. Perhaps the process of death for the vernacular languages is occurring—just at a slower rate than was predicted. Might not the languages die out at some time in the future? Only one death has occurred

in the forty years since Haudricourt's prediction, but might not many more occur in the next forty years?

As time went by, the original methodology was discovered to have some inherent problems. In brief, it was capable of producing a mass of interesting data, but the sheer quantity of data made it difficult to discern the big picture—the underlying reasons why the linguistic situation in New Caledonia was as it appeared to be.

Statistics present the current linguistic situation in New Caledonia, but they do not elucidate the situation. A theoretical framework was needed to explain the maintenance of the vernaculars despite the widespread use of French. The theory must explain the current situation and allow predictions to be made regarding future situations. The theory must provide a systematic method of analyzing, describing, and predicting the very complex behavior of human language. Language is a complicated social phenomenon, as complicated as the human beings who use it. Any attempt to study it must proceed with caution, with a constant awareness of this complexity. Different studies have isolated sociolinguistic factors that have contributed to accelerating or retarding the degree and speed of language shift in some circumstances, while the same or similar factors appear to have produced different effects in other circumstances. The lesson to be drawn from this is that a variety of factors combine in different ways in different circumstances. In addition, a particular factor, which may be extremely important in one set of circumstances, may have relatively little impact on the linguistic situation in another set of circumstances. A sociolinguistic theory, therefore, must address and provide a means of accounting for a number of factors that are relevant to a wide variety of circumstances. It must not be limited to one or two preconceived categories relevant to the situation in question. It was at this point that the insights derived from social network research were harnessed in an attempt to provide explanations and answers concerning the phenomenon of language maintenance in New Caledonia. It was also hypothesized that these same insights might provide a means for making predictions regarding language maintenance. The results were gratifying; not only did the concept of the social network appear to explain the situation in New Caledonia, but it also has potential for application to virtually any language situation, in any culture, in any place.

The concept of social networks was developed originally by sociologists to describe and systematize the patterns of relationships that individuals develop as they function as part of a group or society. The terms DENSENESS, MULTIPLEXITY, and CLUSTERS can be used to characterize social networks. A network is said to be of high density if individuals who are in relationship with any ego are also in relationship with each other. A network tie is said to be multiplex if ego is simultaneously related to a

given person in a number of different capacities. A relationship may exist in one or more of four key clusters: kin-culture, geographical location, occupation, and voluntary association. The clusters are not exclusive, but rather overlapping spheres of relationships in which language is used. The density of an individual's key cluster is important in determining the extent to which the person will be influenced by the other members of his/her social network.

Using the social network concept, it is possible to construct a typology of bilingualism. Five categories are proposed: (1) the functionally monolingual vernacular speaker; (2) the functionally bilingual speaker; (3) the urban or displaced bilingual speaker, whose mother tongue is a vernacular, but who, due to occupation, geographic location, or voluntary association, usually uses the more-prestigious, often standardized, national or trade language; (4) the forced bilingual, who is forced by the nature of the social networks in which s/he finds him/herself to use the vernacular; and (5) the monolingual trade-language speaker who speaks only the trade language and who has never functioned in social networks where a knowledge of another language was necessary.

The attractiveness of the social network lies in its universality and its potential as a predictive tool. Language is used only in the context of a social network, and virtually every human being must belong to and communicate within some form of a social network. It is this common denominator that makes a social-network-based theory attractive, for it integrates many of the disparate factors already used by sociolinguists. Furthermore, social network theory is valuable as a tool for predicting language maintenance. Some kinds of social networks are considered to be more conservative and stable and to have strong and effective systems of norm enforcement. Dense, multiplex networks create pressure on their members to conform to the norms of that network, including language norms. Communitites with such characteristics tend to maintain the use of their vernacular language.

To predict language maintenance, it is not enough to describe an individual's social network and the key clusters to which s/he belongs. The relative strength of the key clusters must be examined. The strength of a cluster depends to a great deal on the extent to which it meets the basic survival needs, such as the physical needs of nourishment, health, and well-being, the emotional needs of identification with a caring group and a sense of achievement and purpose, and social needs, which vary from culture to culture and group to group. The first three key clusters—kinship-culture, geographic location, and occupation—fall within the survival category. The strength of a cluster is likely to be significant if the cluster meets a survival need. The strength of a cluster is not as likely to be great if the cluster

only meets selection needs, the needs to be creative, to make decisions, and to be involved in activities and relationships based on personal preference. The fourth key cluster, voluntary association, falls within this latter selection category.

Chapters 2 through 6 describe and present the results of the initial phase of research. Chapter 7 acts as a kind of bridge by explaining how the concept of the social network was first used to provide a method of supplementary validation of the previously collected data. Then, in chapters 8 through 10 the theoretical underpinnings of the social network are discussed and developed in detail, culminating in the presentation of a typology of bilingualism and some theoretical proposals that, it is to be hoped, may provoke more work on the development of an integrated theory of language maintenance. Chapter 11 summarizes and concludes the text.

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2
Background for the Study

As mentioned in chapter 1, the original motivation and catalyst for this present study was to discover whether Capell's dire predictions that there was very little likelihood of saving the languages of the main island of New Caledonia were correct and whether the rich linguistic resources of the vernacular languages of New Caledonia were now extinct or on the verge of extinction. If the vernacular languages were not in fact extinct, the question would then be, What is their exact status and function? Consequently, preparations were made to note factors which would indicate whether a process of radical language change leading towards language replacement was in fact underway, or whether, on the contrary, there was a trend towards conservation and the maintenance of the vernaculars.

The corollary of the question concerning the status of the vernacular languages is that concerning the status of French. The claim that almost every resident of New Caledonia speaks French needed to be clarified and more rigorously defined. More specifically, it was necessary to attempt to discover whether French was adequately meeting all the linguistic needs of the indigenous Melanesian population, or whether there was any desire or need for further development of the vernaculars, especially in the realm of orthography preparation, the encouragement of local literary creativity, and the development of a limited body of vernacular literature.

History of New Caledonia. New Caledonia and its Dependencies is a French Overseas Territory situated in the South Pacific approximately 1000

miles to the northeast of Brisbane, Australia, and a little more than 1000 miles to the northwest of New Zealand. The main island is long, thin, and mountainous, and is 250 miles long by 30 miles wide, lying along a northwest-southeast axis. It was first officially charted and described by Captain James Cook in 1774, and it is said that the eminent explorer chose this name because the mountainous aspect of the terrain of this new island in the Pacific reminded him of his native Scotland. The Dependencies are three smaller islands, known as the Loyalty Islands, which lie 60 miles from and parallel to the northeastern coast of the main island.

At the 1983 census, the population of New Caledonia was 145,368. Of this total, 42.5% (61,900) are Melanesians, the dark-skinned indigenous inhabitants of the islands, and 37% (53,900) are of European origin, of whom a large majority are of French extraction. The remainder of the population is comprised largely of immigrants from various parts of Oceania and Asia. Specifically, 12% of the population is composed of Polynesians from French Polynesia (Tahiti) and the French Overseas Territory of Wallis and Futuna, while 4% originate from Indonesia and 1.5% from Vietnam.

When France first annexed the islands in 1853, they were used as a penal settlement, which occasioned the first introduction of significant numbers of European settlers. Other French immigrants arrived for different reasons at various times during the following century, with the most recent immigrations being caused by decolonization elsewhere in the world and by the search for employment. The immigrants from Polynesia and Indonesia also came to New Caledonia in search of employment, which they found mainly in the mining industry for which New Caledonia has become well known.

The mining of nickel and other minerals is the main industry upon which the economy of the Territory depends. This is supplemented by tourism, with 93,000 visitors coming (in 1984) from Australia, New Zealand, Japan, and France, and, in the rural areas, by such agricultural activities as beef and coffee production.

The Territory is governed from France, although many of its internal affairs have for many years been overseen by a locally-elected Territorial Assembly, which functions in conjunction with a French-appointed High Commissioner. Following rather extensive political reorganization in 1985, inspired largely by a desire of the Melanesians for independence, the power of the original Territorial Assembly was distributed to four regional assemblies.

The principal administrative and commercial center of the Territory is the town of Noumea, which, with its satellite communities, has a total population of 80,000. A majority of all Europeans and other immigrants live in and around Noumea, while a majority of Melanesians continue to

live in rural surroundings in the interior of the main island, as well as on the Loyalty Islands.

Languages of New Caledonia. Approximately forty different languages are spoken by permanent residents of New Caledonia. French is the most pervasive of these as it has been the official language of the Territory since 1863. As well as being the mother tongue of nearly all the residents of European extraction, it is also the language of education, commerce, the administration, the judiciary, and the media. At least some French is known by all the inhabitants of the Territory, and all children attend school where they are exposed to the French language for at least seven years, the normal minimum period of attendance. Consequently, French has the very important function of being the only language of wider communication throughout the length and breadth of the Territory.

At the beginning of the twentieth century, English was spoken in some parts of New Caledonia, particularly in the northeast. This was due to the immigration of some families from Australia who engaged in prospecting and ranching. Members of the older generation in this area can still remember the original anglophones, and they can still converse in broken English. Missionaries of the London Missionary Society also introduced English into the Loyalty Islands during the period 1852–1900. The memory of this passing linguistic phase is still maintained by the continuing existence of Anglo-Saxon family names and a large number of English loan words in the languages of the Loyalty Islands, but the use of English as a language has died out. It is now used only in hotels, restaurants, and other locations frequented by tourists in and around Noumea.

The non-European immigrants to New Caledonia also brought their languages with them. These include Wallisian (East Ouvean), Futunan (East), Tahitian, Bislama (an English-based pidgin spoken in Vanuatu, which was formerly the New Hebrides), Javanese, and Vietnamese. The latter two languages are rapidly losing ground as the current generation of young people appear to be more at home with French and have only a rudimentary knowledge of their parents' language. The situation for Javanese is further complicated by the fact that recent immigrants from Indonesia speak Indonesian, which is not understood by those of Javanese descent who were born in New Caledonia; consequently, French is sometimes used as a lingua franca even within the Javanese community. The other languages listed are still widely used as a major means of communication within the confines of their respective ethnic groupings.

Melanesians, the indigenous inhabitants of New Caledonia, speak the remaining languages, which are classified as belonging to the Austronesian family of languages. Between twenty-seven and thirty-five such languages are

still spoken in New Caledonia at the present time. The figures are presented in such approximate terms because the difficult task of classifying the various linguistic entities into the categories of language and dialect has not yet been fully completed.

The first major classification of these languages was attempted by Maurice Leenhardt (1946). This pioneer work has since been further refined by André Haudricourt (1971) and Jean-Claude Rivierre (1981a) and their colleagues of the Center National de la Recherche Scientifique, in Paris, with contributions also being made by Hollyman (1964), Grace (1975), and Tryon (1967a).

Haudricourt (1971) has proposed that the Melanesian languages can be divided into six major groups named according to their geographical location: Extreme North, North, Center (which can also be divided into two subgroups), South, Extreme South, and the Loyalty Islands. These groups are indicated on Map 1, and brief comments about them are noted in the following paragraphs. In the maps and the lists given in chapters 4 and 5, the names of the languages are spelled in full with all the details as proposed in Rivierre (1981b). For typographical convenience, however, the diacritics are omitted elsewhere in the body of the text.

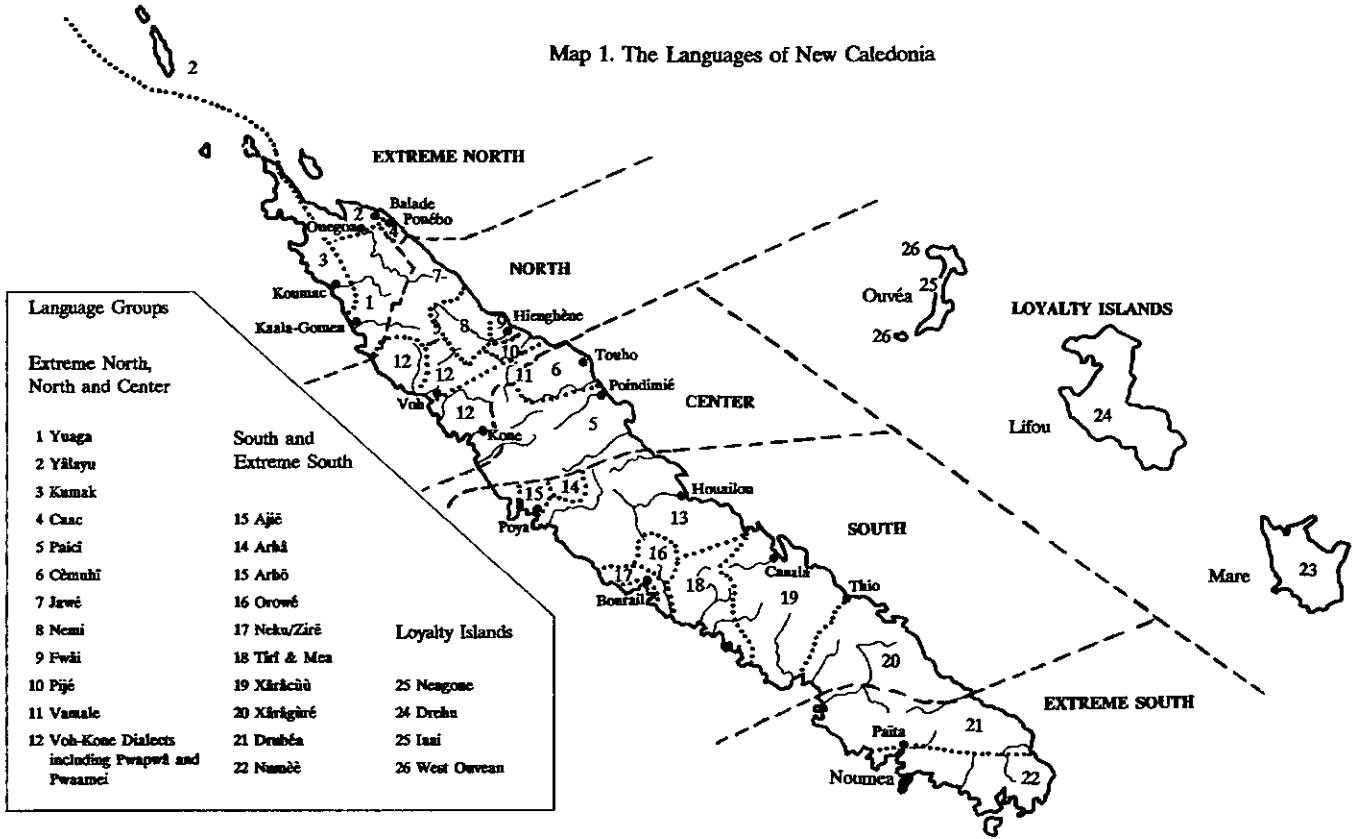
Extreme North, North, and Center. Although the Caac language is grouped for convenience with the languages of the Extreme North, the people of that area consider that it stands on its own and is unlike any of its neighbors. In addition, it was found that the people of St. Paul, on the northeast coast between Balade and Pouébo, are migrants from the Yuanga area and still speak that language, although it is not known how much their speech has been influenced by the neighboring languages.

It appears that the Pwapwa language (North group, west coast) is historically more akin to Yuanga in the Extreme North group. However, at the present time the only significant community of Pwapwa speakers is at Boyen, where they have constant contact with languages of the Voh region. It is, therefore, realistic to continue treating Pwapwa with the languages of the northern group as has been done in the past.

The Center group can be subdivided into two parts, with Cemuhi being assigned to the Center (North) subgroup and Paici to the Center (South) subgroup. Both of these languages are tonal, as are the languages of the Extreme South group.

Six different communication systems are used in the area around Voh and Kone, and, in addition, speakers of some of the languages spoken on the east coast near Hienghene and Poindimie are also resident in the area. Historically, these people originated from other parts of the west coast but were forcibly resettled in the same area by the colonial administration approximately seventy-five years ago. The linguistic entities known as

Map 1. The Languages of New Caledonia



Hmwaveke, Hmwaeke, Vamale, Haveke, Haeke, and Bwatoo are still currently in use, but the speakers of these languages often live in the same community and have daily interaction with each other. As a consequence, the linguistic situation in this area is very complicated, with interpenetration of languages and passive bilingualism on the part of their speakers. A complete and definitive analysis of the situation has not yet been achieved; therefore, for convenience, the above six entities are grouped together under the heading of The Voh-Kone dialects.

South and Extreme South. The Ajie language, spoken in the area around Houailou, is an important regional language, as it was adopted as a church language by the Protestants earlier in this century. Secondary schools and a pastors training school were established in the region, and for a time Ajie was the medium of instruction. Since 1945 French has been the only language of education permitted by the government, with the consequence that Ajie is no longer used as a lingua franca by the young people as it was, and still is, by their parents. The languages on the west coast in the region of Bourail and Poya are very small, and it is claimed that the speakers of these languages are bilingual in Ajie. The actual degree of bilingualism and the consequent comprehension of Ajie, however, needs to be investigated further.

The Loyalty Islands. Protestant evangelists and later missionaries of the London Missionary Society established themselves in the Loyalty Islands during the latter half of the nineteenth century. The linguistic legacy they left behind was considerable. It included orthographies, complete translations of the Bible in the three Melanesian languages, a translation of *Pilgrim's Progress* in Drehu, and several generations of children who had benefited from a basic education in their mother tongue. Drehu, the language of Lifou, is still an important means of communication within the church, and the only remaining pastors' school is on Lifou. Consequently, many people scattered throughout New Caledonia know some words of Lifou, but it has never approached the status of a true lingua franca.

The Loyalty Islands are noted for their hierarchical social system, which has a linguistic manifestation. The chiefs were held in such respect that a special, highly metaphorical language was traditionally used when speaking to or even about them. In effect, therefore, two quite distinct sociolects were spoken on both Lifou and Mare. The honorific sociolect spoken on Lifou is called Miny and that of Mare is called Iwateno. These honorific sociolects are falling into disuse, however, and are hardly used by the young people.

Two languages are also spoken on the island of Ouvea. In addition to Iaai, the original Melanesian language, there is also a Polynesian language which was brought to the island several hundred years ago by immigrants who are thought to have originated from the Wallis islands. This Polynesian language is known locally as Faga Ouvea, but it is more widely known to linguists as West Ouvean.

A full listing of the Melanesian languages is given in Table 1, along with the number of speakers. Unfortunately, the 1983 census statistics were not broken down according to individual villages; therefore, these population figures are based on the 1976 census statistics. According to the government Statistics Service, the Melanesian population increased by 10% between 1976 and 1982, and on this basis a more up-to-date estimate was calculated. Nonetheless, this figure still does not include the Melanesians who were living in Noumea or elsewhere outside their home language area at the time of the census. According to the 1983 census, 15,000 Melanesians live in and around Noumea.

Collection of data for the study. The collection of data for this study developed along two parallel and complementary paths. The first path, a series of intelligibility tests, was used to test the level of comprehension of French. The second path, the core of the process, was an extensive program of interviews in which a set of complementary questionnaires was used to establish patterns of language use and also to discern attitudes toward the languages used. The study specifically concerned itself with the status of the indigenous Melanesian languages and the ability of the speakers of those languages to understand French. No detailed study was made of other languages spoken in New Caledonia, although some comments concerning such languages will be made at various points in the interest of providing stimulus and a starting point for further research.

Following the period of specific interviewing and testing, the researchers spent a period of six months living in a Melanesian village where testing had previously been undertaken. During that time much more unobtrusive observation and questioning were undertaken in order to verify, clarify, and corroborate the results obtained from the earlier, more mechanical methodology. A total of three years was spent in New Caledonia between 1981 and 1986, and throughout that period observations and quotations that had any bearing on the sociolinguistic situation were noted and used to provide a broader interpretive framework for the more detailed statistical findings.

Table 1. The Languages of New Caledonia

Extreme North, North, and Center

Language	Primary Town	1976 Census	1982 Estimate
Yuaga	Gomen	1660	
Yâlayu	Ouegoa	1215	4000
Kumak	Koumac	730	
Caac	Pouébo	625	690
Paicî	Poindimié	4595	5055
Cèmuhî	Touho	2000	2200
Jawé	Hienghène	780	
Nemi	Hienghène	470	
Fwâi	Hienghène	900	2500
Pijé	Hienghène	80	
Vamale	Hienghène	100	
Voh-Kone Dialects including Pwâpwâ and Pwaamei	Kone	1165	1300

South and Extreme South

Language	Primary Town	1976 Census	1982 Estimate
Ajië	Houailou	4200	4650
Arhâ	Poya	250	350 or fewer
Arhö	Poya	est. 10–100	
Orowé	Bourail	625	
Neku/Zirë	Bourail	200	1800
Tîrî & Mea	Bourail	800	
Xârâcùù	Canala	2950	3250
Xârâgùré	Thio	815	900
Drubéa	Païta	1180	1300
Numèè	Noumea	1600	1800

Table 1. The Languages of New Caledonia (cont.)

Loyalty Islands

Language	Island	1983 Census
Nengone	Mare	4570
Drehu	Lifou	7900
Iaai	Ouvéa	1560
West Ouvean	Ouvéa	1120

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3
Study Methodology

Obtaining reliable sociological data is a complex affair since human behavior is in itself a highly complex and somewhat sensitive area of research. In order to obtain foundational sociolinguistic data for this study, two complementary kinds of procedures were used: interviews and aural comprehension tests. This chapter explains the questionnaires used to conduct the interviews and the aural comprehension tests. It also provides information concerning the villages visited in the course of the study and the subjects who participated in the research.

Questionnaires. Interviews were used to obtain facts and opinions from a representative sampling of respondents. These interviews were conducted using questionnaires, which, for ease of elicitation, were administered in two parts: the communal questionnaire and the individual questionnaire.

The starting point in the preparation of the sociolinguistic questionnaires was material from previous investigations (Schooling 1981, Schooling and Schooling 1988). This material was supplemented by information from published articles that dealt with factors that had been relevant elsewhere (see References). Then, in the course of preliminary visits to all parts of the survey area, hypotheses were formed as to which factors were relevant in New Caledonia. This was done so that the maximum number of pertinent questions could be included in the questionnaires.

A pilot study with the questionnaires was carried out with the help of forty people from different parts of the survey area in order to test the

questionnaires for relevance and clarity. This pilot study resulted in some modification of the content and format.

As their names suggest, the communal questionnaires were used to elicit information that was true of communities, while the individual questionnaires were used to elicit information from individual respondents about themselves. The questions on the former questionnaire were not rigorously designed; rather, they were intended to be springboards of discussion, in which in the course of informal conversation the desired information was obtained. This questionnaire was usually used near the beginning of a visit with a community leader so that there would be time afterwards to verify the information and clarify uncertainties during the remainder of the visit. On average, four days were spent in those villages where the full range of testing was done, this being in addition to the time spent during the preliminary visits. Some of the information collected from the communal questionnaires was designed to be corroborated by information obtained from the individual questionnaires, thus providing a double-check on certain kinds of information. This double-check capacity also meant that communal questionnaires could be used with greater confidence in those places where there was neither time nor opportunity to elicit the full range of responses.

Individual questionnaires go into much more detail concerning language usage and self-evaluation of ability and attitudes. In the majority of cases, the questionnaires were completed by the investigator in discussion with the respondents, but in some cases, especially in the case of young people, the respondents completed their questionnaires themselves. French was normally used as the language of communication, but in a few cases, particularly with older people, the questions were explained in the mother tongue, with the answers being translated back into French by an assistant from the community.[1]

Aural comprehension tests. The second procedure involved preparation of aural comprehension test materials to obtain more objective information. This procedure was designed to discover the extent to which Melanesians living in rural communities actually understand spoken French and thus to provide insight into how much they can use, and benefit from, what is already available to them in French, including printed materials.

At first sight, there appears to be a discrepancy between the ultimate aim of assessing the need for printed literature and the procedure actually used to test comprehension of spoken language. Ideally, it would have been valuable to test comprehension of both spoken and written French, and this was in the original plan until practical considerations demanded

[1]See Appendix A for examples of the questionnaires.

some limitation. The problem with testing the comprehension of written material is that such testing introduces a number of extra variables into the procedure that are difficult to control. For example, in addition to testing comprehension, one is also testing how well a person has learned the technique of reading. Even today, at least 16% of Melanesians claim to be unable to read, and there may actually be more (Coulon 1982); thus these persons would be effectively excluded from a written comprehension test. Also one is testing respondents' eyesight (a real problem for older people), respondents' ability to use and extract information from written materials, and the consequent attitudes people have towards such materials. Our experience in Papua New Guinea (Schooling and Schooling 1979) has shown that people from cultures with no written literature have difficulty in using and learning from materials written in another language.

The advantage of testing aural comprehension is that, unlike the skill of reading, which is used intermittently, it is a skill everyone uses all the time in at least one language. Also such testing demands nothing more of a respondent than willingness to listen to a cassette tape for a short period. In addition, it is reasonable to suppose that a person who understands a language as it is spoken will also understand it in writing (providing he is literate). The contrary, however, is not always true, as is confirmed by the experience of high-school students who learn languages from books but cannot speak the languages. For these reasons, then, the survey procedures concentrated on testing the aural comprehension of French.

The basic procedure for preparing and administering the comprehension tests is described by Casad (1974) and L. Simons (1977). Three stories, each two to three minutes long, were selected and read in French onto an audiocassette by a male Melanesian.[2]

The stories were recorded by a Melanesian speaker of French rather than a European speaker of French for the following reasons: (1) most rural primary school teachers are now Melanesians; (2) many radio announcers are Melanesian; and (3) all the Protestant pastors are Melanesian, as are the Roman Catholic catechists. In their contact with French, Melanesians have more social interaction with other Melanesians than with Europeans; thus it was considered that rural Melanesians would be more accustomed to hearing French spoken by a Melanesian than by a European.

The first story in the tests was a narrative of the type that might be found in a newspaper, since this type of literature is the most familiar to the largest number of people. The second and third stories were also narratives, but of a religious nature, since they were taken from a French version of the New Testament that is noted for its modern language and

[2]See Schooling 1982 for examples of the comprehension tests.

simple vocabulary. The first of these religious narratives was straightforward, but the second was more difficult in that it also included some complex theological and abstract concepts. A potential disadvantage in using such texts is that people might already be quite familiar with them; yet experience has demonstrated, both in previous surveys and in this one, that previous knowledge does not significantly affect the final scores. It was found that when a person did not understand the story as he heard it and tried from previous knowledge to guess the answers to the questions, he was not able correctly to correlate his knowledge with the questions asked, and thus his score was no higher than if he had attempted no answer at all.

For each story a set of ten questions was devised, and each question was designed to test a respondent's comprehension of a particular section of the text. These questions, recorded in French, were edited into the recording of the story immediately after the relevant section of text. Thus, for any given test a respondent would listen section by section to the test tape and would hear a part of the story and the question relating to what he had just heard. In the interest of clarity, different voices (one male and one female) were used for recording the stories and the questions.

According to the literature consulted, the questions used in intelligibility testing should be in the respondents' mother tongue in order to avoid the possibility that they might misunderstand the question (an extra unwanted variable). Also, as far as possible, the language of wider communication used by the investigator should be excluded from the test procedure. Nonetheless, it was decided to record the questions in French for the following reasons:

(1) In this particular case it was in fact comprehension of the language of wider communication that was being tested; therefore, far from being excluded, French was already an integral part of the test.

(2) If a person could not answer because he had not understood the question, it meant that at some point he had not understood French and the loss of a point was both legitimate and justifiable.

(3) Development in New Caledonia and the availability of education is such that it was felt that the level of French used in the questions would not cause much difficulty to most people. This was found to be the case in practice.

(4) Before the decision to record questions in French was finally implemented, a pilot test was conducted at the first test point

> (Tiabet). There, half the respondents (twelve people) heard the questions in French, and the other half heard them in the local language. It was found that the scores were comparable regardless of the language of the questions, so it was decided to use French alone for the rest of the survey.

In a few cases, a respondent's ability in French was so poor that the test procedure had to be explained in the vernacular. For them, the questions in French did cause difficulty; therefore, to help them and to give them extra confidence, the questions were translated orally into the vernacular by an assistant as required. In these cases, however, the respondents understood so little of what they heard that their final scores were very low regardless of the help given. If there had been any effect at all, it would have inflated the final score.

The questions varied in difficulty, but the answer was always to be found in the immediately preceding section of text, and it never required any background knowledge or ability to make deductions. Yes/No questions were avoided because the chances are too high that a guess may be correct. Why? and How? questions were also avoided because experience has shown that respondents often have conceptual difficulties with such questions that are not necessarily related to comprehension (Schooling and Schooling 1979, 1988, and L. Simons 1977). In order to reduce the possibility that poorly-conceived or poorly-worded questions might produce unrealistically low scores, the questions were tested in advance for clarity and relevance with both Melanesians and European native speakers of French.

The tape was stopped after each question, and the respondent was given time to answer. The answer was normally given in French—not a difficult task, if the story had been understood, since it basically involved repeating words that had just been heard. If a person desired, however, he could give the answer in his mother tongue, which was then translated into French by a local assistant. All answers were immediately written down in full in French to facilitate consistent scoring and double-checking.

A score of one was given if the respondent correctly answered the question with words from the text, or if he supplied a correct alternative answer. Where only one part of the answer was given to a question requiring two or more items of specific information, only half a point was awarded.

A procedure known as shaping was used to ensure that the respondent understood the test technique. This involved spending extra time and effort on the first question of the first story, with the section of text being repeated if necessary. A full point was awarded to everyone who eventually gave a

correct answer. If subsequently a respondent asked for a section to be repeated (this was not done automatically), the request was granted, but a half point was automatically deducted from his final score for that question. This deduction was intended to reflect that the respondent had not fully understood the passage the first time and, therefore, that his competence was presumed to be not as great as that of someone who could answer after hearing the tape only once.

In the course of listening to three stories, each respondent had opportunity to answer thirty questions. An average score was obtained by calculating the total score and dividing by thirty, which gives a quantitative indication of how much the respondent understood of the texts he had listened to. An average score for each test point was obtained by adding the individual average scores and dividing by the number of people tested. This figure gives an indication of how much French a representative sample of the population of that particular community understands.

If it be found that French is inadequate for all possible communication or literary needs, a secondary question arises, namely, whether literature in one Melanesian language could be conveniently used by speakers of a related language. In order to obtain an answer to this latter question, opinions were elicited concerning the degree of mutual intelligibility between related or geographically adjacent languages. In addition, speakers of two of the languages of the Extreme North region were tested to determine the extent of their comprehension of the third language of that grouping. For the achievement of this goal a story was recorded in Nenema, the northern variety of the Kumak language as it is spoken at Tiabet, along with a series of comprehension questions as described above. The Nenema test was used at Tiabet as a control to check for ambiguities or any other unforeseen difficulties. This test tape was then used at Arama and Paita in order to quantify how much Nenema is understood by the speakers of those two neighboring languages.

Villages visited. The two methodologies described above have the virtue of producing quantitative statistical results. Statistics are of value, however, only if the sample of persons interviewed is representative of the population as a whole. Ideally, the interviews and tests should have been conducted in representative communities throughout New Caledonia, but for very practical reasons this was not possible. Further, it was not possible to know a priori what constituted a representative community. All that can be done under such circumstances is to act on available information, include as many controls as possible, and note where the data may not have been obtained from a reasonably representative sample.

It was known from the start that the town of Noumea is a large, cosmopolitan area where people from different ethnic groups speaking different

languages all live in close proximity to one another. Given this fact, plus the fact that Noumea is the home of the majority of Europeans for whom French is their mother tongue, it was assumed that the highest level of proficiency of French would be found in Noumea and in the communities geographically adjacent. For this reason, the interviewing and testing was conducted in the north and on the east coast of the main island, regions which are at the greatest geographical distance from Noumea. In the following paragraphs, the various steps taken to ensure a representative sampling of respondents are described.

The primary aim was to visit at least two Melanesian villages in each of the major language areas of the northern half of the main island and to investigate them in as much detail as time and opportunity permitted in order to ascertain the needs of at least those specific communities. A list of the villages visited and their abbreviated codes is to be found in Table 2, with their locations indicated on Map 2. On the map, the European communities are indicated in upper case lettering, while the Melanesian villages are marked by lower case lettering.

In addition to the places mentioned in Table 2, the following places were visited in the course of the original data collection: Ticht near Poum; Boyen, Ouélis, Oundjo, and Tieta near Voh; Tchamba near Ponérihouen; and Yambé and Hienghéne on the northeast coast. At Balade most of the work was conducted in the hamlet of St. Denis, but Ste. Marie, St. Gabriel, and St. Paul were also visited. The information for the community questionnaires for Tiari and Belep was obtained from residents of those places who were in transit at Pouébo and Balade, respectively.

Where more than one village was surveyed in a particular language area, the second community was selected with a view to obtaining a range of linguistic and sociocultural diversity. If the first village was situated on a main road or was near a European community, for example, then the second was more isolated and some distance from any European community. In addition, the second community was always a considerable geographical distance from the first and, where different varieties of the same language were known to exist, in a different dialect area.

Communal questionnaires were also completed for additional villages in each language area, thus making the data base even broader.

At the time the data were collected it was only assumed, rather than asserted, that the villages visited were representative of the language area as a whole, but on the basis of data gathered by the communal questionnaires, brief visits to a variety of villages, and a growing awareness of the sociolinguistic situation in general, this assumption is considered to be highly reasonable. Furthermore, after three years residence in New Caledonia, I consider it highly probable that similar results would be

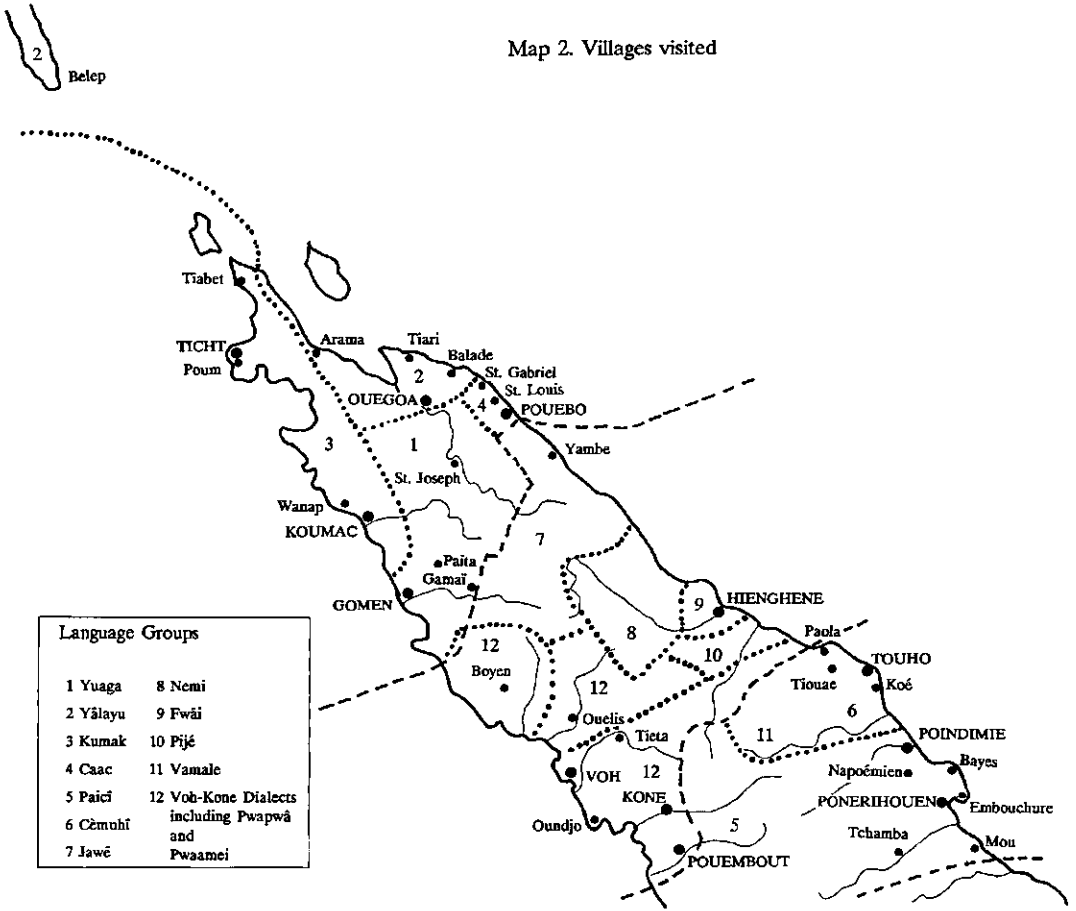
Table 2. List of Villages Visited

Languages	Villages	Code	Questionnaire Comm.	Questionnaire Indiv.	Comprehension Test
Kumak	Tiabet	TIA	X	X	X
	Wanap	WAN	X		
Yuaga	Paita	PAI	X	X	X
	Gamaï	GAM	X		
	St. Joseph	StJ	X		
Yâlayu	Arama	ARA	X	X	X
	Balade	BAL	X	X	X
	Tiari	TRI	X		
	Belep	BEL	X		
Caac	St. Louis	POU	X	X	X
	St. Gabriel	StG	X		
Cèmuhî	Paola	PAO	X	X	X
	Koé	KOE	X	X	X
	Tiouae	TIW	X		
Paicî	Napoémien	NAP	X	X	X
	Mou	MOU	X	X	X
	Bayes	BAY	X		
	Embouchure	EMB	X		

obtained in any rural Melanesian community in virtually any part of these islands.

Subjects. In each village, the aim was to test as many people over fourteen years of age as possible. In the case of the individual questionnaire, the highest proportion tested was 75% of the adult population (Tiabet) and the lowest was 13% (Paola), with an overall average of 30%. For the intelligibility tests, the highest proportion was 45% (Tiabet) and the lowest was 10% (Paita and Koe), with an average of nearly 20%. Particular difficulty in finding suitable, willing participants was experienced at both Paola and Balade. Thus at Paola only 3% of the population (four people) participated in the testing. Nonetheless, the information gathered was of considerable interest, even if the sample was not representative of the whole population. The various characteristics of the survey and the

Map 2. Villages visited



results pertaining to these two places are noted at relevant points in later chapters.

In an attempt to make the testing samples representative of the total population of the villages concerned, respondents were selected according to sex and age range, so that the resulting proportions matched those of the population as a whole. In addition, for the comprehension tests, an attempt was made to test people according to a verifiable scale of language ability. This procedure was carried out by taking the respondents' answers to the question on the sociolinguistic questionnaire that requires self-evaluation of one's ability in understanding French and computing the percentage for each of the three answers ("I understand a little, about a half, or all of what I hear"). Then, in the actual comprehension testing, people were tested in the same proportions. Thus, if 50% claimed to understand half of what they heard, then 50% of the people who took the comprehension test were those who had made this claim, and the same for the percentages computed for the other answers. It is well known that self-evaluations of language ability cannot usually be taken at face value since people often express their aspirations or some other emotive factor rather than any scientific appraisal of their ability. This study was no exception, although it is our opinion that those who underestimated and those who overestimated their ability cancelled each other out. In any case, in the absence of any other method of taking account of language ability in comprehension testing, the method described seemed to be a very convenient and useful means of making some discrimination possible.

It is clearly impossible with such small populations and so many control factors to get a sample that is representative in all regards. A fairly close approximation was attained in most cases, but the most attention was given to the proportions for the comprehension tests which, it was felt, should be the most rigorously controlled.

Summary of the survey sample. The following is a summary of the salient points concerning the samples obtained.[3]

According to the 1976 census statistics, the proportion of males to females in New Caledonia as a whole is 53% males to 47% females. In our testing, the proportions for the total of all respondents by sex were as follows: 52% males to 48% females for the sociolinguistic questionnaire and 59% males to 41% females for the intelligibility tests. In the latter case, the imbalance of males was due to the difficulty of persuading females to take the tests. Although it was usually possible to complete a

[3]More detailed figures are given in Appendix B.

questionnaire for females, even if it entailed using the help of a third party, many were still too reticent to try the tests.

The target population by age was the adult population over fourteen years of age. Primary school children were excluded since they often respond poorly in test situations. In addition, the primary school is where most Melanesians of the present generation learn French. Consequently, it was decided to test only those people who shared the same foundation of seven to ten years exposure to French within the school system.

On the basis of census figures, it was calculated that 50% of the target population would be between fifteen and twenty-nine years of age, 33% would be thirty to forty-nine years of age, and 17% would be fifty years of age or over.

For the individual questionnaire, due to difficulty in finding respondents, the figures for Balade are not representative with regard to age and sex. For the remaining eight test points, it was found that the proportions by age and sex of the respondents in six of them came to within 6% of the control proportions of the population as a whole. Paita had an above-average number of persons over fifty (25%), while Mou had an above-average number of young people (63%).

In the case of the comprehension tests, the people tested at Balade and Paola were not representative of the total population. Six of the remaining seven test points had a discrepancy of 6% or less. At Napomien only 7% of the respondents were over fifty; however, since there were very few old people still living at Napomien and, according to a count made by local people, those over fifty actually constituted only 7% of the total population (5 out of 68). In this case the sample was, in fact, representative.

Overall, proportionately more young people than older people were tested. This disproportion had the effect of inflating the scores, as the young people generally did better on the intelligibility tests than older ones.

For the linguistic ability control, Balade and Paola were again not representative, and Arama also had quite a large discrepancy between the proportions of people tested and the control proportions (an aggregate of 17%). For the rest, the aggregate discrepancy between the proportions tested and the proportions derived from the sociolinguistic questionnaire was 8% or less. Overall, proportionally more people with good ability in French were tested than people with poor ability. It seems that the reason for this was simply that those poor in French were much less willing to make their lack of ability public by taking the test. This again had the effect of slightly inflating the scores.

Place of residence was another control that helped ensure that unpredictable variables were avoided. The only people interviewed and tested were

those who were normally resident in the immediate vicinity of the test point or had permanent ties with that community through birth, upbringing, or marriage. People originally from outside the language area and who were only temporary residents in the community (e.g., pastors and teachers) were excluded.

The question arose concerning women born outside the language area in question, but who were now permanent members of the community through marriage. Finally, two such women were included as they had been permanent residents of their communities for more than ten years. In cases where these women's opinions regarding the need for literature in their mother tongue was irrelevant, their answers to the particular questions were not included in the final score. In the intelligibility testing, however, since ability in French rather than ability in the local vernacular was the subject of investigation, their scores were regarded as relevant. In addition, it was felt that these women's experience was pertinent to the aims of the investigation because not only was their experience and social interaction since marriage identical with that of their peers in their present place of residence but also their childhood experiences relative to French (e.g., in school) were probably comparable to those of their present peers.

The question of religious affiliation did not affect the sampling procedures. This was because, for most of the villages visited, the communities were either solidly Roman Catholic or solidly Protestant. This fact and any exceptions are noted in the discussion of the results in the following chapters.

The results of all the specific interviewing and testing described above were buttressed, double-checked, and corroborated by continuing observation, visits to various other villages, and dozens of informal conversations over a period of three years following the time of the initial collection of data.

4

Comprehension of French and Other Languages

The 1983 census (Institut National de la Statistique et de Etudes Economiques 1983:86) indicates that 97% of all Melanesians (excluding those under five years of age) claim to be able to speak French. Clearly, it is one thing to make such a claim, but quite another to understand what such a claim implies. The comprehension tests described in chapter 3 were designed with the specific aim of quantifying the level of comprehension of French among rural Melanesians and thereby presenting a clearer understanding of the extent to which they are able to profit from this linguistic skill. The only skill actually tested was that of aural comprehension since it is assumed that this is the base skill which necessarily precedes and usually outstrips the skill of speaking as well as the skills of reading and writing. In Europe and America, of course, learning a second language in school usually produces the opposite result, with aural comprehension lagging behind reading and writing skills. It must be remembered, however, that a Melanesian child is not taught French as a second language, as it would be taught in an anglophone high school, but rather he *picks it up* as he listens to the teacher presenting the material on all the subjects that are normally taught in classes for children six to ten years old.

The comprehension test results are presented in terms of percentages. Table 3 lists the raw averages by age group and test point.

Table 3. Average Percentage of French Understood

Test Point	Under 30	Over 30	Total Age Range
TIABET	72%	55%	65%
PAITA	57%	40%	48%
ARAMA	55%	65%	60%
BALADE	70%	54%	60%
POUEBO	53%	49%	50%
PAOLA	53%	—	53%
KOE	67%	48%	58%
NAPOEMIEN	68%	32%	50%
MOU	58%	40%	50%
Ave. All Test Points	61%	48%	55%

Skewed data. There were a number of reasons why some of the raw scores were considered to be less than adequately representative of the community in question or else were not comparable with equivalent scores from other test points. The details are set out in the following paragraphs as are the procedures used for calculating the estimated scores. The latter were designed to eliminate, or compensate for, the variable in question and thus produce a score which is more realistic for the community as a whole. The test points concerned are Tiabet, Arama, Paola, and Koe.

Tiabet and Arama. Data were collected at Tiabet and Arama during the school holiday period; therefore, the sample included some young people who had been away from home pursuing secondary education and who may or may not return permanently to the community. The sample also included one or two other people who were visiting their home but who had not spent much time there since their teenage years. This was not the case elsewhere, so the sample, particularly for those under thirty, is not strictly comparable with that for the other test points.

The figures in Table 3 indicate that Arama is unique in that those over thirty scored higher than those under thirty. One reason for this may have been that the community leader, who selected most of the respondents, especially those in the over-thirty age group, picked those whom he felt were best able to communicate with the investigator in French. The older age group included two former schoolteachers, a former government employee, and the chief himself. It seems likely then that the respondents tested in the over-thirty age group were not representative of the rest of that age group as a whole, who would have on average a lesser ability in French. In order to

compensate somewhat for this imbalance, the highest score from among those over thirty was excluded from the estimated score, as well as the score of those people who were not truly permanent residents of the test point. The averages were recalculated after these unrepresentative scores were excluded, and these revised figures constitute what are called the estimated scores, as listed in Table 4.

Paola. Very few respondents were available at Paola. Only four people (all thirty years of age or under) were found who were willing to listen to the test tapes. Two of the four were men, of whom one had secondary education and often went on trips outside of the area, which he claimed was not the norm for members of his community. The other man appeared to be the only man his age to be actively involved in the church. Both men claimed to understand everything that they heard in French, and they did have relatively high scores in the tests (82% and 63%). However, they still had some difficulty in expressing themselves in French. They claimed that there was no one besides themselves who knew French well enough to make a contribution. This claim is supported to a large extent by the self-evaluations obtained by use of the sociolinguistic questionnaire at Paola. Only 12% claimed to understand everything, while 38% claimed to understand only a little. This contrasts with the average of all test sites, in which 23% of the population claimed to understand everything, and 18% claimed to understand only a little of what they heard in French.

The other two respondents at Paola were women. Of these, one scored 10% on the three stories, and the other scored 56%. The latter score is probably inflated, however, as the respondent admitted that her husband had told her the content of the stories in advance. This explains why she did considerably better on the first story, which presumably she remembered in more detail.

On the basis of these scores and the information obtained about the rest of the population, an estimated score was calculated for the total population aged fourteen to thirty years, which came to an average of 45% as against 53% for the four people tested. The calculations for the estimated score were based on the self-evaluation scores given in the sociolinguistic questionnaires. For Paola, 50% of those interviewed claimed to understand 50% of what they hear, 38% claimed to understand only "a little," and 12% claimed to understand "all that they hear." On this basis, then, half of the population of Paola in the age range of fourteen to thirty years were assigned a score of 50%, and 38% of the population were assigned a score of 33%, which is the average of the two lowest scores. Of the remaining 12%, 6% were assigned a score of 72%, which is the average score of the two men tested, and 6% were assigned a score of 56%, which

is the highest score obtained by the two women tested. The aggregate estimated score obtained from these figures is 46% comprehension. It should be noted, furthermore, that these figures refer only to the population under thirty years of age.

Koe. Despite a very good local assistant, only a relatively small number of people, especially from among the young people, were willing to participate in the testing procedures at Koe. All those willing were tested, and then no more work could be done because of lack of helpers. In commenting on this problem, the local assistant remarked that nearly all the young people who had been tested had attended youth camps, had helped with children's activities, and were used to speaking in public and to thinking and expressing themselves in French, whereas the two reticent respondents hardly ever went out of the village and did not involve themselves in activities where they had to use French. This observation made it clear that, despite the good control percentages, the sample tested was not in fact representative of the whole population. Consequently, the estimated score calculated for the under-thirty age group was 57% (compared to 67%) for this age group and 53% (compared to 58%) for the total age range. The score for Koe was estimated in the following way: the average for the six young people who were considered (by local opinion) to be *good* at French was 70% by actual testing. Take these six and add 150% to ensure that the number of competent people is not underestimated. Thus, fifteen young people had a score of 70%.

One of the respondents who was not so competent had an average score of 53%. On the assumption that he is typical of the other less competent members of the age group, the remaining fifty young people were assigned a score of 53%. This gives an average of 57% for the sixty-five people in the fourteen to thirty age group and an average of 53% for the whole age range.

The estimated scores are listed in Table 4, with the raw scores from Table 3 given in parenthesis.

Other test points. In addition to the situations at Tiabet, Arama, Paola, and Koe, the data gathered at Balade are also considerably less representative of the total population than those gathered at the other test points. The sample of respondents at Balade was lacking in that there were not enough women and young people. Since insufficient additional information was obtained to enable a reliable estimate to be made for the population as a whole, the raw scores could not be amended. However, some points of a qualitative nature can be made in order to qualify the quantitative scores.

Table 4. Estimated Scores for Comprehension Tests

	Under 30	Over 30	Total Age Range
TIABET	66% (72%)+	52% (55%)	56% (65%)
ARAMA	47% (55%)	60% (65%)	54% (60%)
PAOLA	46% (53%)	—	—
KOE	57% (67%)	— (48%)	53% (58%)
Average Totals*	58%	47%	52%

+Parentheses indicate raw scores
*Average totals for all test points using estimated scores

The main point is that, as elsewhere, most of those tested at Balade were certainly some of the most cosmopolitan, confident, and articulate members of the community, that is, they were people who had considerable contact with outsiders and considerable opportunity to hear and speak French. Other members of the community were approached to request their help with the survey, but they were too reticent. Although no reason was given in these cases, we found that, in general, the usual reason for such reticence was that the person concerned lacked confidence in speaking French with an outsider.

As evidence to support the assertion that only the most articulate were tested, the following is submitted. Of the two people tested in the over fifty age group, one was a catechist who had considerable contact with French. However, his ability in French was considered by local people to be exceptional for a man of his age. In the course of the survey, no more than 33% claimed to understand everything they heard in French. On this basis, it is apparent that at Balade an above-average number (38%) of people who were competent in French were tested.

The main purpose, and value, of this critique of the quantitative scores is to indicate that those raw test scores which are skewed in some way are almost certainly higher than they would have been had the population sample been truly representative of the population as a whole.

Interpretation of the data. With the details of how the raw statistics were obtained out of the way, it is necessary to start trying to understand what they really mean. In other words, what are the implications of these statistics? What does it mean to say that Melanesians living in the rural villages of New Caledonia understand on average about half of what they hear when French is the medium of communication?

First, what are the implications for effective communication? Casad (1974:53-66) cites a number of studies which place the threshold for minimum effective communication between related dialects of the same language at a level which is often higher, but never lower, than an average comprehension level of 70%. Referring to studies comparing varieties of the same language, he states that this threshold marks the minimum level of communication. The present study, however, involves two completely different languages, French and languages indigenous to Melanesia, languages with extremely different cultural underpinnings. Thus, with 76% of those tested having only an average comprehension level less than 75% (see below), and the overall average being little more than 50% comprehension, it is clear that comprehension of French in the rural area is, at best, only minimal, and, for a considerable proportion of the population, it would not even reach Casad's minimum threshold for effective comprehension.

Second, what are the implications concerning the proportion of the population for whom communication in French has only minimal effectiveness? An average score is a statistical convenience which is widely used and has the advantage of providing a single global result to represent a unified series of data which may contain any number of individual results. The criticism that can be leveled against the use of averages, however, is that, by its very nature, an average masks both the range and any bunching or spread of the individual results. To compensate for this lack, the raw statistics can be set out in another form.

In Table 5 each respondent's score is graphically displayed for each test point. The chart's vertical line consists of numbers representing the ten's digit of a percentile score. Ten, at the top of the chart, indicates 100% comprehension, while zero, at the bottom of the chart, indicates 0% comprehension. The numbers to the right of the colon indicate individual scores of the percentile level. Thus, 8:12444 indicates five scores in the 80 percentile: 81, 82, 84, 84, and 84.[4]

The display clearly indicates the range and spread of the individual scores. It can be seen that very few people scored 80% or above, and likewise relatively few scored below 40%. The majority of respondents are grouped together in the middle range between 40% and 75%. This *pot-bellied* curve, which is consistent throughout all the displays in Table 5, contrasts sharply with the curve of the display in Table 6,[5] which displays comprehension scores for a mother-tongue language.

Table 6 sets out the scores for the people of Tiabet that were obtained when they were tested on comprehension of their mother-tongue (Nenema).

[4]See Appendix C for a thorough discussion of this study's statistics.

[5]The displays in these tables were contributed by Peter Wild. See also Appendix C.

Table 5. Individual Comprehension Test Scores (%) for French

1 Tiabet	2 Paita	3 Arama	4 Balade	5 Pouebo
10:	10:	10:	10:	10:
9:	9:	9:3	9:	9:
8:1 2 4 4 4	8:	8:2	8:1	8:
7:1 2 4 7 9	7:1 3	7:0 3 4 5	7:4 4 9 9	7:0
6:3 7 8 8 8 8	6:1 6	6:4 6	6:	6:0 3 6 9
5:1 2 5	5:4 4	5:	5:2	5:1 5 5
4:5 7 8	4:2	4:7	4:	4:4 6 9
3:0	3:2 2 4 8	3:1 7	3:9	3:4 8
2:6	2:	2:	2:	2:7
1:	1:8	1:3	1:	1:
0:	0:	0:	0:3	0:

6 Paola	7 Koe	8 Napoemien	9 Mou
10:	10:	10:	10:
9:	9:	9:	9:
8: 2	8: 1	8: 5 7	8:
7:	7: 1 3 6 6 7	7: 2 9	7: 0 6
6: 3	6: 3 6	6: 0 1 5 8 9	6: 4 9
5: 6	5: 0 3	5:	5: 1 1
4:	4: 4	4:	4: 9
3:	3:	3:	3:
2:	2: 6 6	2: 3	2:
1: 0	1:	1: 9	1: 4 8 8 9
0:	0:	0: 0 0 8	0:

A similar set of scores was also obtained for mother-tongue French speakers who listened to the French test tapes. This table graphically illustrates what would be expected: people consistently score close to 100%, without any exceptions, when tested on the comprehension of their mother tongue. Rural Melanesians, however, are clearly not in this category when it comes to understanding French, as the very different picture represented by Table 5 illustrates.

At any given test point, it was common to find one or two people who appeared to be able to understand and converse in French without any great difficulty. Such people were able to understand fairly complex instructions and explain them to others, often by translating them into the local vernacular. As would be expected, such people obtained the highest scores for their community in the tests themselves, although none of them scored 100%, as will be noted below. It was also discovered, however, that those who were truly

Table 6. Individual Comprehension Test Scores (%) for the Mother-Tongue Language Nenema

Tiabet

10: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
9: 0 0 0 5
8:
7:
6:
5:
4:
3:
2:
1:
0:

competent in French rarely returned to live permanently in their home villages. That they were competent in French went hand in hand with other skills, which meant that they were the kind of individuals who were coping adequately in the European cultural environment of Noumea and other European settlements and who were competing successfully in the job market. Such people accounted for 3% of those tested, but they would represent an even smaller percentage of the population of the community as a whole.

Conversely, there were also present in every community those who had hardly any command of French at all apart from a few dozen words. Any verbal communication with such people in French was almost impossible. Most people in this category were older women, but there were also a few young people as well who had poor skills in French. Not surprisingly, very few such people agreed to subject themselves to the comprehension tests, and so it is not possible to do more than guess at what percentage of the population they represent.

Naturally enough, the majority of the population falls between these two extremes. Twenty percent of those tested scored between 75% and 90% on the tests, 36% scored between 50% and 74%, while 40% of those tested scored less than 50%.

Qualltatlve data. In what other ways should the implications of the quantitative scores be refined and interpreted? To say that Melanesians understand 50% of what they hear is primarily a quantitative statement. It relates to the amount of information that is correctly transmitted when French is the medium of communication. Taken alone, it only communicates a bare minimum of information to the researcher. However, the bare

bones of this quantitative information can be made more meaningful and complete by taking into account complementary qualitative information.

In discussing the advantages and disadvantages of quantitative and qualitative scoring techniques, G. F. Simons makes the following observation:

> Both quantitative and qualitative scores have their advantages and thus we might do best to record both. After an investigator has finished gathering quantitative results on a test, he could make a qualitative judgment concerning the degree of understanding. These judgments would be used in the analysis stage to give meaning to the percent scores for the sake of interpretation (1979:24).

The estimated scores already discussed are one means of bringing a qualitative dimension to raw quantitative scores. The estimated adjustments are deemed necessary because other qualitative assessments from respondents indicate that the raw scores do not accurately represent the total population of a particular test point. In addition, formulas used to compute estimated scores depend on qualitative as well as statistical information.

In the following paragraphs, a discussion of other factors and observations, which are essentially qualitative in nature, is presented in order to facilitate a more complete and accurate interpretation of the quantitative results.

The success of any kind of data collection depends a great deal on the caliber of the people available to assist the investigator in each place. The people who assisted in the present investigation were in many cases quite cosmopolitan and well educated. One had a bachelor's degree; another had had higher education in France; others were high school students, teachers, or chiefs active in politics and administration. Yet despite the qualifications of some of these people, nobody in the course of the whole investigation scored 100% in the intelligibility tests. Two obtained 93% and one 85%, but the rest were in the low 80s and high 70s and below. In addition, none of the respondents was relaxed in listening to the tapes. Instead, there was a great deal of effort and concentration, and even for those one might have considered fluent in French, it seemed as if the tests were hard work. This is in sharp contrast with the mother tongue French speakers who also listened to the tapes. These scored an average of 98% without any difficulty or strain. On the contrary, they were distracted by the content of the stories and were so busy laughing and talking about them that they gave the answers to the questions only as a kind of absentminded afterthought. The point highlighted by this observation is that information is communicated in a much more automatic and relaxed manner in the mother tongue, so that the mind has the ability to analyze and digest the information even as it is being heard to an extent that is

never quite the same when a second language, however well known, is being used.

From the figures given in Table 4, it can be seen that, on average, people understood approximately 50% of what they heard when listening to the tapes. It should be noted, however, that what they did understand, naturally enough, were the straightforward, easy parts of a story which do not, in general, carry a great deal of strategic semantic load. Conversely, the parts they did not understand were often crucial to understanding the point of a story.

The first test story, for example, concerns a young woman whose chronic sickness was caused by two objects, one of which was a plastic key from a child's toy lodged in her digestive tract. Those two objects were the subject of the first two comprehension questions, and if this first section was not understood, then what followed did not make much sense, and some respondents were obviously still quite baffled at the end. If the section was partially understood, then the story made some sense, but the real point often did not become clear until the very end of the story. It is of great interest to note, therefore, that of all the people tested only two (ironically not the two who scored 93%) answered this question correctly. This is less than 2% of the total sample. Forty-four people (39%) were able to give a partial answer by naming one of the two objects, yet a third of these had to listen twice before being able to answer, and fewer than half assimilated the word *key*—the word which was particularly crucial to a full understanding of the subsequent sections of the story. A related point of interest is that many more people answered correctly the eighth question ("What did the doctors find?"), where the key was again the answer, but some still did not understand how it fitted into the story. This was made particularly clear when on more than one occasion the answer "the key to the illness" was given. This is remarkable, for in addition to hearing and repeating the relevant word which was the correct answer, these respondents had sufficiently good knowledge of French that they were aware of the metaphorical use of the word *key*. Yet at the same time they still missed the main point of the story as a whole.

The point here is that, even if a person has a fairly advanced technical ability in handling French words, it does not necessarily mean that his comprehension is sufficient to grasp even the main point of a straightforward story, let alone all the nuances.

The question arises as to whether the assimilation of symbolic or metaphorical language poses more difficulty than the comprehension of straightforward narrative. This is not in fact the case, for the test results at least do not clearly substantiate this supposition. In fact, a conscious decision was made at the beginning of the investigation to concentrate on testing the comprehension of

simple narrative text only on the assumption that comprehension of anything more complex would undoubtedly be poorer. With hindsight, that decision, which was made mainly for practical reasons, is regrettable, for it turns out that Melanesians appear to be quite skilled at manipulating symbolism and metaphor in their own languages and may, therefore, be more capable of handling symbolism in French than might otherwise be assumed. This decision to avoid metaphorical language, therefore, means that no reliable comparison can be made between comprehension of metaphorical language and comprehension of nonmetaphorical language.

One point that does seem to arise from the example cited above, however, is that at least some of the respondents had difficulty in distinguishing between what was intended to be symbolic language and what was not, with their Melanesian cultural background tending to make them assume, or look for, a symbolic meaning which was not originally intended by the author. This tendency is further exemplified by an older man at Napoemien. He was so convinced that there had to be more to the three stories he listened to than just the obvious meaning that he went to great lengths to develop a complex and very plausible symbolic meaning for the stories which explained why the investigator had undertaken this task. Of course, meaningful though it was, his symbolic interpretation was not in view when the test stories were prepared. On another occasion some older men declined to participate in the testing procedures, and later it was discovered that they thought they would be asked to *interpret* (i.e., explain the symbolic meaning of) the stories, and they were afraid that they would not understand enough to be able to do so.

A second point which arises out of the experiences with the comprehension tests, as exemplified above, is that the respondents had difficulty in distinguishing between information that was crucial to the comprehension of the story and that which was peripheral. In other words, they could not always, amid all the accompanying detail, see the main point of the story. Clearly, part of the cause of this was purely linguistic in that certain key words were not fully understood, but given the discussion in the preceding paragraphs, it is distinctly possible that cultural considerations also played a part in limiting comprehension. In particular, the question arises as to whether a person's cultural background causes him to have certain expectations when he listens to a story. Clearly, if what he expects to hear and understand does not match the intention of the author who, in the case of the test stories, came from a radically different cultural background, then some additional communication loss could well be expected.

Another qualitative factor which deserves comment is the age and education level of those who participated in the testing procedure. It can be seen from the scores in Table 3 that, with the exception of Arama, the scores for

those under thirty years of age is considerably higher than those for the older age group. This is not surprising considering that primary education started becoming widely available to Melanesians in the 1950s, but the question then arises as to whether or not the number of people competent in French is going to steadily grow until almost everyone has an adequate knowledge of French. This question will be discussed in the next chapter, but in the context of the present discussion of comprehension testing two points can be made.

First, it is true that more and more people are learning French in school, and, therefore, it is to be expected that the standard of comprehension of French should increase, at least to a certain point. The problem, however, is that when an educational system is the primary context for learning a skill, the skill can rapidly be lost in post-school years if there is little opportunity for maintaining it. This is particularly true of foreign-language skills. It is well known that such skills rapidly deteriorate with age if not regularly and fully used. This means that unless French is regularly and widely used by rural Melanesians the overall percentage of comprehension of French will probably not increase by any significant amount in the near future.

Second, the actual scores registered in the present investigation for young people who had completed primary school were not particularly high. Many teenagers participating in the investigation, having recently completed their education, scored only 50-60%. The highest average score registered was only 72%, and this included some who had pursued their education to secondary level. According to Casad (1974), this kind of average is not adequate for what is called "minimum effective communication." Experience in New Caledonia has shown that, even though the education system provides a basic knowledge of French, making it extremely useful as a lingua franca, the level of mutual comprehension drops rapidly when the conversation turns to discussion of deeper philosophical, religious, or other more complex and personal issues.

Self-evaluations of comprehension of a second language are also a valuable source of qualitative information if such evaluations are used with care. In one section of the sociolinguistic questionnaire, respondents were asked to evaluate whether they understood all, a half, or a little of what they hear when listening to French. Such an evaluation may express aspiration instead of ability and thus may not be 100% reliable. However, the impression we have gained in the course of our intelligibility testing is that those who underestimated their ability and those who overestimated it probably cancelled each other out, in which case the average figures obtained from this section probably give a fairly realistic picture of the actual situation.

Excluding Balade and Paola, where the samples were not representative, the combined average percentages for the other seven test-points are as follows: 23% of all respondents claimed to understand everything they heard, 59% claimed to understand approximately a half, and 18% claimed to understand only a little.

By allocating comprehension test scores to a hypothetical group of one hundred people according to these percentages, it is possible to translate these self-evaluations into a quantitative figure which is comparable with the actual test results. Thus, if a score of 75% (which is the mean between 100% and 50% and is also in line with scores actually obtained) is assigned to those (23 people) who claim to understand all that they hear, if a score of 50% is assigned to those (59 people) who claim to understand a half of what they hear, and if a score of 25% (the mean between 50% and 0%) is assigned to those (18 people) who claim to understand a little of what they hear, then the resulting average score for one hundred people is 51.25%. Thus, even by their own self-evaluations, rural Melanesians claim on average to understand only approximately 50% of what they hear spoken in French. This figure closely matches the average obtained by actual testing.

When the sociolinguistic questionnaire was being prepared, great care was taken to give respondents a realistic choice concerning their comprehension of French, yet without making the procedure too complicated. The purpose in this was to obtain, as far as is possible, an evaluation of actual practice rather than a reflection of the respondents' aspirations with regard to their ability in French. Sociolinguistic researchers have found that, if such questions are too general or the choice offered is too stark, aspiration rather than actual practice tends to predominate. Such is the case with the unqualified questions asked in the 1983 census, and a similar result occurred when a brief experiment was conducted in Noumea. In this experiment, some twenty Melanesians were simply asked whether they, their family and acquaintances, and their children knew French. Some knew the investigator and some did not, and some were residents of Noumea and some were not. In every case, and often with more than a hint of surprise, the answer was, "Of course, I and everyone else know French." To take such an evaluation at face value without further investigation would be misleading, as was demonstrated during a prolonged stay in the Melanesian village of Paita near Kaala-Gomen.

In Paita one person had a reputation for always speaking French. It was assumed at first, therefore, that whenever this person spoke, a French speaker would be able to understand what he said. A little experience and observation, however, aroused suspicions that there was a serious discrepancy between what people were reporting, or the assumption their

reports provoked, and reality. It was found that whenever this person interacted with other members of his community it was impossible for a francophone outsider to gather even the barest hint of what he was talking about.

Further observation and questioning resulted in the following picture. The person concerned was a pastor's son who had grown up away from his parents' home community. This meant that as a child he had only imperfectly learned his parents' language as he also learned the language of the region where he lived. When he returned as an adult to live in his parents' community, he had, in effect, to relearn his mother tongue. Thus, what he really had a reputation for was speaking the local language of his home area rather imperfectly. Whenever he could not think of the correct word to use in the local vernacular, he would substitute a French equivalent, with the result that his speech contained an above-average number of French words. Thus, his speaking the local language imperfectly combined with substituting an above-average number of French words was what local people meant when they said, "He speaks French." In passing, it can also be noted that this assessment was somewhat negative in its connotations.

This chapter has been an attempt to describe with as much precision as possible the degree to which rural Melanesians understand French. Contrary to popular reports and the impression given by some published statistics, their comprehension of French is not adequate for all possible needs and situations. In fact, for a majority of rural Melanesians, comprehension of even straightforward, factual narrative is notably deficient. It is clear from the comprehension tests that most Melanesians do not understand all that they hear. Furthermore, they do not even profit from what they do understand because they appear to have difficulty in distinguishing between what is crucial to full comprehension and what is peripheral. The result is a tendency to miss the main point of what is being communicated.

These conclusions should not be taken to mean that French has no value at all, for it does have its place and value as a language of wider communication. The purpose of this discussion, however, is both to draw attention to the fact that the French language does not adequately meet all the communication needs of rural Melanesians and to stimulate reflection on how this situation might be ameliorated.

Even so, this study is, in many ways, only a beginning. For to explain what it feels like to struggle with understanding a second language and to quantify how much people understand in such a situation is not easy to accomplish satisfactorily. Some questions have certainly been clarified, but new ones have also been raised. For example, it would be interesting to specifically compare comprehension of factual narrative and symbolic or metaphorical language. Further, the whole area of the effect that cultural

conditioning and expectation have on comprehension needs to be more thoroughly explored. These issues, and doubtless others, are areas which could bear further research.

Comprehension of a vernacular. Before leaving the study of comprehension ability, one further question needs to be addressed: if French is not adequately understood in the rural areas, what is the level of comprehension of other neighboring or linguistically related vernaculars? If French cannot meet all communication needs, would one vernacular be adequate for meeting all the communication needs of people living in a particular region which may encompass two or more different languages? In an attempt to answer this question, tests were made of the comprehension of one vernacular language in the northwest region of New Caledonia.

The languages of the Extreme North of New Caledonia—Kumak, Yalayu, and Yuaga—are not only geographically contiguous but also fairly close in linguistic relationship. The test story was recorded in the variety of the Kumak language which is spoken at Tiabet near Poum and which is known as Nenema. The recording was made by a thirty-year-old man who was known to have good control of his mother tongue. The story included only one French loan word apart from place names. Respondents at Tiabet were tested as a control point; then the story was used at Arama (Yalayu language) and Paita (Yuaga language) to test for comprehension.

At Tiabet twenty-three people were tested, and their overall average was 99%. Of the four people who scored less than 100%, three were over thirty years of age, and their failure to score 100% was probably due to the process of becoming accustomed to the test procedure. These scores also suggest that the young people still have a thorough knowledge of their mother tongue despite exposure to French in the education system.

Arama is situated approximately ten miles from Tiabet. The people who live there are Tiabet's nearest neighbors on the mainland, and historically there has been both considerable contact between the two communities and some intermarriage.

Twelve people were tested, and their average score was 77%. There was a marked difference, however, between the scores of those over thirty and of those under thirty. Those over thirty had a good comprehension of Nenema, with four out of six scoring 100% and the overall average being 97%. Those under thirty, however, had an aggregate score of only 58%.

At Paita, out of twelve people who participated in the testing procedures, only seven (three under thirty and four over thirty) actually took the Nenema test. The remainder declined to participate, saying that they did not understand Nenema. The average for those who took the test was 59%, with those over thirty scoring higher (66%) than those under thirty (48%).

If those who claimed not to understand Nenema at all are assigned a zero score, the resulting comprehension totals are as follows:

Under 30: 24% Over 30: 44% Total: 34%

One thirty-five-year-old man who did not understand Nenema said that he did, nonetheless, understand the dialect spoken at Koumac. Those under thirty, on the other hand, said that they used French with Melanesian acquaintances from Koumac rather than the vernacular. A summary of the scores is given in Table 7.

Table 7. Comprehension of Nenema

	Tiabet	Arama	Paita
Under 30 years	–	58%	24%
Over 30 years	–	97%	44%
Combined average	99%	77%	34%

It is clear from these scores that the respondents aged over thirty had a greater ability to understand a neighboring language than the younger generation. The social reasons for this are fairly clear in that prior to the introduction of universal education in the 1940s, rural Melanesians had no option but to use local languages if they wanted to communicate with their neighbors. Thus, many of them out of necessity acquired some ability to understand the other languages spoken in their region. It seems clear from the young people's scores that this comprehension is not automatic but is acquired through contact with speakers of those languages.

At the present time, however, the young people acquire a knowledge of French in school that is sufficient for basic communication of a casual nature. Consequently, as they themselves admitted, they tend to use French, which they already know, as a language of wider communication rather than other vernaculars that they hardly know.

Melanesians tend to use a vernacular language other than their mother tongue as a means of communication with other Melanesians in preference to French if this is possible. This is because there are two categories of young people. Some, either because their parents speak two different languages or because they live in another language area due to the work of their father as a pastor or teacher, know two or more Melanesian languages well. Such people will always use the Melanesian languages they know with other Melanesians in preference to French. Other young people have had only the opportunity to learn one Melanesian language; they are

therefore obliged to use French for communication with Melanesians who speak other languages.

It would have been of greater interest to test comprehension of the dialect spoken at Koumac since this village is geographically more central to the three language groups and, being an important commercial center, it is a meeting place for people from different areas in the northern region. Despite this lack, the data obtained indicate that the trend seems to be toward greater use of French as a language for wider communication with a consequent decrease in ability to understand neighboring languages.

It should be emphasized that the use of French discussed in this section is the use of French as a language of wider communication. That is to say, it is used only for basic communication which takes place only infrequently (perhaps more often than weekly but not daily). Even in places like Balade and Pouébo, it does not seem likely that use of French as a language of wider communication has increased people's ability in French much beyond the level reached by young people in other areas where they have had contact with French only in school.

This trend towards the use of French in place of other vernaculars as a language of wider communication is further confirmed by figures obtained on the northeast coast. The Caac language is spoken in a very small geographical area at Pouébo, and speakers of two different languages (Yalayu at Balade to the north and Jawé to the south) live nearby. In the sociolinguistic questionnaire, people who spoke Caac as their mother tongue were asked to rate how well they understood Yalayu. Among those over thirty, 83% said they understood it well, while only 42% of those under thirty made this claim.

It is possible that comprehension between speakers of neighboring languages would have been sufficiently high in the past for one language of a region to have been developed for wider use, such as for written communication, by speakers of other languages. Our data, however, reveal a trend among young people away from the use of Melanesian languages other than their mother tongue and toward French as the language of wider communication. This suggests that the development of selected vernacular languages to serve as regional languages is almost certainly no longer a viable option in New Caledonia, since French so completely dominates as the language of communication between speakers of different mother tongues.

In conclusion, even though French currently dominates in New Caledonia as the only language of wide communication of any significance, the level of comprehension of French by rural Melanesians is considerably lower than what is popularly assumed and in most instances does not even reach a minimal threshold of effective communication.

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5
Language Use and Attitudes

This chapter presents the results of the sociolinguistic interviews described in chapter 3 and discusses them briefly. The information collected by means of the Communal and Individual Questionnaires is brought together, elucidated, and, where necessary, interpreted. The topics will be discussed in the order in which they appear on the Individual Questionnaire. Examples of the questionnaires appear in Appendix A, and a full listing of the various statistics appears in Appendix B.

Education. The French education system for students aged five to eighteen years has traditionally centered around three examinations: the CEP (Certificate of Primary Education), taken at age eleven, the BEPC, taken at age fifteen, and the baccalaureate (BAC), taken at age eighteen. At the present time the BAC, a very competitive examination which marks the successful completion of secondary education and which leads into the higher education system, is the only examination which still has any great importance or prestige. The CEP, which marks the successful completion of primary education, is now completely bypassed by most students, and it is of such little value that there is talk of it being abolished completely. Likewise, the BEPC is becoming less important and is also increasingly bypassed as students work directly towards the BAC.

However, according to our study, the CEP is still the limit of the ambition and the achievement of the rural Melanesian. The opinions elicited by the Communal Questionnaire indicated that very few young people pursue their studies beyond the CEP. Even those who do start on secondary

education (as opposed to those who just mark time until the school-leaving age of fourteen) rarely proceed very far before abandoning their studies. These opinions were confirmed by the Individual Questionnaire, which indicated that half the respondents (56%) had not reached CEP level, while almost a third (29%) had reached the CEP level, although most of these had not actually obtained the certificate. This means that approximately 85% of rural Melanesians terminate their studies at a level of primary education or less. This is further confirmed by several independent studies. Coulon, citing statistics based on the 1976 census, indicates that only 1.7% of Melanesians living in rural areas have a diploma of any kind, including the CEP. The 1983 census (Institut National de la Statistique et des Etudes Economiques 1983:88) indicates that less than one Melanesian out of seven proceeds to the secondary level of education (as opposed to three out of seven Europeans) and that less than one percent of all Melanesians have any kind of postsecondary school diploma. Kohler and Wacquant (1985) also document the difficulties that children from a non-European background face within the educational system.

There is an increasing number of opportunities for young people to gain further practical training after completing primary school. This gives them the opportunity to be in a French-speaking environment for a further period, but they receive no further formal instruction aimed at increasing their facility in the French language.

The question of language is, of course, one of the major problems facing educators in a situation such as the one in New Caledonia. At the present time French is the only official language of the classroom, to be used from the child's first day in school even though the Melanesian child is not a native speaker of French. It is in this context that he learns French. There is a growing awareness of the special problems caused by this situation, and some of these problems have already been highlighted in the study undertaken by Bernard Gasser in 1979. More recently, in 1986, official steps were taken to alert teachers to such special problems and to give additional training to students who require it.

Apart from some minor modifications, the present system of public education has been available to all children since the end of the 1940's, with private schools having been in operation in many rural areas even before that. Approximately 100% of Melanesian children have been attending school since 1955. Since that time the level of comprehension of French has undoubtedly risen considerably. The figures presented in chapter 6, however, indicate that, on average, a rural Melanesian's ability in French, although adequate for basic communication, is far from adequate for the communication of new or more complex information. Comprehension is less than adequate, even if the

information is relatively straightforward and couched in concrete terms in a narrative style context.

In conclusion, the spread of primary education has had a widespread influence in all parts of New Caledonia, and this has undoubtedly enabled Melanesians increasingly to use French as a language of wider communication. At the present time, however, it appears that the educational system has not yet been able to raise the average standard of French to a point where French can easily and profitably be used by Melanesians for all their literary and communication needs, and there is no clear indication that this situation is likely to change in the near future.

Residence. For rural Melanesians the village is the focal point of their world and the context of all their life. On average, the members of the communities visited spend a total of only three-and-a-half to four years resident outside their village. This average time includes education for those who proceed beyond the grade available in the local school, military service, and remunerative work. It includes a few respondents, mainly teachers and pastors, who had spent fifteen to twenty years living and working elsewhere before returning to their home village. The figure also includes women who had grown up elsewhere and had only been resident in the community in question since their marriage. When these cases of long-term absence are discounted, the average absence drops to less than two years. This lower figure, in turn, is obtained by combining two different groups of people—a relatively small group who have lived elsewhere for a period of three to five years and a majority group who have always lived in their home village. Thus it can be seen that residence outside of the village is a factor of negligible importance for the majority of rural Melanesians.

There is a good road system, and public transportation is available at least around the coast of New Caledonia, but even so, trips outside of the immediate area of the village are only made on very special occasions. It was found that in each place there was a small group of people who for various reasons made regular trips, but the majority hardly ever went anywhere, even on short visits.

The point is, of course, that if a person lives for a period outside of his home language area, he probably has a greater need and opportunity to hear and to speak French. However, if the period of residence in, say urban Noumea, is only brief, a visitor from the village almost certainly stays with members of his family with whom he uses his mother tongue. As was pointed out by one respondent, it is possible to live in Noumea for long periods and still hardly ever use French.

When a person returns to his home village for any reason, he is expected in all cases to revert almost immediately to using his mother tongue. The same

is true for women who marry into the village. The comment was often made that they are *obliged* to learn the local language if they want to be able to share at all in the life of their new community. In a few cases they may manage with passive bilingualism (i.e., speaking their own language and understanding the new language), but it is considered exceptional that French would be used in such situations.

It can be seen then that, in general, most Melanesians who are normally resident in the rural areas spend almost the whole of their time in circles where they can communicate in their mother tongue and are only rarely obliged to use French.

Language use in the family. In the Communal Questionnaire it was found that in all the places visited, the Melanesian vernacular was unequivocally the primary means of communication in the village in general and in the family in particular. This was borne out by the Individual Questionnaire, in which all the respondents said that a Melanesian language was the first language they learned as a child. Almost all (93%) unambiguously stated that a Melanesian language was the only language learned as child, while a few (7%) said that they learned French as a child as well as a Melanesian language. However, this claim to have learned French so early is very ambiguous, as some of the points noted below will make clear.

According to the Communal Questionnaire, an average of one or two families in each village (i.e., two to four adults, or 3–6% of the adult population) were considered to speak some French to their children. Without exception these were the families of teachers, pastors, and medical orderlies; almost all of them also involved mixed marriages in which parents speak different Melanesian languages. In the Individual Questionnaire, three-quarters of the respondents (73%) said that they spoke (or that they intended to do so when they had children of their own) only their vernacular to their children, while most of the remainder (25%) said they spoke both vernacular and French to their children.[6] Several points should be noted, however, before taking this latter figure at face value.

[6]Two percent of respondents (all female) claimed that they did, or would, speak only French to their children. One claim was particularly dubious, as it came from a thirty-year-old woman who had left school after only reaching the level of an eight-year-old (CE2) and who had never lived anywhere else but in her home village, where the level of French was considered generally very poor. The other cases were the aspirations of girls still at school. One, who was at high school in Noumea, might never return to the village permanently and may not be relevant to the rural community. Another, who had only attended rural schools, may have had rather unrealistic expectations.

As noted above, these figures include the aspirations of unmarried young people as well as statements of actual practice. It is probable that the aspirations of some of the young people, especially those at Koe, Paita, and Napoemien, are somewhat unrealistic since they had terminated their studies at primary level and, in some cases, their own personal ability in French was not very great. In addition, at Napoemien several of the young people came from the one family in the village where French was spoken quite often; they are not representative of the village as whole.

The investigator stayed with several families where it was claimed that French was spoken, but it was observed that much more vernacular than French was spoken to the children. In cases of mixed marriages, the mother would speak her language to her children, but they would use their father's language with him and other members of the community. It is true that quite a lot of French words were used, but usually in the context of a dialogue in a Melanesian language. The occasions when French and only French was used were quite rare, and those occasions may have been stimulated by having an outsider (the investigator) in the family.

Towards the end of the investigation it became clear what many Melanesians mean when they say that they speak a lot of French, or when they make that claim on behalf of someone else. What they mean, in fact, is that in the course of speaking a Melanesian vernacular they use a lot of French words. Thus, when people claim to be exposed to or to speak French in the family context, it does not necessarily mean that they are regularly in contact with or use considerable, consistent portions of coherent, well-constructed French, free from interference from a Melanesian language and thought patterns. On the contrary, it seems clear that the great majority of Melanesians are constantly exposed to Melanesian language and thought patterns and are only very occasionally exposed to anything more than the sporadic occurrence of a French verb or noun.

The question then arises concerning future trends. Language use depends on the abilities and motivations of the next generation of parents. We have suggested that the general ability in French in the future will probably not rise much above its present level. This means that even if parents are able to use more French in the course of their ordinary conversation, it is unlikely that they will be able to converse regularly and consistently in reasonably good French with their children, even if they wished to. Unless obliged to use a language one does not control well, the natural tendency is to slip back into the language which requires less effort.

In the past, education and the possibility of lucrative employment greatly motivated parents to encourage their children to learn French, even to the detriment of their knowledge of their mother tongue. This trend is now reversing itself, for many young parents are disillusioned by their own

experience, and, although they still want their children to learn French, they are more concerned that they should first have a good grasp of their mother tongue. This latter task they feel is their responsibility, and so several families who were interviewed said that they consciously spoke the vernacular to their children even though the husband and wife might often use French between themselves.

Thus, at the present time, the trend in favor of Melanesian language seems to militate against any significant increase in the use of French within the context of rural Melanesian families.

Language use: internal usage and personal expression. Regarding internal linguistic processes, 67% of respondents claimed to use only the vernacular for internal reflection, and 73% used the vernacular while dreaming. Approximately a quarter (28% for internal reflection and 23% for dreaming) thought that they used both the vernacular and French for these processes, although the proviso in the preceding paragraph concerning what is meant by thinking or speaking in French should also be borne in mind. Fewer than 5% (5% for thinking and 2% for dreaming) claimed to use only French in these contexts. When asked which language they would choose to use to express an opinion of some complexity, two-thirds (64%) said they would use only the vernacular, a quarter (27%) said they would use both languages, while only 6% stated a preference for French alone.[7]

Of those who said they would use both languages, many pointed out that the deciding factor was not their own personal choice, but that the choice depended on the social context—what listeners would expect or understand. If another Melanesian language could be used, this would be used in preference to French. It was the same with the language used for talking to friends. Many respondents indicated that they use both vernacular and French but that the choice always depended on who the friend was, with French only being used if no Melanesian language could be used.

Not surprisingly, since education is in French, two-thirds (65%) used French for arithmetic calculations. It is perhaps surprising that this figure is not higher and that 18% still claimed to count in the vernacular, while 9% claimed to use both.

French: its use and value. According to the self-evaluations of ability to understand French, 59% claimed to understand a half of what they

[7]In this case, as in several others, the percentages quoted do not add up to 100% due to the percentage of people who gave no answer to the question.

heard, 18% understood a little only, and 23% claimed to understand all of what they heard.[8]

For questions concerning the contexts in which French is used and concerning opinions as to its value, the respondents were free to express their thoughts in their own way without any categories being imposed upon them. Despite this, all the answers could be grouped into clear-cut categories.

Answers from the Communal Questionnaires indicated that French was used only in contexts foreign to or outside of the scope of ordinary daily life in the village. Thus, French is used in school and with people, whether European or Melanesian, who are visitors or temporary residents (e.g., teachers and pastors) with whom it is not possible to communicate in any other way. French is also used when a person goes out of the area where his language is spoken. Otherwise, for all other aspects of ordinary life, the Melanesian vernacular is the only language used.

As for the value of French, 67% considered it to be useful as a means of communicating with outsiders, while 33% felt it was valuable for both communication with outsiders and for self-improvement (e.g., to facilitate progress in school).

These responses were largely supported by the data from the Individual Questionnaires. In the Individual Questionnaires, 72% of respondents said they used French only with outsiders, and 18% used French at school or work (which is also, in effect, with outsiders). Five percent claimed to use French in the home, but the provisos discussed earlier under the heading *Language Use in the Family* greatly dilute the importance of this latter claim. The remainder either gave no answer or said that they did not use French at all.

On the value of French, two-thirds of all respondents (66%) to the Individual Questionnaire felt that the value of knowing French consisted in the opportunity it gave to communicate with those speaking different languages, whether Melanesian or other languages. Of those who actually answered this question without ambiguity, more than three-quarters (78%) gave this answer. A further 11% felt that French was valuable because it was a means of self-improvement, specifically, that knowing French enabled one to get on well at school, to get a job, and to express oneself better. A small group (6%) felt that French had no value at all, while 17% were unable to express an opinion.

It is difficult accurately to gauge attitudes towards a language and culture, but, nonetheless, in the course of the conversations provoked by the Communal Questionnaire and on other occasions, two clear strands of thought were regularly and consistently expressed. On the one hand, appreciation was expressed for the benefits which have accompanied

[8]See chapter 4 for a discussion of these results.

French culture, namely, education, improved health care, and other mainly physical amenities. It was also recognized that the French language was very useful as a means of communication between the members of different language groups. On the other hand, however, there is a certain ambivalence about the way French language and culture have been imposed as normative without any consideration for other alternatives. This feeling has probably played a part in stimulating the recent return towards the traditional languages and cultures. French culture and language is viewed then with a certain pragmatism. It is desirable for the benefits it brings, but even though it might once have been true, people no longer seek after a knowledge of French and acculturation to the French way of life for its own sake. In fact, more than one person remarked that if they were going to learn a European language at all, they might as well learn English to enable them to have better interaction with their neighbors in the Pacific. Gasser (1979:5) notes that most of the young people who responded to his questionnaire remarked that since French is only useful (by implication) as a language of wider communication (an opinion supported by the data of the present investigation), it is not necessary to know it well or study it in depth, since (by implication) a cursory knowledge is all that is required to fulfill this function.

It can thus be seen that, at best, the attitude towards French is mixed, with an increasing tendency to reaffirm the intrinsic value of traditional languages and cultures.

Traditional culture. Language and culture are very closely linked in all societies, so that any growth in appreciation and practice of traditional culture is usually paralleled by similar development on the linguistic level. This is recognized to be true in New Caledonia. One chief explained that traditions are both transmitted and expressed by language and that tradition thus follows a path laid out by language. "So," he said, "if there are thirty-two languages in New Caledonia, then there are thirty-two sets of traditions, or thirty-two different ways of expressing our culture."

Since tradition and language are so closely intertwined, it is impossible to fully express traditions in a totally foreign language. It may be possible to give a cursory description for the benefit of a foreigner, but it is not possible to live out and satisfactorily express Melanesian culture by means of the French language, for example. One reason for this is that symbolism is such an integral part of Melanesian tradition. As another person explained, every action and every name has a meaning, which means that every traditional ritual is like a book that transmits a profound and often very complex message. As any linguist or translator knows, symbols and metaphors are usually highly specific to a particular language (or to a

group of related languages with similar values and cultures) and are very difficult to translate satisfactorily into an unrelated language without running the risk of substituting an unrelated metaphor or so explaining the symbol that its evocative connotations are lost.

The point of all this and the point of the questions about traditional culture is that an assessment of trends with regard to culture and traditional practices is another complementary means of assessing the linguistic trends of that society. Thus, if the attitude towards the local language is positive, this position is buttressed and confirmed if there is also a positive attitude towards local culture. If the attitudes are contradictory, this probably indicates instability and that the situation needs to be assessed with care.

In the Communal Questionnaire it was clear that the vernacular was always used for traditional ceremonies and exchanges. People occasionally apologized that they could not properly respond to gifts proffered by the investigator. They explained that they know what to say in the vernacular and that there are plenty of words to use, but that they cannot find the words in French to express what they want to say. The opinion of 78% of the people interviewed (mainly community leaders) was that, despite many changes, the practice of traditional activities is still very strong. Some said that, after a period of decline, there currently was a renewed interest in maintaining traditional culture. The remaining 22% agreed that traditional practices were still strong, but they also had some reservations. These reservations, however, generally had to do with details of how traditions were put into effect rather than with underlying principles or the primary significance of the ceremonies in question.

The most common reservation concerned gifts or signs exchanged at traditional ceremonies. These gifts were originally made from natural materials and, although they had no intrinsic value, they had a great deal of symbolic value. At the present time, most such gifts are of Western origin and often have more intrinsic than symbolic value. Many people deplored this change. Although some symbolism may be lost through this change, the essential nature and purpose of the ceremony has not changed. Other changes have consciously been made to improve the system or correct abuses. The gift exchange system, for example, has been hit by inflation. Consequently, the people of one village have made an agreement to limit the amount that should be given at any particular ceremony. This means that the tradition can be maintained, along with the social interaction and communication which is entailed, without the cost becoming burdensome.

In many cases, marriages are no longer arranged in advance, and young people choose their own marriage partners. Once they decide to marry, however, couples tell their parents. At that point the traditional system goes into action, culminating in a marriage ceremony which solemnizes the

relationship. Once again, a detail has been changed, but the essential nature and purpose of the marriage-related traditions remain intact.

In the Individual Questionnaire, respondents were asked to indicate whether they thought that everything possible of their traditional practices should be maintained and practiced regularly, or whether only some, or nothing at all should be retained. Over half of the respondents (59%) said that everything possible should be retained, while a further one-third (37%) said that only some things should be retained.

This gives a combined total of 96% in favor of retaining at least some of the traditional customs. This total rises to 99% if those who gave no answer are discounted and the percentages are computed out of those who actually answered the question. This leaves only 1% (by either method of computation) who considered that all traditional culture should be discarded.

In some ways, the first two answers overlap because, as with the Communal Questionnaire, everyone realized that traditional culture had changed and was still changing, but all still wanted to retain the principles underlying traditional practices. Those who qualified their answer by answering "only some" were again only drawing attention to details or to those things which were not helpful or conducive to social harmony. They were not in any way implying that large, meaningful chunks of tradition should be discarded.

Literacy and literature in the vernacular. Of those who answered the question on literacy in the vernacular, 94% would like to be able to read and write in their own language.

If it were possible to choose between literature in French and literature in the vernacular, approximately half of the respondents would choose their vernacular as their preferred means of obtaining general information, whether of a practical nature (e.g., sewing or mechanics manuals) or of a sociopolitical nature (e.g., newspapers). Only 15% would prefer to obtain such information by reading it in French. The remaining third were unable to state a clear preference.

When it came to traditional material (traditional stories or descriptions of traditional customs), three-quarters of the respondents felt that these should be available in the vernacular. Only 10% preferred to read such material in French, and a further 10% felt it would be good to have such material in both languages. Apart from the obvious desire for literature in the vernacular which these answers indicate, they also indicate that a large proportion of the population have a positive attitude towards the vernacular and towards the possibility of having literature available in that medium.

Language use in the church. Considering that a large proportion of the respondents claimed to attend church regularly (72% of the Catholics

and 85% of the Protestants, for a combined total of 79%), the percentages for this section were based on the total sample rather than reducing the sample to the church-going population, thus making the percentages less comparable with the figures in the other paragraphs.

The Catholic villages visited were Arama, Balade, and Pouebo (St. Louis), where the full range of testing was carried out. In addition, Communal Questionnaires were completed for St. Gabriel (Pouebo), Tiari, Belep, and St. Joseph (Bonde). For the Protestants, full testing was done at Tiabet, Paita (Gomen), Paola, Napoemien, and Mou, with Communal Questionnaires being completed for Gamai, Tiouae, Bayes, Embouchure (Ponerihouen), and Oundjo. Koe is a mixed community with approximately 50% of the inhabitants being Catholic and 50% Protestant. For reasons that are not altogether obvious, some of the sociolinguistic results obtained at Koe were rather different from the results obtained elsewhere. As a general statement, the respondents interviewed at Koe seemed to have an above-average aspiration to read literature in French, with a corresponding lack of interest in the vernacular. In some cases, however, these preferences seem to be little more than aspirations which are unrealistic and in some instances irrelevant. For example, one teenager claimed to prefer to read literature of all types in French, but had left school at the age of nine, had a 50% comprehension of French, did not participate in activities where French was used (i.e., church), and did not aspire to read. Since Koe is often in a category of its own, it is listed separately in the various breakdowns of the scores noted in the text.

According to the data collected by the Communal Questionnaire, in all the places visited (except one Catholic village), some vernacular is used at some point in the life of the church, with it being used the most extensively in the Protestant areas. In these areas all activities including official church services are in the vernacular if this is possible. Where the pastor does not know the local language he may use Drehu, the language of Lifou, translated into the local language. When there is no deacon available to translate, the pastor has to use French, which is not translated into the local language. Hymns are usually in Ajie, the language of Houailou, but occasionally in French. Bible reading is usually in French, but it may occasionally be translated directly into the local language from Drehu or Ajie. Announcements are usually in the vernacular, women's groups always use the vernacular, and the youth group usually uses some vernacular, although singing is in French. Business meetings are also in the vernacular, with one person interacting with the pastor in French (or perhaps in Drehu) as necessary.

In Catholic areas, all aspects of official church services are in French. If the catechist is presiding, he may give announcements in the vernacular. Many catechists also use the vernacular to explain Scripture readings or even to pray in informal meetings held on special occasions. Where there are women's

groups, they would normally be in the vernacular, as would business meetings, unless the priest was present, in which case it would normally all be in French. Priests and catechists in some areas have tried to encourage the composition of songs in the vernacular for special occasions. This has been done in some areas, but it is not a widespread practice.

From the Individual Questionnaires, it was found that nearly two-thirds (58%) of all respondents would prefer to have their church services only in the vernacular, one-third (36%) would be content if both the vernacular and French were used, and 6% would choose French only. Approximately one-half (49%) say they use only the vernacular for personal private prayer, while 15% use both, and 36% use only French (see Tables 8 and 9). This is an unusually high preference for French, but there may be an explanation for this which will be noted below. First, however, it is of interest to notice the difference in the preferences indicated in the Catholic communities as against the Protestant communities and Koe, the mixed community.

Table 8. Language Preferred for Church Services

	Vernacular	Both	French
Protestant	72%	25%	3%
Catholic	48%	43%	9%
Koe	17%	72%	11%
Combined Total	58%	36%	6%

Table 9. Language Used for Private Prayer

	Vernacular	Both	French
Protestant	63%	17%	19%
Catholic	32%	8%	60%
Koe	28%	22%	50%
Combined Total	49%	15%	36%

Regarding private prayer, it should be remembered that the normal practice for Catholics is to use set prayers in private devotions. Therefore, since all official Catholic teaching and worship is in French, it is not surprising that a large percentage of Catholics use French in private devotions. What is more surprising is that one third of the Catholics use only the vernacular. Protestants tend to use more extemporaneous prayer, but there is a tendency to copy certain formulae and to model private prayer on that of the pastor or some other leader. Thus, when asked why

he prayed in French when he conducted the rest of the church service in the vernacular, one thirty-year-old church leader replied that he had learned to pray properly in French (at a Bible school in France) and so he finds that the French words and phrases come more easily, whereas he does not really know what words to use in his mother tongue.

On the question of language use in church services, even though all services in the Catholic church are in French, nearly one-half (48%) of all Catholics say they would prefer that they be in the vernacular alone, and nearly as many (43%) say they would like the vernacular to be used in conjunction with French. Nearly all Protestants also favor the use of the vernacular in church, with 72% preferring the vernacular only and 25% favoring a combination of the two languages.

Translation of literature for church use. The answers to questions relating to the translation of literature for church use can be divided into categories based on whether a community is Catholic or Protestant, as in Table 10.

These figures indicate that half of all respondents (but twice as many Protestants as Catholics) claim to read the Bible already, either in French or in some cases in Houailou, which suggests that there is already considerable interest in translating literature into the vernacular for use in the church. If they had a choice, however, the vast majority of Protestants (85%) and two-thirds of the Catholics would prefer to read church literature in their vernacular, with only 14% overall preferring French.

This potential readership increases further when the possibility that some literature actually could be made available in the vernacular is taken into account, and fully 95% of Protestants and 90% of Catholics claim either that they would often read such literature in their language or that they might read it a bit. This aspiration is supported by the fact that a large proportion also say that they would put their affirmation into practice and buy such books if they were available, with 81% of Protestants and 70% of Catholics making this claim. It is probable, of course, that not all such claims would be put into practice in the event that it were to become possible to do so, but it is nonetheless clear that at the present time there is an overwhelming opinion in favor of having specific literature translated into the vernacular.

The importance of this section lies in the fact that it attempts to gauge the attitude of respondents towards the possibility of being able to read and use at least some literature in their mother tongue. The results of such questioning can, at best, reveal only general trends and tendencies and should not be taken in isolation as rigidly dependable predictors of what actually will be. Under these circumstances then, it was considered extremely important to avoid a vague general question and to offer a

Table 10. Use of the New Testament*

		Protestant	Catholic	Koe	Total
Do you already regularly read the Bible?	Yes:	65%	33%	56%	53%
	No:	32%	63%	39%	43%
If you could choose, which lang. preferred for reading NT?	Vernacular	85%	63%	33%	72%
	Both:	5%	7%	45%	10%
	French:	7%	23%	22%	14%
Would you read NT in your mother tongue?	Yes (often):	83%	51%	44%	68%
	Maybe:	13%	39%	39%	25%
	No:	3%	10%	17%	7%
Would you buy a NT in your mother tongue?	Yes:	81%	69%	50%	74%
	No:	2%	22%	33%	12%
	No reply:	17%	9%	17%	14%

*The percentages of respondents who gave no reply is not included in all sections of this Table.

concrete choice. Since the Christian Scriptures are the only literature that is already known and widely used throughout New Caledonia in virtually every Melanesian community, they were an obvious choice for being the specific focus for this type of question.

This chapter has presented a survey of factors relevant to the use of French and vernaculars, providing a better understanding of the spheres in which these languages are used and the attitudes and aspirations of Melanesians regarding these languages, thereby providing a better understanding of language maintenance in Melanesia.

6

Language Shift and Language Maintenance

In this chapter, the results of the study are set within a broader framework of theoretical discussion. Reference will be made to a variety of sociolinguistic factors relevant to language shift and language maintenance. An attempt will be made to elucidate the sociolinguistic situation in New Caledonia with reference to these factors, with a view to determining the current status of the Melanesian vernaculars of New Caledonia.

Since language and human behavior are so complex, a study of language shift and maintenance must proceed with caution and incorporate as many sociolinguistic factors as possible. An investigator should then seek to bring these factors together in order to build a composite picture of the situation. If this is done, and if the conclusions drawn from the various aspects of the study all point in the same direction (e.g., towards language maintenance or towards language shift), then the researcher can state his conclusions with some confidence. If, on the other hand, conflicting conclusions are obtained, this suggests an unstable situation for which only tentative conclusions can be drawn.

As Lieberson (1980:279) notes, no sociolinguistic enquiry can ever access all the data, nor can it cover all possible details, but it is hoped that the following composite picture will nonetheless elucidate with some clarity and reliability the current situation in New Caledonia. In the interests of clarity, the discussion will proceed by topic, even though this methodology entails a certain amount of repetition.

Language change versus language replacement. In the early 1950s, linguists such as Haudricourt (1951) and Capell (1954), influenced perhaps by reports of a declining Melanesian population and the increased availability of primary education in French, predicted such a sweeping trend of language change that they foresaw the time when French would completely replace most, if not all, of the Melanesian vernaculars of New Caledonia. Even in 1970, Bazinet (1970:54) made some very general predictions about the industrialization and urbanization of rural areas which would have effected vernacular languages. The reality of the 1980s, however, is that these predictions have not been fulfilled.

In light of this, it is necessary to distinguish between two linguistic trends: language change and language replacement. Although very similar in terms of observable phenomena, these two trends are, in fact, quite different in terms of causes and outcomes.

First, there is the process of language change. This linguistic process is common to all languages and takes place as the language is changed to match social and environmental developments taking place in the community where it is spoken. In the twentieth century, for example, advanced technology has created many new items, such as televisions, computers, and the space-shuttle. In order to describe and use these new items, new words have to be either invented or borrowed from another language. In addition to these lexical innovations, which are created to meet a very obvious need, most languages also undergo other lexical, grammatical, and phonetic changes for reasons which are not easily remembered or analyzed. For example, in English words like *OK* or nonstandard pronunciations like *yeah* have become popularized and are widely used by all levels of society. Even the French, who have institutionalized procedures for limiting and controlling language change, recognize that their language is currently undergoing change due to the many English words which are being borrowed. Although change is a reality, it in no way threatens the autonomy of a language or calls into question its importance as a system of communication. On the contrary, language change is usually an enriching process. Thus, for example, it is probably no coincidence that English, a language that has liberally borrowed lexical items from dozens of different languages over many centuries, is one of the richest and most widely-used languages of the twentieth century. It must not be overlooked, nonetheless, that change is likely to proceed at a much faster rate when two (or more) languages are in very close contact, as is the case in New Caledonia, and that this fast rate of change can cause particular problems. This is not a problem unique to countries like New Caledonia because, as a result of modern mass media and instant communication, language change is proceeding at a fast rate in many parts of the world. It needs to

be emphasized then that the process of language change is common to all languages, that it is usually an enriching process, and that it is not necessarily the herald of the demise of a language.

The second process is that of language replacement or language shift. This is the process whereby one language completely replaces another so that the latter is no longer used as a means of communication. This is essentially a sociological process because a number of complex social factors need to coincide before this process may take place, as has been documented, for example, by Dorian (1981). In fact, languages can defy all logic and continue in use despite centuries of pressure towards replacement. Thus it is that Lewis (1980), although actually describing the decline of Welsh, gives ample evidence that Welsh still continues to be used even after centuries of pressure from English. Furthermore, if the motivation is sufficiently great, a so-called dead language can be revived and reused after centuries of disuse, as is the case with modern Hebrew.

It is assumed in this study that language change is taking place in New Caledonia. At every place visited, speakers highlighted this fact and often gave examples. The fact that this is happening is not surprising in the light of the points mentioned above, especially since contact between languages is the rule rather than the exception in the Territory. It should be noted, moreover, that this is not a new phenomenon. There has been contact between Polynesian and Melanesian languages for a very long time, at least on Ouvea and possibly elsewhere, too, and all the languages of the Loyalties had contact with English in the nineteenth century. At the present time, of course, French is having the greatest influence on the vernaculars since it is the language of education and the means of learning about all the innovations and advances of the modern world. The fact that language change is taking place in New Caledonia could be used to illustrate the vitality of the vernaculars as they adapt to the modern world and find means of expressing modern concepts within the framework of a Melanesian linguistic system.

The purpose of the following paragraphs then is not to argue for or against the existence of language change, which is assumed, but rather to present evidence which suggests that the process of language replacement is not currently taking place on a large scale and that it is unlikely to take place in the foreseeable future unless major sociological changes take place.

Diglossia. The concept of diglossia was first propounded by Ferguson (1959) to describe a complementary relationship between two or more varieties of the same language. This concept was extended by Fishman (1967) to apply to complementary relationships between two or more

unrelated languages. Fishman has been criticized—for example by Timm (1981) and Hudson-Edwards (1986)—for misrepresenting Ferguson and for reducing the number of criteria by which diglossia should be identified. Nonetheless, despite these criticisms, the fact remains that the term DIGLOSSIA has been so widely used precisely because Fishman had the genius to define and pin a label on the whole concept of functional complementarity between two distinct linguistic codes. This was a very significant step forward in sociolinguistic research, and it is important, therefore, not to lose sight of the value of this concept in and through all the semantically oriented discussion concerning the precise use of the term. It is to Fishman, then, that the credit goes, as well as the blame, for extending the original, narrow definition of diglossia and thereby opening the door to a far-ranging series of research efforts. At the same time, he set up a matrix for defining four kinds of language community in terms of the presence or absence of diglossia and bilingualism. What is of most interest here is that he predicted that where both diglossia and bilingualism occur the linguistic situation will tend to be stable. It will emerge from the discussion that there is both diglossia (following Fishman's extended definition which includes functional complementation between two distinct languages) and bilingualism in New Caledonia and that, as he predicted, the linguistic situation is relatively stable.

Returning now to a more detailed definition of diglossia, we note that sociological criteria were proposed by Ferguson to define diglossia as follows: the presence of a HIGH language variety which possesses PRESTIGE, an extensive LITERARY HERITAGE, and STANDAROIZATION, and the concurrent presence of a LOW language variety which does not possess these factors. In New Caledonia, French would be classified as the high language since it enjoys considerable prestige, especially in the area of education, has an extensive literary heritage, and has had a system of standardization for many centuries. The Melanesian vernaculars would be categorized as the low languages since they lack these characteristics. Another criterion is that of STABILITY, that a diglossic situation has typically persisted for several centuries. In the case of New Caledonia, contact between French and the vernaculars is relatively recent, but the diglossic relationship has persisted for approximately 100 years.

Another sociological criterion is that of ACQUISITION, with the low language being learned as the mother tongue and the high language being learned in a formal education system. Ferguson notes, furthermore, that replacement of the low language by the high language is unlikely unless this pattern of acquisition is radically changed.

The linguistic categories GRAMMAR, LEXICON, and PHONOLOGY which Ferguson proposed are not directly relevant since we are concerned with

two different languages in New Caledonia and not with two varieties of the same language. Despite this, some of the linguistic characteristics of a diglossic situation noted by Ferguson actually do or may potentially occur in New Caledonia.

For example, the Melanesian languages and French have specialized vocabularies as demanded by their different functions. The Melanesian languages, for example, have an extensive vocabulary relating to traditional customs, which is completely lacking in French, while French has to be used for discussing modern technology since there are no indigenous words for such subjects. According to Ferguson, the true characteristic of diglossia is the existence of an extensive range of doublets for even the most common words. From what some persons interviewed have said, it is possible that such doublets exist in the linguistic system of many Melanesians, but more investigation is needed to verify this hypothesis. On the level of phonology, there is a great degree of bilateral interference between French and the vernaculars, as often happens in diglossic situations. On the one hand, unique French phonemes are modified in line with the nearest Melanesian equivalent. On the other hand, the pronunciation of the vernaculars is often affected by the pronunciation of French, which is learned in school.

The importance of the concept of diglossia is that it highlights the fact that two languages can exist side by side and that both can be used by members of the same community without either language threatening the existence of the other.

This study suggests that a stable diglossic relationship exists between French and the local vernaculars in the rural Melanesian communities of New Caledonia. This suggests that the Melanesian vernaculars will continue functioning in parallel with French as long as the same basic set of sociological conditions continue to exist and especially as long as the vernacular remains the mother tongue of the majority of the population.

The most important characteristic of diglossia, however, is the fact that the languages concerned have complementary functions. It appears that it is this characteristic which particularly promotes the preservation of the multilingual situation. Stewart (1968) has pointed out in his article on multilingualism that such situations may be stable if there is no competition between the functions of the languages concerned. This seems to be the case in New Caledonia. Our data indicate that the vernacular is the mother tongue and fulfills all the functions of daily life within the rural community, while French is the language of education and wider communication.

Providing that it is not supplanted at an early age, the language which is the mother tongue has an extremely important role. Ferguson noted in his

study of diglossia that the pattern of complementary function was unlikely to break down unless there was widespread change of mother tongue.

The UNESCO (1951) report on the use of vernacular languages in education also develops this point and emphasizes the supreme importance of the mother tongue since it molds a person's patterns of thinking and reasoning and forms his perception of the world. It will, therefore, always be the language which is most easily and naturally used for self-expression. In his study on the social psychology of language choice, Herman (1968) goes into more detail on the function of the mother tongue. He notes that whenever a situation allows or demands uninhibited self-expression, a person avoids using his second language with which he will probably not be completely familiar and will automatically use his mother tongue. In his description of bilingualism, Mackey (1968) makes essentially the same point when he states that the language used for inner expression or private self-expression has often been identified as the bilingual's dominant language.

In a critique of the teaching of English as a second language, Prator (1968) also emphasizes the importance of the mother tongue as the language which is used for the most intimate and meaningful parts of life. In addition, he remarks that the situation in India is an example which shows that a second language does not easily replace a vernacular mother tongue. The widespread assumption that second languages automatically replace vernaculars as the mother tongue of a significant proportion of the population is unrealistic, according to him. This is partly because a language of wider communication, especially when it is foreign to the indigenous culture, cannot fulfill the functions of the mother tongue which is used for the intimate aspects of life, for topics relating to local culture and practices, and for expressing subtle shades of meaning of all kinds.

The situation in New Caledonia can be summarized as follows. First, there is a very clear complementary distribution of the functions of the vernaculars and French. Second, the vernacular continues to be the mother tongue of all age groups. It is the language of the family and of the village community, it is the language which is linked to and expresses the local culture, and for the majority of people questioned it continues to be the dominant language of inner expression and self-expression. French, on the other hand, has quite distinct functions which the vernaculars cannot so easily fulfill, namely, the functions of language of education and of wider communication. Although these are extremely important functions, they are nonetheless ones which people make use of, not so much out of choice but out of necessity, and certain segments of the population manage to live without using French at all. Thus it can be seen that with such distinct complementarity between the two sets of functions—and no indication that French is likely to replace the vernaculars as mother tongue—it seems likely that French and the

Melanesian vernaculars in the area surveyed will continue to exist side by side for the foreseeable future.

Before leaving this question of functional complementarity, reference should be made to the concept of DOMAINS OF LANGUAGE USAGE as evoked by Fishman (1972 inter alia). The term DOMAIN is another means whereby different functions of a language can be distinguished. Observation of which language is used in which domain (or for which function) is a means of discerning a rationale behind the choices that bilingual people make when they use one language in preference to another. Put in these terms then, it can be stated that rural Melanesians in New Caledonia use their mother tongue vernacular in all the domains relating to life in the home and in the village community, and French only in those domains that involve people (or systems, such as church and education) which originate from outside their traditional rural community. Fishman (1972) suggests that the language which is used in the domain of the home is a likely candidate for maintenance in a bilingual situation, and Lieberson and McCabe (1978) note a different but confirmatory point, that any language used outside the home with friends and contacts from a different linguistic background is unlikely to displace in any way a person's mother tongue. Both these observations confirm the conclusions drawn earlier that the Melanesian vernaculars of New Caledonia will continue to be maintained, particularly because they function as the mother tongue within the domain of the home and that French, even though very important for communication with people from outside the home community, will not displace the Melanesian vernaculars from any other domains.

Maintenance of separate social systems. Languages have different functions, mainly for social reasons rather than for linguistic reasons. Thus, as long as separate social systems are retained, different languages are likely to be retained with their different functions, but if social systems tend to merge and distinctions between them break down, then it is much more likely that one of the languages will also fall into disuse.

Noncompetition between the functions of two languages tends to promote the maintenance of both languages. Stewart (1968) has also commented that if there is little geographical, ethnic, or social overlap or competition between two communities with different mother tongues, then this is another reason for believing that both languages will be maintained.

In propounding the concept of diglossia, Ferguson (1959) said the same thing but in a slightly different way. In discussing the question as to whether the high language would ever dominate and replace the low language, he maintained that this was only likely if the diglossic community tended to merge with the community where the high language was the

mother tongue and if the social distinctions between the two communities began to break down.

Fishman (1969) and Gumperz (1968) quote the example of immigrants to the United States. Many immigrants suffer from severe social dislocation, having left behind their former way of life and being isolated from their compatriots in the midst of a new social system. Under these conditions the immigrant is obliged to adapt and integrate into the host society, and as a consequence the original mother tongue is replaced by the host society's mother tongue within two or three generations. This is not always the case, however, for in those cases like the Pennsylvania Dutch, where immigrants maintained their original culture by living in tight-knit ethnic groups in relative isolation from the host society, their original mother tongue has also been maintained. This counter example, nonetheless, only serves to support the proposal under discussion, namely, that a language will be maintained in the face of competition from another language provided that the community in question maintains its own distinct social system.

Tabouret-Keller (1968) in her study of language maintenance and language shift, develops in some detail the influence which social factors have on language use. Based on studies conducted mainly in Europe, she proposes that maintenance of existing language use is closely linked with the conservatism and self-contained isolation of agriculture-based rural communities. Furthermore, such maintenance is particularly marked where such communities have a population of 500 or less. She found that it is only when this lifestyle is significantly altered or when there is a transformation of social and economic conditions of life, as she puts it, that language replacement tends to take place.

The factors which seem to particularly accelerate the breakdown of social distinctions are those associated with industrialization and urbanization. These processes cause geographical isolation to diminish because of much greater physical mobility, with people commuting to the cities from rural areas and migrants from other areas settling in the once-isolated countryside near sources of employment. This increased large-scale interaction between people from different social and linguistic backgrounds creates a situation in which different languages no longer maintain their distinctive functions. Thus, as the need for maintaining different languages diminishes, one tends to replace another.

In New Caledonia, a traditional rural Melanesian society exists side by side with a European society which has all the characteristics of an urbanized technological society. It is undoubtedly true that the latter has already influenced the former, but at the same time the evidence collected in the course of this study suggests that there has not been a radical

transformation of social and economic conditions on the large scale that Tabouret-Keller observed in Europe. Noumea is the only place in New Caledonia where large scale urbanization and industrialization have taken place, and here one might expect to find a breakdown of traditional social and linguistic practices. In the areas studied, on the other hand, the Melanesian communities are still small rural enclaves of not more than a few hundred people. Despite a good transport system around the coast, most of the villages are still geographically isolated with only sporadic contact with people from other social or ethnic groups. Only a minority of people regularly move out of the confines of their community, and even then their contact with European society might be quite limited. There is no immigration of Europeans into these communities at all. Although Western commerce, money, clothes, and food have been influential for a long time, other concrete evidences of Western culture, like electricity, internal plumbing, and concrete houses, are recent phenomena in the rural areas, which suggests that with Western culture only now affecting the externals, it is unlikely that it has yet had a very profound effect on the deeper internal values of Melanesian society. Interview results show that traditional culture is still very strong and held in high esteem in all the areas visited. The evidence suggests that changes which have taken place here tended only to affect external details rather than more profound matters which form the distinctive core of Melanesian society.

Coulon (1982) gives a summary of progress in this area of development as of 1974. Bazinet (1970) also notes that a desire for such external amenities was still a primary concern for young people at the time of his study. Combs (1977) points out that such external changes are manifestations of expedient adaptations to the physical environment. He argues that such changes need not affect the stability of the culture. He suggests that stability is only affected by inner values, which provide the rationale for behavior change; he argues that such values are more resistant to change than are externals like housing, food, and clothing. There is one physical amenity, however, which could potentially have a considerable effect on language use in the future, and that is television. This is becoming increasingly available in the rural areas as the process of electrification continues. Undoubtedly, this will bring greater numbers of people into more frequent contact with spoken French and Western culture. The appearance of this factor is much too recent, however, for it to be possible to predict the effect it will have on vernacular languages and culture.

It appears, then, that the present-day rural Melanesian communities of New Caledonia are typical of the small rural communities which Tabouret-Keller found were very likely to maintain their existing pattern of linguistic use.

Education. Extension of compulsory primary education was another factor mentioned by Tabouret-Keller as likely to promote a shift towards increased use of the language of education. Where other factors provide the social environment conducive to language replacement, universal compulsory education tends to speed up the process of acquiring fluency in the dominant language. Tabouret-Keller points out, however, that under certain circumstances education has only a limited effect on the linguistic situation. She found, in particular, that children from poor nonliterate communities often do not benefit from education in a language which is not their mother tongue.

Rubin (1968), in a study on education in Paraguay, came to a similar conclusion. She found that Guarani-speaking children from rural Paraguay obtained only limited benefit from education in Spanish. She found that many students did not have sufficient comprehension of Spanish at the end of primary school to benefit from secondary education even if they had wanted to avail themselves of the opportunity. Moreover, those who did proceed to secondary school had great difficulty in competing with urban children who were more fully bilingual in Spanish or for whom it was their mother tongue.

These examples tend to support observations made in the present investigation. (See also Gasser 1979). These observations are that the expansion of primary education has certainly made knowledge of French available to all children and that it has almost certainly raised the average level of comprehension of French compared to what it was forty years ago. At the same time, however, it was found that the majority of students effectively reach only a primary level of education. On average, these children had reached a level of competence in French which enabled them to use it with profit as a language of wider communication, but they had not reached a level adequate for linguistic functions normally filled by the mother tongue. This indicates that primary education alone, although extremely important and not to be denigrated, is not likely to cause a breakdown of the complementary functions of French and the vernacular. It is unlikely on the basis of this factor alone, therefore, that French will replace the vernaculars as the mother tongue of rural Melanesians.

Attitudes. A factor relating to language change which is not always immediately obvious nor easy to analyze is that of attitude. Many investigators have noted the importance of this factor although not all have discussed it in detail. Stewart (1968), for example, notes that official language development programs have often had unforeseen results due to the emotive reactions or attitudes of the people concerned. Tabouret-Keller (1968) distinguishes between the knowledge of and the use of a

language, pointing out that people may in theory *know* a language, but not have the desire, need, or opportunity to use it. In another context, she comments that industrialization and urbanization have not stimulated significant linguistic shift in the Strasbourg area and this, she suggests, is due to the positive attitude which bilingual members of the community have towards their mother tongue. Both Combs (1977) and Collier (1977) have found that an understanding of attitudes is of central importance in assessing linguistic trends in Papua New Guinea and have developed some procedures for quantifying and analyzing such attitudes.

The effects that personal attitudes have on language use may be summarized in the following general way: A positive attitude towards a mother tongue increases the likelihood that it will be maintained even if there is considerable pressure towards replacement from a prestigious second language. A positive attitude towards a second language increases the likelihood that a person will learn and use it given the necessary opportunity, reinforcing any existing trend towards language replacement. A negative attitude[9] towards a mother tongue increases the likelihood that any trend towards replacement by a second language will be accelerated. This is even more likely if a negative attitude towards the mother tongue is combined with a positive attitude towards the second language. A negative attitude towards a second language increases the likelihood of resistance to any trend towards an increased use of this language. If a negative attitude towards a second language is combined with a positive attitude towards the mother tongue, it is particularly likely that the existing pattern of language use will be maintained.

It should be borne in mind, as Stewart (1968) has noted, that attitudes can be selective, especially attitudes towards a second language. That is to say, a second language may be freely accepted and used in certain social situations for certain specific functions (in certain domains), but at the same time be consistently passed over in favor of the mother tongue in other circumstances. Such a case would be a diglossic situation.

According to the data collected for the present investigation, rural Melanesians were generally found to have a positive attitude towards their mother tongue. This has probably not always been the case, but it appears that there has been a growing awareness in the past decade of the value of Melanesian languages and cultures, and there has been a conscious effort to maintain these languages and to resist any radical change. This is

[9]In practice, the attitudes in question may not be as extreme as this label might imply. For example, indifference, which is a neutral rather than a negative attitude, is included in this category because people who are indifferent towards something tend not to use it if they can use something else.

manifested in part by an overwhelming desire for vernacular literature and by a desire to maintain the essentials of traditional culture.[10]

Responses in the sociolinguistic questionnaires indicate that Melanesians have a selective attitude towards French. They appreciate its value as a medium for education, but they only very rarely use it in other social contexts. These attitudes suggest a trend towards maintenance of present patterns of language use with vernaculars remaining the mother tongue and French continuing as the language of education and wider communication.

Bazinet's study (1970) clearly indicates that rural Melanesian young people have a positive attitude towards village life which continues to have many attractions for them. The town of Noumea also has certain attractions for them, but these are not of overwhelming importance because they are tempered by factors which make it unattractive. Only a minority of young people would choose to live in Noumea if they were able. This supports the conclusion that attitudes towards French are selective. That young people appreciate many aspects of rural life supports the conclusion that there is a basically positive attitude towards mother tongue language and culture.

Lambert et al. (1968) have isolated two primary factors necessary for successful second-language learning. They found APTITUDE and INTELLIGENCE to be particularly important for learning a second language in a school situation, and SYMPATHETIC ORIENTATION (attitude) towards the language and the speakers of the language being learned to be important outside of the school situation if the student is going to develop his language skill and actually use it in real-life situations. On this latter level of attitude, they also differentiate two kinds of motivation for learning another language. They say motivation is INSTRUMENTAL if utilitarian, that is, if the person is learning the language in order to gain a practical benefit such as better job opportunities or some other form of self-advancement. On the other hand, they say motivation is INTEGRATIVE if the student is learning a language for its own sake

[10]Other factors noted in the course of the survey which are evidence for a growing interest in the vernaculars and an increased willingness to conserve and develop the use of the vernaculars are as follows:

1. The creation of the Institut Culturel Melanesien which has as its initial goal the conservation of the vernaculars.
2. The creation of a local radio station at Lifou is in the discussion stage. This would broadcast at least partially in local languages.
3. The preparation of materials by the Centre Territorial de Recherche et de Documentation Pedagogique that three vernaculars can be studied as a subject in school.
4. The recent reprinting of the Lifou version of *Pilgrim's Progress*.
5. A growing awareness in the private school system (e.g., Gasser's study).

or perhaps with a view to learning more about another community or even to integrating into that community.

Studies carried out in Montreal indicated that students with an integrative attitude towards language learning were generally more successful than those with an instrumental motivation. In Lambert's development of this theme it becomes clear that he associates integrative motivation with the sympathetic orientation noted above. In other words, for a person developing language skills in a context of interpersonal communication rather than in a school context, it is of great importance that he have an integrative attitude if he is to make significant progress.

Another concept which Lambert mentions is ANOMIE. This is the feeling of social uncertainty and dissatisfaction that often characterizes the bilingual as he becomes aware that he is caught between two cultures, not truly belonging to either one. The most common reaction to this feeling is withdrawal back into the relative security of one's mother tongue language and culture where this is possible. If anomie is strong and is not recognized and overcome, it can create a serious barrier to the continued development of practical ability in the second language.

According to the data collected by means of the sociolinguistic questionnaire concerning the value of a knowledge of French, it appears that rural Melanesians do not have an integrative attitude towards learning French at the present time. The data clearly indicate that those who consider knowing French to be of value have an instrumental and utilitarian attitude towards it. The implication of this attitude, according to Lambert, is that significant progress in using French after the stage of learning French in school is completed is not to be taken for granted, since the integrative motivation needed for developing linguistic skills is lacking. In fact, the opposite process—loss of ability in French—may well come into play in adulthood if there is little opportunity or motivation to use the French learned in school. Lieberson (1980) has claimed that any skill acquired in school and not consistently used is gradually UNLEARNED, although only time and further investigation will be able to establish this beyond doubt.

No quantitative data were gathered concerning anomie, but many people commented in general terms that young people have difficulty adapting to Western ways and culture while at the same time appearing not to fit into their own culture as easily as their parents did. The study conducted in 1970 by Bazinet makes it clear that a sense of ambivalence is a very real problem for young Melanesians living in rural areas. If the example cited below is at all representative, it is quite possible that this ambivalence is related to the concept of anomie cited by Lambert.

One participant in the survey was a well-educated thirty-year-old man. His experience illustrates how internal attitudes and reactions affect language use.

He stated that when at school, he and his peers were encouraged to have an integrative attitude towards learning French. He said that he accepted this idea and tried to put it into practice by immersing himself in French language and culture. He had spent six years in Noumea for intermediate and secondary education, so this was in theory possible. He tried in every way possible to become a Frenchman. His verdict on the experiment, however, was that it did not work. Much as he might have wished to integrate into European society, he considered that it was impossible because he was first and foremost a Melanesian and nothing could change that. On recognizing this problem, his personal reaction was to withdraw to some extent from his Europeanized lifestyle and to go back and try to relearn some of his original language and culture, which he was afraid of losing. This movement back to his own language has been so strong that he is now consciously trying to give his children as thorough an exposure as possible to his Melanesian culture and language, even though his family situation (married to a Melanesian from another language group) and his work situation (never staying long in one place) militate against this. He claimed, moreover, that others of his generation—the first generation to benefit from universal education—went through a similar evolution and that this may have provoked the renewed interest in Melanesian language and culture which has been marked in the past decade. This particular person has by precept and example stimulated the whole of his home community to take a renewed interest and pride in their language and culture. It seems that despite the importance of French and the opportunities to learn it, attitudes at the present time are such that they are likely to slow down or even neutralize any trend towards language replacement and to encourage maintenance of present patterns of language use.

Contact. Interaction between individuals and communities has many aspects and manifestations, discussion of which occurs regularly in the literature on language maintenance. Many of the writers cited above, for example, speak of immigration, commuting, integration, breakdown of social distinctiveness, fluidity of roles, and so on. These specific phenomena, however, all imply social interaction between two (or more) communities. This common feature can thus be highlighted and discussed under the heading of CONTACT.

This factor has considerable influence on the process of language change, for it is as people have contact and interaction with speakers of another language that opportunities are created for their respective languages to be influenced and changed. The degree to which change takes place depends on the degree of influence languages have on each other, which depends in turn on the degree of contact that exists between speakers of different languages. Needless to say, when the change is so radical that one language threatens to

replace another, it implies a great deal of contact over a considerable period of time.

Tabouret-Keller (1968) found the most marked language shifts in and around large industrialized towns. She attributes one of the reasons for this to be that towns are meeting places for immigrants from many areas, thereby providing a great deal of opportunity for interaction between peoples speaking different languages. Mackey (1968) specifically points out the importance of contact for the phenomenon of bilingualism, emphasizing that frequency, duration, and degree of contact are all aspects to be taken into account.

Contact has been isolated and discussed as a primary factor in language change by investigators in Papua New Guinea, notably Combs (1977) and Collier (1977), who have developed detailed proposals for measuring this factor. It should be noted, however, that they and Tabouret-Keller imply very clearly that frequent (daily or several times a week) contact on a large scale is the kind that is most likely to provoke large-scale language shift. Collier also assumes that contact in trade and work situations is likely to provoke less change than interaction on a social level, where a much greater range of linguistic interaction is likely to take place.

It seems clear from the survey in New Caledonia that rural Melanesian communities do not have this degree of contact with francophone communities. Contact with Noumea is infrequent and of short duration, while contact with rural francophone communities is not much greater. In a few cases, where villages are close to such centers, some men may commute daily for work, but these would be only a minority of the male population. Their contact, moreover, is only on a work level and is thus not as significant as it would be if it were on a social level. Bazinet (1970) supports this view because it indicates that there is little interaction between Melanesian and francophone young people and that the little contact that does take place is usually in a work situation.

In conclusion, it can be stated that sociolinguistic factors described by other investigators indicate that language replacement is hardly taking place in New Caledonia, certainly not on the scale predicted thirty years ago. On the contrary, there appears to be a renewed interest in maintaining the use of Melanesian vernaculars. French is recognized and appreciated as the primary language of wider communication and the language of education, and it is expected that it will continue to fulfill these functions. At the same time, it seems very likely that vernacular languages will continue to fulfill all other linguistic functions necessary for life in small rural communities for the foreseeable future.

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7

Social Network Analyisis as a Method of Supplementary Data Collection

There is a problem inherent in the type of research described in the previous chapters, and that is the observer's paradox—the presence of the investigator himself. The presence of any outsider in a small rural community immediately creates an unusual circumstance. When the observer also wishes to ask questions and probe into aspects of community life, the situation becomes highly unusual, making it difficult to obtain an accurate estimate of what is *normal* for the community.

It is widely recognized that sociological investigations—especially those based on interviews—bring these kinds of difficulties. If respondents wish to be polite, they may answer according to what they think the investigator wants to hear. If they are timid, they may say anything just to get out of an embarrassing situation. Some subjects may express their aspirations rather than an assessment of actual practice, while others may avoid the interview situation altogether. In a cross-cultural situation, there is an additional danger that very basic misunderstandings can arise—misunderstandings ranging from the purpose behind the investigation to misunderstandings of specific questions in the interview instrument. Time is also usually limited and visits to locations brief, with the result that a disproportionate concentration on detail can result in major characteristics of the larger picture being overlooked. On the surface, the method for testing comprehension is not as liable to these kinds of difficulties as the interview methodology, but the investigator has little actual control in some circumstances over who actually elects to participate in tests. This is

because participants are sometimes selected by a community leader; in other cases selection is made by default because certain individuals decline to participate.

In such circumstances the data collected are not unusable, provided the investigator is aware of the difficulties specific to each situation and has the means to compensate for anomalies created by the methodology. One practical solution for ensuring that specific data are accurately interpreted is to spend a longer period of time in residence in one of the communities visited. Gumperz has done this on a kind of ad hoc basis in the role of unobtrusive observer of social gatherings and Labov used an *insider* as an intermediary for collecting data, but it is Milroy (1980) who has made some attempt to define and systematize this methodology with reference to SOCIAL NETWORK THEORY. Milroy makes the point that the observer or interviewer's dilemma is due to the fact that the observer is trying to describe a social network of which he himself is not an integral part and that his presence as a nonmember quite naturally provokes a disturbance in the normal functioning of the network. Milroy's solution is for the investigator to find a way of becoming a legitimate member of the network he wishes to observe. She recounts how she was able to become a functioning member of certain social networks in Belfast by being introduced as a *friend* of an existing member of the network. This category was acceptable and enabled her to build her own relationships with the various members of the network, thereby enhancing the reliability of the data she collected.

A similar methodology was used in the present investigation as a means of verifying and interpreting the raw data. Following the period of data collection described earlier, a period of six-months residence was arranged in the village of Paita (Gomen), one of the sites visited in the course of initial data collection. Following Melanesian custom and building on existing relationships, the investigators were *adopted* into the community as guests of (even as members of) the host family. From this social vantage point, as a legitimate member of the community and not just as a transient outsider, it was possible to observe what was actual practice in the community and, consequently, to determine what was merely a statement of aspiration or a pure and simple misunderstanding. An added bonus was that it was possible to collect additional information which could not otherwise have been accessed. The longer period of time also permitted the luxury of standing back and seeing the total picture more clearly. This latter facility, coupled with extensive travel to a variety of other communities, made it possible to draw additional general conclusions concerning other regions of New Caledonia where detailed investigation was not undertaken.

Knowing, speaking, and learning French. Participation in the social network of Paita had several beneficial results, the most crucial being the elucidation of some very basic misunderstandings concerning language use. Throughout the investigation, the words *knowing*, *speaking*, and *learning* French (or a vernacular language) had been used freely. In some cases, especially as the investigation progressed, these words had sometimes been elucidated and explained in the course of the general discussion generated by the questionnaires, but vague suspicions had not been translated into a clear understanding of what actually was or was not communicated by them. Briefly, it was confirmed that when people speak of *learning a language*, they specifically mean a language learned in school. They do not speak or think of *learning* a mother tongue. This was the most obvious misunderstanding, one which was uncovered fairly early on, with the result that the question on the respondents' mother tongue was consistently explained in the course of the investigation. An awareness of this misunderstanding does, nonetheless, explain some otherwise baffling and misleading data, as in the case of one fifty-year-old woman who absolutely insisted that French was the first language she learned; yet she could not communicate a single sentence in French, and all conversation had to be conducted through an interpreter. A review of ambiguous data coupled with supplementary observations of this sort confirmed that the mother tongue for all Melanesians growing up in a rural environment is still the local vernacular. This was further confirmed by local schoolteachers who indicated that the children know nothing more than a few isolated words of French on first arrival at school but are fluent in the vernacular. As far as the community at Paita is concerned, even those who had grown up in a multilingual environment away from their home community with parents who spoke different languages had not learned French as their mother tongue.

A respondent's understanding of *knowing* and *speaking* a language, however, is subtle and idiosyncratic. It especially affected data concerning languages used by parents when speaking to their children. Specifically, *knowing* or *speaking* French, in local parlance, means *the ability* to interject isolated French words into what is otherwise an uninterrupted stream of local vernacular. Certain individuals or categories of people, like the young people at Paita, had a reputation for *always speaking* French. But when the speech of such people was analyzed, there was nothing French about it apart from such isolated words. When this anomaly was discussed with various individuals, they expressed surprise and indicated that is what they meant all the time. It came as no great surprise then that after a few months the people of Paita began to announce with pride to friends and acquaintances from other communities that we *knew* and *could speak* their

language, even though our repertoire was little more than a few hundred haltingly pronounced words. Further reflection revealed more insights into what the older people meant when they complained that the young people *always speak* French. First, they were aware that the young people were better able to communicate in French than they were and that they did so more often with friends who spoke a different vernacular. Second, it was their way of explaining the fact that the young people's lect of the vernacular was not the same as that of the older generation and that the distinctive feature of their lect, not surprisingly, was a higher proportion of French-based vocabulary. It should be noted, however, that a difference of lect between generations is a universal phenomenon, not just occurring in New Caledonia.

These insights affect formally collected data in the following way: in the course of the detailed investigation, 25% of respondents said that they did (or that they would) speak both vernacular and French to their children. In the light of the above elucidation, this claim must be treated with care. All the indications are that, in fact, children hear very little French in the home before they start attending school and that they grow up with a vernacular language firmly implanted as their mother tongue.

It is all too easy for an outsider who is briefly visiting another culture to form superficial or even erroneous impressions. Even if living in a rural community for a time, it is possible to form the impression that French is widely spoken and understood. The reason for this is obvious upon reflection, for even as *members* of such a community, the only medium of serious communication available to us was French. If, therefore, we were ever personally involved in any conversation, French was used. But further analysis of that state of affairs reveals two important facts. First, with most acquaintances, conversation was limited to very superficial topics. Once conversation moved into unfamiliar semantic territory, the ability to communicate deteriorated rapidly. It also became clear after a while that even these limited conversations were only conducted with a very few people; all others seemed to have an uncanny knack of avoiding social interaction with the visitors, even though there was no animosity. One particular man used to smile and nod in a very friendly way, but would never say anything until it was possible to exchange a few words in the vernacular. So the question arose as to whether he could not or whether he simply would not speak French. On one occasion, he was observed conversing with a Melanesian friend from a neighboring language group. The latter was well-educated and was discoursing in French. At an appropriate moment the man from Paita attempted to reply in French. He struggled on for a few sentences, but, with what could only have been a vernacular expletive, he lapsed into his vernacular and continued in it through the rest of the conversation. The visiting friend continued to speak French but

evidently knew enough of the language of Paita to understand it. This example only concerns speaking ability, but in an oral situation (as opposed to a school situation) speaking and understanding are closely linked in New Caledonia. It would be possible to cite other examples to support the basic contention that many rural Melanesians of all ages are basically unable to maintain a conversation of any length in French.

The use of French, then, is to be expected when an observer is present, but there were also occasions when groups of Melanesians appeared to be animatedly speaking among themselves in French. This happened fairly often with young people but was unusual when it happened on one occasion with a group of women. Upon investigation, however, all such occasions had the same explanation, namely, that a nonspeaker of the local vernacular was present. The same observations that were noted above were also true on these occasions. Only one or perhaps two people were actually saying anything in French. A few would be nodding in agreement but most would be silent listeners, not making any response.

Over a period of time the bigger picture began to take shape. We found that there was a basic social system that with only minor exceptions always seemed to function smoothly but which could leave an unwary outsider with the impression that French is widely used in rural communities. Within a community such as Paita, there is a very small number of individuals who are proficient in French. Some of these are local people, usually those who have lived away from their home community for a number of years before returning home, but others originally were outsiders who entered the community as schoolteachers and pastors. A visitor coming from the outside and needing to communicate in French either makes his way to these individuals or is directed to them. If any public speech or announcement must be made in French, one of these individuals is nominated for the task. Many older people are not capable of performing this role and many younger people are not comfortable in it, so any such interaction with outsiders tends always to be the responsibility of the few persons proficient in French. This is an onerous responsibility for these individuals in that they function both as intermediaries and as a buffer between their community and anyone coming from the outside, but that is how rural communities appear to handle their communication problems.

Further insights were gained into this question of the use of language in a multilingual situation when local people were observed interacting with other Melanesians from other language areas on special formal occasions. At church business meetings with only adults present, the majority of the proceedings were conducted in French, with an occasional use of the language of Lifou. (Both the languages of Lifou (Drehu) and the language of Houailou (Ajie) have been used historically by the Protestant church as languages of wider

communication.) At services where all ages were present, however, French was, perhaps surprisingly, not used even though it might reasonably be assumed to be the language best understood by most people. Instead, one Melanesian language was used as the primary language which was then translated into another local language. On one occasion witnessed, special songs were prepared. It was explicitly stated that the songs should be understood by as many as possible, and for this reason the local language spoken at Paita was not used. Instead of French, however, the languages of Lifou and Houailou were chosen. These observations indicate that even though French is clearly the single most important language of wider communication in New Caledonia, it is not the automatic choice; sometimes other vernacular languages are chosen.

Language attitudes. In addition to the supplementary data collected concerning language use, it was also possible during this period of residence in a Melanesian village to refine and clarify the data concerning language attitudes.

Reference was made above to the individuals or groups who had a reputation for *always speaking* French. During the course of our stay in Paita, it became clear that this was intended to be a derogatory statement which revealed the general attitude that such *substandard* speech was not highly regarded. This attitude was confirmed by individuals who normally lived in the town but came back to the village for occasional visits. They remarked that when they came back to the village there was considerable pressure on them to speak the vernacular and that they were made to feel somewhat ashamed that they did not speak it *properly*.

From the outset of the investigation, humor was considered a potential key to revealing underlying attitudes, but it proved too difficult a topic to investigate through a brief questionnaire. Prolonged participation in a social network, however, did make it possible to gain some insight on this subject. On one occasion, an evening of humorous sketches and songs was organized. It was interesting to note that the majority of the sketches had breakdowns in communication as their theme. Some derived their humor from the inability to speak or understand French; others drew attention to a difficulty in pronouncing French correctly. At a minimum, this suggests that communication difficulties are recognized as a normal part of life and that, in particular, difficulties in understanding and speaking French are sufficiently real and commonplace that they have left an imprint on modern Melanesian subculture.

It is clear from the above examples, then, that there is a deep-rooted awareness of the multilingual situation and a sufficiently positive attitude

towards vernacular languages that maintenance of the existing multilingual situation is likely to continue.

The importance of Melaneslan culture. The period of residence at Paita provided a third set of insights, this time into the structure, importance, and solidarity of Melanesian society in New Caledonia. In brief, it became strikingly clear that New Caledonian culture as a whole, far from being homogeneous, is not even a uniform amalgam of different cultures. It appears rather that two major social systems, European on the one hand and Melanesian (or Oceanic) on the other, exist side by side with only relatively limited influence on each other. The two systems inevitably influence each other to some extent, but it would seem that the effects are essentially external and cosmetic in nature. As far as fundamental principles are concerned, the two systems are independent and autonomous.

At Paita, for example, village life revolved around a traditional yearly calendar. The yam festival was the focal point, followed by the agricultural imperatives of land preparation and the planting of next year's crop, interspersed with *seasons* for marriages and deaths in the cold part of the year. Some Christian festivals were also included in the calendar, but this was only reflective of the fact that Christianity has to a large extent been indigenized and adopted into traditional culture. Other nontraditional festivals were recognized, but often with little understanding of their history and importance. The people of Paita, even though Protestants, thus took time from their usual occupations on November 1 to tidy their cemetery and put fresh flowers on graves, a custom widely practiced by Catholics both in France and in other parts of New Caledonia. The Melanesian community had adopted this practice, but they admitted that they had no idea of its meaning or why they did it.

This is only one example, but it represents many such occurrences found in different areas. European culture has influenced traditional Melanesian culture, but it primarily touches external matters, underlying principles and fundamental motivations being left largely untouched. Melanesian culture is in no immediate danger of being extinguished or replaced.

Languages and cultures are very closely linked, and the processes of change that they go through are very similar. What is important to note, however, is that the process of *normal* adaptation to a changing social environment is by no means the same thing as a radical abandonment of one system and the wholesale adoption of a new one. As Lieberson (1970) observes, the process whereby and the reasons why a community becomes bilingual are not the same as the reasons why a community sometimes abandons the language of its forefathers in favor of another one, even though the process of language shift inevitably entails a prior period of

bilingualism. Thus, in New Caledonia, rural Melanesians are generally bilingual, and in passing it should be noted that this is nothing new since they were almost certainly multilingual in the precolonial era, too, but they are not in the process of abandoning one language in favor of another.

Likewise, they are to some extent bicultural and able to operate with a greater or lesser degree of success in both their own and the European social system. Yet at the same time the period of residence at Paita demonstrated clearly that they are not in the process of abandoning their traditional values and way of life in favor of a completely different social system. This general statement also appears to be true of the younger generation as well, as indicated by Bazinet's study (1970) and by our own informal findings.

The findings described above are based on a period of six months residence in the village of Paita (Gomen), but during that time and since it was possible to visit many other Melanesian villages and to converse with a large number of Melanesians from various parts of New Caledonia. The findings of the specific investigation described in previous chapters and the various findings presented above have been so consistent throughout that it is highly probable that similar results would be obtained in almost any rural Melanesian community situated more than fifty kilometers from Noumea. The rest of this chapter will be devoted to completing this general picture for the whole of New Caledonia and will deal with topics not covered by the detailed investigation previously described: language replacement in New Caledonia, the sociolinguistic situation in Noumea, and other languages spoken in New Caledonia.

Language replacement in New Caledonia. In the previous discussion it has been implied that no language replacement is taking place at all, but this is not entirely true. It appears that two types of language replacement are currently taking place. First, some vernacular languages with a small number of speakers are in the process of disappearing. Rivierre (1985) reports that the language Waamwang has become extinct in the past fifty years, and personal investigation indicates that Hmwaveke is no longer recognizably distinct from the related dialect Hmwaeke. Both these languages were spoken in the region of Voh and are subsumed under the heading *Voh-Kone Dialects* in Table 1. Another language which also seems to be at risk is Arho, spoken near Poya. All these languages have (or had) a very small number of speakers (under 100) and are all located in the same geographical area along the northwest coast. The people in this area underwent forced relocation in an earlier period, with all the social and psychological upheaval that such events entail. As a result of the relocation, speakers of several different languages found themselves living side by side

in the same community. It is not, therefore, surprising to find radical language change taking place there. What is perhaps more surprising is that such a large number of distinct linguistic entities still persist in the region of Voh, Kone, and Poya, with people communicating through passive bilingualism. The most important point to note, however, is that these languages are not being replaced by French. Rather, the heirs of these linguistic traditions have taken to using other Melanesian languages in the place of that of their forebears. Waamwang and Hmwaveke have been replaced by or amalgamated with Hmwaeke. Arho is reportedly being replaced by Ajie.

The second type of language replacement, on the other hand, does involve French. The languages of Lifou (Drehu) and of Houailou (Ajie) have in the past been extensively used as languages of wider communication, especially within the milieu of the Protestant church. Increasingly, however, this practice is falling into disuse, and the younger generation uses French as a language of wider communication on occasions when their parents might use Drehu or Ajie. Thus it is that French is replacing these two languages as a language of wider communication but not as a mother tongue. When Melanesians speak of French replacing a vernacular, this is usually what they mean.

The sociolinguistic situation in Noumea. The main part of this study concentrated on the rural population of New Caledonia; for the sake of completeness, however, a few observations can be made concerning the sociolinguistic situation in urban Noumea. By South Pacific standards, Noumea and its satellites, with a population of 80,000 people, is a major conurbation, and the degree of urbanization and industrialization is in stark contrast with the rural nature of the rest of the Territory. It is not surprising, therefore, to find many sociolinguistic factors which are quite the opposite of those documented for the rural areas. In Noumea, European and Melanesian languages and cultures have a high degree of contact. The need and opportunity to hear and speak French on a daily basis is much greater. To compete in the job market, ability in French is a desirable skill. The availability of secondary education makes it possible for young people to stay within the educational system for a longer period. As would be expected, Melanesians in Noumea generally have a better ability to speak and understand French than their rural counterparts, and urban young people in particular are more fully bilingual than those of other regions.

Having presented an overview of the situation, some compensatory factors must, however, also be noted. First, the vast majority of Melanesians, including young people, continue to be bilingual. Even if they are often more comfortable speaking French in public situations, their mother tongue is

usually a vernacular language. The most common scenario is that both French and one or more vernaculars are spoken in the home, where the vernaculars tend to dominate. With few exceptions, the only circumstance in which a child grows up learning French at home is where one parent is non-Melanesian. In most cases, even in the case of mixed marriages, parents are so concerned that their children maintain ability in a vernacular language that they send them to spend school holidays with their grandparents.

Another important factor is that, despite urbanization, members of the same ethnic background tend to congregate in the same suburbs. In this respect, Melanesians are no different from people in all parts of the world. Within those suburbs, members of the same extended family or home village may live in the same or neighboring houses or apartments, thus fostering use of the vernacular. It is also common for family members from rural areas to visit in the city, thereby stimulating use of the vernacular within the home. As Labov (1972) has noted, the concept of solidarity between people of shared backgrounds can encourage the maintenance of a vernacular in any circumstances, and in certain social circumstances can actually cause it to flourish. This would certainly seem to be the case in Noumea. Regular observation indicates that Melanesians always speak to each other in a common vernacular whenever this is possible without being impolite to other parties. On the other hand, a vernacular may also be used with the express intention of excluding non-Melanesians who are present. Melanesians who are permanent residents of Noumea are generally proficient speakers of French, but with very few exceptions they are all at least bilingual and usually prefer to speak to each other in a vernacular language when this is possible. At the same time, there are examples of Melanesians who live in Noumea for periods of several months or more who have poor ability in French and who very rarely, if ever, use it for serious communication. This is possible because they live and function entirely within the urban Melanesian community, where any necessary contact with an outsider can be undertaken with the help of a bilingual intermediary in the same manner as in a rural situation.

In an urban situation, traditional social systems inevitably tend to break down. Nonetheless, even though European culture tends to dominate many social domains in Noumea, life within a Melanesian suburb makes it possible to retain many traditions of non-European culture, at least in the home. In addition, residents of Noumea generally maintain close ties with their home communities, frequently making visits on holidays and particularly for marriages and funerals.

It can thus be seen that, even though the urban context affects language use, it is still too simplistic to state that French is replacing vernacular languages even in this environment. The situation is extremely complex, and

it would be worthwhile to make the sociolinguistic situation in Noumea the subject of a separate study.

Other languages spoken in New Caledonia. Finally, some mention should be made of other languages which are spoken in New Caledonia, the speakers of which for the most part also live in and around Noumea. As mentioned in the introduction, at least five other languages are spoken by permanent residents of New Caledonia. These are Javanese and Vietnamese from Asia, and Wallisian, East Futunan, and Tahitian from the Pacific.

A detailed study of these languages would also be worthwhile because, as this brief summary indicates, the superficial sociolinguistic similarities of these languages mask certain fundamental differences when it comes to questions of language maintenance and language shift.

These languages are similar in being nonnative to New Caledonia and in being spoken entirely by recent immigrants. Yet at the same time they are spoken by minorities whose cultures are very different from the dominant francophone culture. Some studies and reviews (Lieberson 1980, Grosjean 1982) have indicated that there are certain basic differences between resident and immigrant minority groups. Although it is not automatic, for example, immigrant communities are generally more likely to abandon their original language in favor of that of a dominant culture than are groups which have traditionally resided in the same location from before the arrival of a dominating force from the outside. The Melanesians of New Caledonia, of course, fall into the latter category, and it has been seen that their situation supports this hypothesis in that they continue to retain their traditional languages. Of the four immigrant groups (the Wallisians and Futunans are treated together for convenience), two groups follow the classic pattern for immigrant communities, one does not, and one is mixed.

The Javanese came to New Caledonia as indentured laborers to work in the nickel mines. From the start, they were drawn into the mainstream of economic life and had a lot of contact with French language and culture. The generation born in New Caledonia is very socially mobile and are assimilating rapidly into French society and culture with the result that French is their dominant language. In the third generation, it will probably be their only language.

The Vietnamese will likely speak French by the third generation, but their situation differs in that the trauma and social upheaval they went through on leaving their native land has given them even more reason for wanting to forget the past and assimilate as rapidly as possible into French society. This they are doing and very few young people know more than a few words of their parents' language. In these two cases, language replace-

ment is taking place very rapidly, as has been the case for the majority of cases documented in the United States.

The situation for Wallisian (and possibly for Futunan as well, although this is less certain) is quite different. The Wallisians also came to New Caledonia in search of work, but even though they would have had some contact with French before arriving, they are nonetheless not assimilating to the French language and culture. There are a number of reasons for this. First, the Wallisian population is numerically quite significant (approximately 15,000). They tend to live close together in certain suburbs. They also tend to keep together in their own communities for social and religious activities, much as the Melanesians do, maintaining their own traditions with a strong sense of ethnic solidarity. Their families are large, and it is clear that Wallisian continues to be the language of the home and family, and consequently to be the mother tongue of the younger generation. Whereas Javanese and Vietnamese ties with their homeland are tenuous at best, this is not true for Wallisians. They continue to maintain links and have contact with their home islands.

The Tahitians cannot be clearly categorized. Some of them maintain a strong sense of solidarity within their own ethnic group. In such cases, the Tahitian language is being maintained even though young people at least are bilingual in French. In other cases, however, particular families have chosen to integrate more fully into French culture. In these cases, the young people are rapidly losing their ability to speak Tahitian.

These examples illustrate the complexity and diversity of human behavior and, consequently, the importance of careful sociolinguistic research. The people concerned are relatively few, living in close proximity to one another, all on the same small strip of land; yet the choices they make and the social factors which are the most important for them are infinitely varied. The practical consequences of this are that in one location an entire family is bilingual and more or less proud of a rich multicultural heritage, while, quite literally across the street, another family is in the process of switching to a new language radically different from their own as the primary means of communication. The precise reasons for this are not easily elucidated, simply because they are many and because the human beings who make these choices are infinitely complex.

This chapter has brought together additional methodological insights derived from the concept of social networks, plus some supplementary data and illustrations which help to confirm the conclusions proposed in previous chapters. This process has also helped to indicate how these conclusions can be applied, by extension, to other similar communities in other parts of New Caledonia and how, by contrast, they would not be true for other communities where a different combination of sociolinguistic factors is present.

8

Towards a Typology of Bilingualism

Another difficulty with undertaking sociolinguistic research of the type described in the previous chapters is that researchers in recent decades have unearthed such an amorphous mass of concepts, criteria, and conditions that vie with one another for precedence, and of facts, factors, and features that have no overt connection with one another, apart from the fact that they come under the general title of sociolinguistics. This state of affairs leads very easily to the temptation of assuming that no stone must be left unturned in the search for sociolinguistic secrets, which leads in turn to the danger of being drowned in data, with no hope of extracting any sort of coherence from the wreck.

Although it is true that human beings are capable of infinite creativity in their development of social systems, and that they find all manner of reasons for using or not using language in the ways they do, it is still worth wondering whether there is not, in fact, a common denominator—an underlying theme—in all the variation that would unify and make sense of all that has been learned of human societies around the world.

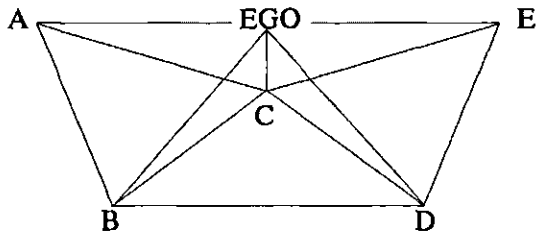
This investigator has certainly faced this temptation and, although every attempt has been made to focus on one topic, the number of issues actually discussed and the temptation to diversify have been considerable. But the overriding question remains: Is there not one single concept which would serve as a focus for integrating the variety of sociolinguistic factors? The purpose of this chapter is to further develop the concept of a social network and to show that it can be used as such an integrating factor. Although it has not been possible to reach definitive conclusions, they are

sufficiently suggestive to indicate that the quest for unity is not a hopeless task.

Social network analysis. The concept of social networks was developed originally by sociologists to describe and systematize the patterns of relationships that individuals develop as they function as part of a group or society (see, for example, Boissevain 1974 and Boissevain and Mitchell 1973). Some of the technical terms used to characterize social networks are DENSENESS, MULTIPLEXITY, and CLUSTERS.

A network is said to be of high density if individuals (A, B, C, D, E) who are in relationship with any ego (are in his/her social network) are also in relationship with each other. Such a network is shown in schematic form in Figure 1. For ease of representation the network illustrated is not 100% dense, i.e., not all possible relationships are shown.

Figure 1. Schematic Form of a Social Network



A network tie is said to be multiplex if ego is simultaneously related to a given person in a number of different capacities. For example, they may be related by kinship, by being neighbors, by being fellow employees, and, by being members of the same club, all at the same time. High density and multiplexity tend to occur together; when they do, it has been found that those who function within such networks tend consistently to conform to the social norms accepted as appropriate for their group or community.[11]

Most individuals typically have several relationship clusters. The number of network clusters an individual may be part of is theoretically infinite, but Cubitt (1973) suggests it can, in actual experience, be reduced to as few as four key clusters. In addition, she proposes that the density of these key clusters is more important than the overall density of an individual's network for determining the extent to which the person will be influenced

[11]This hypothesis was first developed in embryo by Bott (1957), with refinements by Cubitt (1973) and Milroy (1980, 1982).

by the attitudes, example, and expectations of other members of his/her social network.

The greatest appeal of the social network concept is its universality. As Gluckman remarked when commenting on Bott's pioneering work, "It may be that many a concealed truth, once extracted and stated, is a truism" (Bott 1957:xvi). Not much has yet been made of this particular truism, but it is self-evident and significant that virtually every human being must belong to some social network, however rudimentary it may be. It is within the context of these networks of relationships with other people that individuals actually use language, develop attitudes towards language, society, and culture, and are influenced in one way or another by what other people say and do. In other words, a network is a common denominator in all situations where language is used for real communication, and it has great potential for being a means of integrating many of the disparate factors already used by sociolinguists.

This important realization has far-reaching consequences, for it means that the social network concept can be used as a focal point for sociolinguistic research in any part of the world and in any kind of social situation. If such a universal concept were made the focal point of sociolinguistic studies, there would be a basis for comparing different studies of many different kinds which could, in turn, open the way for the development of a unifying theory that could help explain the use of language in society, the extinction of some languages and the maintenance of others, and so on. Such theoretical underpinnings could, in turn, have valuable spin-off for sociolinguists concerned with fields such as language development or education.

It is not within the scope of this work to develop a full-blown theory. This is because, even in the field of sociology, the social network is still only a useful concept that has not, as yet, been supported by a full-scale theoretical framework, as Kapferer (1973) points out. Highlighting the universality and the integrative value of this concept, however, is a means of pointing to a path which could with great profit be explored in more detail.

Key clusters. Within the field of sociolinguistics, the social network has been referred to by Gumperz (1972) and Gal (1979), but it is Milroy (1980) who has undertaken the most work to document how the concept can be applied to language use and how it elucidates the phenomenon of the maintenance of a nonstandard or minority language variety in parallel with a standard form.

The ultimate aim of this study is to build on the foundation laid by Milroy (1980), by applying social networks to the relationship between

distinct languages spoken in cultural contexts that are, for the most part, not predominantly European or American. For this reason, it is necessary to define existing terms explicitly and in some cases to rename them.

In her study of different sociolects of English, Cubitt (1973) developed the notion of social network clusters. She proposed that there are four key clusters, namely, the clusters arising from KINSHIP, NEIGHBORHOOD, OCCUPATION, and VOLUNTARY ASSOCIATION.

Kinship is a term with an obvious meaning, but in non-Western cultures it needs to be extended to include all those culture-specific activities and relationships that derive directly from a person's membership or position in a particular family or clan. Thus, for example, a chief is often called upon to undertake a chief's duties because he was born at a certain time into the chief's clan. It may be helpful, therefore, to rename this cluster as the KIN-CULTURE or KIN-CUSTOM network.

Since the term NEIGHBORHOOD has certain culture-specific connotations, the term GEOGRAPHICAL LOCATION is proposed as an alternative. It refers to relationships that arise from living in close proximity to a certain number of people.

The term OCCUPATION is sufficiently general to cover a wide range of possibilities. In a Western context it would usually refer to remunerative employment, but in a non-Western context it could refer to any kind of occupation which is obligatory for legal reasons or for reasons of personal survival. Thus, for young people, this category would cover the school environment, whereas for subsistence cultures it would cover such activities as farming, hunting, or fishing.

VOLUNTARY ASSOCIATION refers to relationships entered into out of personal choice rather than out of necessity. These could include, for example, religious affiliations as well as those formed for leisure or sporting activities. The category 'religious affiliation' may pose problems which need to be considered. In Western culture, religious affiliation is usually considered a matter of personal choice. In other cultures, participation in such activities may be an obligation. In such cases, personal choice may not have much relevance. In cultures where certain rituals are depended upon to ensure good crops or successful hunting, religious affiliation may even be considered a matter of survival. For our present purposes, it is unimportant whether religious affiliation is considered part of a kin-culture cluster, an occupation cluster, or a voluntary association cluster. The crucial issue is to identify and focus on the key clusters in any given network.

Time. One consideration that Milroy directly addresses is that of time, specifically the length of time a particular cluster has existed in basically the same form and how long it is likely to continue to exist in that form.

A network that has been long established and that is likely to continue has considerably more influence on an individual than do temporary relationships. Milroy (1980:196) cites the situation in the Hammer area of Belfast, where the social networks are much more loose-knit than those of other areas she studied, but where the patterns of maintenance of the vernacular are, nevertheless, basically the same. It is clear from information she gives elsewhere, however, that these loose-knit networks had developed only very recently, prior to her study, as a result of forced geographic relocation. Not only was the time frame too short to make proper assessment possible, but the loose-knit nature of the observable networks were only the relatively superficial results of geographical separation. The underlying reality was that the true bonds of relationships were still as strong as ever, with people going to great lengths to maintain those relationships despite the difficulties inherent in geographic distance. Only a period of time will tell if the patterns of language maintenance for the people of the Hammer area will change or not, and that will probably depend on whether they maintain (or rebuild) strong network ties with the same group of people or whether they will forego their previous network structure and replace it with another one which will influence them to adapt to other social and linguistic norms.

Time is an important consideration when assessing the influence of something like education. For young people at school, the network of relationships developed there is formative. But this network is, by its very nature, limited in duration. The school experience may have little current relevance for a thirty- or forty-year-old if he has spent his adult life in a dense network where he no longer needs to use the language of education.

A typology of bilingualism. By using information generated by research into language use in key social network clusters, it has been possible to generate a typology which covers the possible range of language use in bilingual communities. In the following paragraphs certain conventions are used to facilitate a grasp of some of the more subtle nuances. A bilingual situation is assumed. Language A represents the language that may be variously described as the vernacular or the nonstandardized, unwritten, less-prestigious language of an area. Language B represents the more-prestigious language. It may be standardized and is often the national or trade language of the area. It is easiest to account for just two languages at a time and, for most purposes of language assessment, the focus is on the two most important languages of a community, but in theory nothing prevents these concepts from being applied to a multilingual situation. In

such cases the typology must be expanded to account for additional permutations.

Type 1. The functionally monolingual vernacular speaker. The mother tongue of such persons is Language A, which they use in all key network clusters. They may be able to understand or even communicate in Language B to a limited degree because it is rare for members of bilingual communities to be completely isolated from the second language. Since all primary interaction is in Language A, however, they have only very rare and relatively unimportant contact with Language B.

Typical persons of this category are those who spend most of their time living in small, often rural communities, with dense, multiplex, social networks. They rarely venture outside their home community and generally avoid contact with those who do not speak Language A.

Type 2. The functionally bilingual speaker. The mother tongue of such persons is Language A, which they use primarily for communication within their key network clusters, but they also use Language B in some clusters on a regular basis.

For such persons, some quantification becomes essential. Distinctions need to be made between those who use Language B in only very specific networks (e.g., an occupation network) but who otherwise use Language A, and those who mix both languages in several or all of their networks.

These people live in small communities with dense, multiplex social networks. For reasons such as marriage, personality, or education, however, they do not avoid contact with outsiders. They may, in fact, play an important role in serving as the bridge between the functionally monolingual community and the wider world where use of Language B is necessary. People with special functions, such as religious and community leaders and schoolteachers, often fall into this category. In addition, people who live in urban 'ghettos', surrounded by people who all speak the same vernacular, may also fall into this category.

The term FUNCTIONALLY BILINGUAL is proposed because it implies that people of this category are fairly competent speakers of both languages. At the very least, they would be competent in Language B in domains that are relevant to the network clusters within which Language B is used.

Type 3. The urban or displaced bilingual speaker. The mother tongue of such persons is Language A, which they use in some clusters on a regular basis, but they use Language B as the primary means of communication within their key network clusters. Such persons grew up learning Language A but moved on to develop social networks in which they use Language

B most of the time. Their fluency in Language B may equal or even surpass that of Language A. These people tend to be cosmopolitan, urban professionals who belong to social networks that are neither dense nor multiplex but who, nevertheless, maintain ties with their family and their community of origin.

Type 4. The forced bilingual speaker. The mother tongue of such persons is Language B, which is their primary means of communication within key network clusters, but they also use Language A in some clusters on a regular basis.

There are, generally, few people of this category. Nonetheless, some do exist and it is a strength of this typology that it takes account of all possible variations. The persons in question have grown up outside of their parents' home region and have learned Language B as their first language. If for some reason in adolescence or adulthood they return to live in their parents' region of origin, they may find themselves forced to learn (or relearn) Language A in order to be able to participate in the life of the community. Their acceptance in the community may depend on their becoming bilingual. They may continue to speak Language B a large proportion of the time, even in their home, but they are forced, by the nature of the social networks in which they find themselves, to also develop skills in Language A. It is unlikely that whole communities would be found that would fall into this category.

Type 5. The monolingual trade-language speaker. The mother tongue of such persons is Language B, which they use in all key network clusters. Since they do not belong to social networks that oblige them to learn another language, they are usually totally monolingual. This is in contrast to persons of Type 1 who are functionally monolingual, but who may in actual fact possess a considerable capacity to understand or even speak Language B. Persons of this category are typically those who have grown up in an urban or other multilingual community. They learned Language B as their mother tongue and have never developed or maintained any significant ties with individuals or communities of Type 1.

This typology is more than just a typology of language use. Crucial to its content is the information brought to it by the different types of social networks that are referred to. As indicated above, social networks represent whole complexes of human relationships and interaction, and graphically portray some of the pressures that are exerted on individuals that cause them to actually use language in certain ways in certain domains and at the same time to develop certain attitudes to the languages they may use. It is a means,

then, of bringing together under one umbrella a whole range of information that formerly needed to be dealt with separately.

With such a typology in hand, it is possible to categorize and compare different situations. There are two possible levels of application—first at the individual level and second at the community level. In the case of individual speakers, the aim is to discover, by questioning and also by observation if possible, how dense and how multiplex key network clusters are and which languages are used for communication within different clusters. It is helpful, of course, to consistently ask the same questions of each person, but the amount of quantifiable data may be varied depending on the situation and the desired result.[12]

Information concerning whole communities can be obtained in two ways. The most precise method is to interview a representative sample of community members and to extrapolate information concerning the community from individual results. The other method, which is less statistically specific but which can be very suitable for small rural communities, is to develop a profile of the community by obtaining information from key community leaders.

The aim would be to ascertain what proportions of the community under study would be assigned to each category of the typology. By undertaking a study of a representative number of small communities (villages), a picture of the total population may be extrapolated. In the study presented in this book, for example, out of a total population of 150,000, 42% were indigenous Melanesians who would fall into Types 1-4. Of this number, 80% were of Type 1, 10% were of Type 2, and 10% were Type 3. There is no way of extrapolating figures for Type 4 separately from Type 2. To complete the picture, 38% of the total population belong to Type 5, with the remainder being immigrants speaking a variety of vernaculars as well as French.

Once a profile for individual communities has been drawn up, the network of relationships between them as communities can be analyzed. The network of social relationships between an urban community and surrounding rural communities, for example, could be plotted. In this way a profile of a whole language group—one that shares the same mother tongue or that is bilingual in the same two languages—can be drawn up. This kind of analysis would help locate the social center of a language group, which can be extremely significant for issues such as language development and standardization. In addition, such a study, even if somewhat impressionistic at the beginning, would be a helpful tool for assessing a language group for the first time. The social network analysis would suggest where the functionally monolingual are likely to be located, in contrast to the likely location of those who are

[12] An annotated questionnaire and the method for quantifying data are detailed in Appendix D.

competent in both languages. This, in turn, would indicate areas that need more research and what kind of research would be needed.

Detailed examples of the various types are presented in chapter 10.

Social network analysis and language maintenance. If the first compelling value of social networks is its universality, its second value is as a predictive tool. As well as having potential for being a unifying focus, the concept has very specific implications for language maintenance. This is because certain kinds of social networks are considered to be typical of conservative, stable, social situations, where social systems of norm enforcement are strong and effective. In bilingual situations, one of the primary questions that a researcher needs to address from the outset is whether the situation is stable and will be maintained, or whether it is a temporary stage in a process of language shift during which one language will replace another as the primary or sole means of communication. The results of a social network study can be used to assess the dynamics of a situation and provide some predictive indicators as to whether the situation is a stable one in which the use of both languages will be maintained, or whether one of them will be replaced by the other.

Bott (1957) was the first to propose the existence of a causal connection between the strength (or density, as she later came to describe it) of an individual's social network and certain behavior patterns. Her specific interest was the segregation of roles between husband and wife, but the implications are far wider than this specific interest. What emerges from her study is that a person who maintains links with a dense network after marriage will continue to be affected by that network to such an extent that patterns of behavior typical for that network will influence the individual even as he or she moves into a network that centers around the marriage relationship. In other words, the dense network continues to be a source of help, guidance, influence, and example which continues to mold the expectations and activities of the individual. Although Bott's hypothesis has received its share of criticism and modification, Kapferer (1973:85) testifies that "in anthropology and sociology there is a wide acceptance of the basis on which Bott rests her assumptions."

As noted above, Milroy (1982) applied these principles to language use and again found a correlation between a dense network and a strong adherence to the (dialectal) vernacular common to the members of the network. In other words, dense, multiplex networks create pressure on the individual members of a network to conform to the norms of that network. If the normal pattern in a dense and multiplex network is to use Language A for communication, then this norm will be maintained and even reinforced. In extreme cases—as in Type 4, the forced bilingual speaker—anyone who wishes to become part

of a dense network must conform to the norms of that network, including the learning of the language used for communication within that network. Correspondingly, anyone who opts out of a dense network and develops a sparse, uniplex network instead, feels less pressure to conform to the norms of either network. Such people, freed from a heavy pressure of social obligation, tend to follow the line of least resistance and, in the case of language use, are the most likely to dispense with the extra effort required to maintain the use of two languages. This is precisely why people who leave rural areas for towns (assuming they do not settle in ghettos where dense networks exist) are the first to bequeath monolingualism to their children in place of bilingualism.

It should also be noticed in passing that language is crucial to the very existence of social networks; networks cannot exist without communication between their individual members. It is reasonable to assume, therefore, that more social pressure is brought to bear on members to conform to linguistic norms than to any other aspect of social mores (like husband and wife role relationships), which may only affect a certain proportion of the members of the network at any given time.

The consequences of these reflections as applied to language maintenance can be specifically spelled out with reference to the typology described earlier as follows:

> If a majority of speakers of a vernacular belong to Type 1, it can be predicted that use of the vernacular will be maintained, because this type is characterized by dense, multiplex networks which promote conformity to existing norms. Furthermore, even if many individuals can be categorized as Type 2, they will be under strong pressure to continue using the vernacular if they belong to communities that are predominantly of Type 1. Type 3 people are the most likely to shift from the vernacular to the trade language and to pass this preference on to their children, but, again, if they retain links with Type 1 communities, even they are under pressure to maintain use of the vernacular.
>
> In short, a community consisting predominantly of speakers of type 1 and 2 can be predicted to maintain the use of the vernacular for as long as its pattern of social networks is maintained. If a community with sparse, uniplex networks is found using Language B as much or more than Language A, on the other hand, the linguistic situation is open to change and requires careful study before any prediction can be made concerning language maintenance or shift.

In recent years, sociolinguists have become wary about making predictions of any kind. This caution is well motivated for it recognizes that

human behavior is complex and not easily understood. It also implicitly recognizes the grave danger of making political or educational decisions that affect the lives of many people, decisions which might later be discovered to be based on an inadequate understanding of the facts. It is to be expected that the whole complex issue of how and why human beings use language in the ways they do is still in the process of being understood. Any attempt to make predictions should, consequently, be made with reserve and caution, but, at the same time, the attempt *should* be made, for this is the acid test as to whether the quest for a better understanding is anywhere in sight. If predictions are correct, this gives reason for confidence in the underlying analysis and explanation; if predictions are incorrect, whether totally or in part, they serve to illuminate and inform the next generation of research.

Before concluding this chapter, a few limitations of this methodology should be noted. No method is a panacea for all problems. In particular, any researcher who enters a community from outside must face the observer's paradox to some extent, although steps can be taken to reduce its risks. Dangers to watch for range from the helpful respondent who would tell you what he thinks you want to hear, to the person who cites aspiration or unreliable hearsay as fact, and to those who consciously avoid the investigator entirely, thereby contributing, by default, zero or even negative data. More specifically, an investigator must clearly understand what people mean when they say they *speak* a language, especially when that language is not their mother tongue. This danger also needs to be counteracted by foresight and careful questioning. (See chapter 7 for a discussion of *speaking* a language.)

Social network research can produce specific, comparable, quantifiable data, but, as always, awareness of general demographic information and careful sampling continues to be a necessity for interpretation and application of the results to be adequate. This method does not in itself give a clear indicator of preference when it comes to issues such as the acceptance of printed literature. The basic core method, however, can easily be supplemented with additional questions relevant to a particular situation being investigated. The method is useful for isolating communities where maintenance of a vernacular is strong or where there is a clear need for development of a vernacular. Further testing, such as the SLOPE method (Summer Institute of Linguistics 1987), is needed where the trade language appears to be dominating or displacing a vernacular.

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9

The Strength of Social Network Structures

The discussion thus far has centered around the concept of the social network and its influence on language maintenance, and although this sheds considerable light on the social mechanism involved, it still does not plumb the full theoretical depths by explaining the whys and the wherefores of human behavior in this respect. Milroy (1980) makes reference to this question but by her own admission is unable to answer it satisfactorily. Kapferer (1973) seeks to construct a theoretical framework using EXCHANGE THEORY and Russell (1982) uses a related model, the ACCOMMODATION THEORY. Exchange theory posits that humans work to protect relationships in which they have invested much, and so they will make an effort to conform to the expectations of those people with whom they are in a close relationship in order to protect and maintain what they have invested and reap the appropriate rewards. Accommodation theory proposes that humans will work and, if necessary, change in order to reduce the dissimilarities between themselves and the members of the group by whom they wish to be favorably evaluated, thereby accommodating themselves to the group in order, again, to reap the desired reward.

The problem with these attempts to take the concept of the social network to greater theoretical depths is that they are too microscopic in their perspective. It is not so much that they misrepresent reality, but rather that they represent only a part of reality. It is reasonable to suppose that people act in certain ways in order to protect their relational investments or to accommodate themselves to others in some circumstances, but

it is difficult to make the leap to a universal claim that this is true in all cases at all times. Even if it were universally true, the question as to why they act in this way could still be asked and, potentially at least, answered.

The way ahead on this issue would seem to involve stepping back further from these details of human behavior in an attempt to see the broader picture. Once this framework has been established, the above proposals, and probably others, too, will find their place within the framework as individual examples that flesh out the theoretical structure and root it in actual, observable human behavior.

Grouping of key clusters. The best way to develop this broader perspective is to pursue and elaborate the insights that can be gained from the concept of the social network itself. In chapter 2, the four key clusters that form the basis of any individual's social network were described. These are the kinship, geographical location, occupational, and voluntary association network clusters. The clusters can be divided into two groups. The first three belong together because they have a certain inevitability about them, such that any given individual will of necessity belong to clusters of this type. Conversely, the fourth cluster is in a category apart, for it depends entirely on personal choice, and, depending on the choice made, a person may or may not belong to such a cluster.

Milroy (1980:200), having observed how particular individuals related in certain ways to the social networks that operated in their social environment, remarked that some people seemed to participate in certain social networks out of necessity and some out of choice. This same feature was noticed in New Caledonia as well, but with an additional ingredient, namely, that necessity and choice do not operate independently but interdependently. In other words, they overlap and interact, and usually there is complementary trade-off between them.

Two categories of human needs. The hypotheses and related ideas that are developed below are based on two assumptions. First, all human beings have a range of physical, emotional, and social needs and they act in a variety of ways to ensure that at least the most crucial of these needs are met. Second, no human being can live the whole of his life without having some of his needs met by other human beings.

Following the line of thought provoked by the four key social network clusters and the observations made by Milroy and in the course of the work undertaken in New Caledonia, it can be proposed that human needs can be divided into two major categories, which, for the sake of alliteration, can be called SURVIVAL NEEDS and SELECTION NEEDS.

Survival needs, as the name suggests, are those needs which humans, in common with animal life, must meet to survive and to reach their full potential. The most obvious of these are food, drink, sleep, oxygen, and health, followed closely by emotional needs, such as the need to be cared for (both children and adults), to belong to and be identified with a caring group, and to have a sense of purpose and achievement. Included in this category are activities that people undertake out of obligation or necessity. At the social level this becomes more complex than on the physical level. Nonetheless, it is clear that people expend a great deal of time and energy in meeting survival needs. To take a simple example, in a subsistence culture an individual is very dependent on the group just for physical survival. Possible exclusion from a group is, therefore, a very real threat and, consequently, an individual not only works hard to help provide food for the group, but is also under a strong compulsion to make all facets of his behavior conform to group expectations. In other cultural situations, an individual might not be so dependent on a group to supply his physical needs (although at a minimum he is dependent on an employer or customers), but he might be dependent on a group to supply other needs, and for as long as that reason remains compelling, he continues to act in such a way that will ensure his continuing membership of the group.

In social network terms, the first three key clusters of kinship, geographical location, and occupation are the clusters within which an individual seeks to meet his survival needs. He has no choice about his kinship cluster. Even though he may have choice with regard to his specific geographic location and his occupation, he has to be located somewhere, and he must also be employed in some way to meet his basic survival needs. These are the clusters within which necessity and obligation dominate. Any possible personal choice tends to be influenced and constricted by these pressures both before and after the choice is made.

Unlike the animal kingdom, humans have another set of needs that we have labeled selection needs. This means that humans are creative and have a need to make decisions and be involved in activities or relationships on the basis of preference and personal choice. They do not always want to be like those around them, nor have everything dictated to them by obligation and necessity. Consequently, there is a drive to make distinctions, to express opinions, and to be selective. In social network terms, the fourth cluster of network relationships, that of VOLUNTARY ASSOCIATION, is the social environment in which an individual has the most freedom to meet his need to be selective. Personal choice dominates in this cluster, even though in actual practice the specific choice may be influenced in some way by obligatory survival needs. Thus, for example, the actual choice of leisure activity may be influenced by financial considerations or by

geographic location, even though the choice may be freely made and not under any coercion.

It is worthwhile to create and label categories, but it is necessary to point out in this case that the two types of needs often overlap and can rarely be totally separated. For example, even while people are preoccupied with meeting survival needs, they will express preferences between a variety of ways of meeting those needs. Conversely, in the interests of realizing a personal preference, an individual can choose to survive on less than usual (e.g., eat only one meal a day) or even ignore certain survival needs entirely for a temporary period (e.g., fast).

Hierarchy of needs. Despite interaction between the two types of need, a certain hierarchy is discernible. The drive to express personal preference is strong in humans, and makes prediction of their behavior difficult, making any kind of planning that leads to uniformity a wasted effort. Survival needs, however, are stronger and of prior importance. These must always be met. In times of desperation, they are met by any necessary means, irrespective of the possibility of choice. Conversely, selection needs cannot always be met. They can only be met if survival needs have first been met and if a variety of opportunities are available that would make an expression of preference possible. If a person is confronted with two opportunities, one of which meets survival needs but few or no selection needs, while the other meets selection needs but very few or no survival needs, necessity compels in the direction of meeting survival needs.

It furthermore seems likely that the key social network clusters referred to above are hierarchically arranged in order of strength. It is not clear that this was intentional in Cubitt's original article, but perhaps the ordering was more than just coincidental if she was reacting subconsciously to patterns that she perceived in her data. In any case, it seems clear that the kinship cluster is strongest and the most dominant of the four, and that the voluntary association cluster is weakest. For example, no one ever has choice about the kinship network into which he is born. Moreover, throughout his formative years, all of a child's survival needs are met within this network. Even if as an adult he opts out of this network, he can never change who his kinsmen are, nor entirely eradicate the influence they have had on him.

Second, no one has a choice concerning the geographical location of his birth. Indeed, very few have much choice concerning their location even in adulthood. There is more choice concerning location than concerning kinship, but even after a choice has been made, the location chosen significantly influences the type of social network cluster that results.

Third, most able-bodied adults are involved in some occupation that ensures the provision of basic survival needs. While there is usually no

choice about the need for an occupation, there is, in theory at least, a wide variety of choice with regard to the type of occupation that is possible. The force of obligation is still much weaker in this cluster than in the previous two. Not only is a variety of choice possible, it is also possible not to operate in an occupational network at all, providing that survival needs are met by others. This is what happens, for example, in the case of small children, invalids, and the elderly.

Finally, the major point about the voluntary association cluster is that it is voluntary. Not only can people choose the specific networks of this category, in which they will participate, they can change them as often as they wish, or they can choose not to participate in any such network at all. To add another permutation, they can also choose to voluntarily associate with people to whom they are already related by virtue of other network clusters. This is clearly the cluster that exerts the weakest obligations on an individual. The only exception is the case of an individual who voluntarily becomes part of such a cluster, but subsequently discovers that membership in that group is so important to him that he will pay any price to stay in it. At that point it becomes a question of survival rather than of pure choice.

Networks of relationships. The strength of obligation that a total network structure exerts on its members can now be perceived more clearly, as can the reasons why networks impose obligations on people in the first place. First, if we start at the beginning, children have no choice about the network structures into which they are born. For a long time they are totally dependent on the more established members of that network and they have no means of breaking away into a different network structure. This means that they are influenced by the things that come to them as a direct result of being part of that particular set of relationships, to the exclusion of all other influences.

Second, all of a child's survival needs are met within the set of kinship relationships. Apart from the fact that a child has no opportunity to choose differently, he could not exist without his survival needs being met by one person or another within the context of a social network structure. The example of a child is obviously the most clear-cut, but even with a greater ability to choose as they grow older, adults are in some circumstances as much tied to a network structure for having their survival needs met as are children. To the extent that an individual becomes able to provide for his own survival needs, either independently or from other sources, to that same extent he can choose to break away from the network structure upon which he is dependent. As long as he is dependent, however, he must conduct himself in such way as to be qualified to remain a member of his network structure and not to run the risk of being excluded.

It follows then that the more an individual's survival needs are met by the same group of people functioning in the same network, the more he is dependent on that network, and the fewer are the alternatives available to him should he want to break away from it. This is what density and multiplexity are all about. The more an individual is tied to the same group of people in the same network (density) by multiple relationships in which different needs are met by the same people (multiplexity), the more he must conform to the standards and expectations of that network in order to maintain those relationships and thereby to ensure the ongoing maintenance of his needs.

Conversely, if a person has his needs met by a variety of different people who do not otherwise relate to each other (i.e., he belongs to a sparse, uniplex network), he is dependent upon each of them to only a relatively small degree. If for any reason one of these relationships breaks down, such an individual is at no great risk; he knows there are other people upon whom he can call to meet his needs. Real choice is much more possible for such a person because he participates in a number of networks and has definite opportunities to make changes if he so desires (see also Le Page's HYPOTHESIS and RIDERS as cited in Russell 1982:126). In addition to having opportunities for change, this individual is also likely to come into contact with a variety of influences, opinions, traditions, and expectations which will inevitably have their effect upon him, making him more open to change.

This example helps to elucidate still further the concept of density as applied to network structures. A dense network is one in which the same group of people all interact individually with most of the other members of the network. They all regularly come into contact with the same influences as they interact with the same people and develop a certain homogeneity. Not only does homogeneity develop internally, but such groups tend to be fairly closed to influences from outside that might bring change or variety, simply because needs are adequately met from within the existing network of relationships. In addition, people who need security and predictability in their social relationships are attracted to join such a group, if that is possible, or will remain in it if already members. Conversely, people who prefer eclecticism and variety tend to opt out of such a group whenever possible, thereby contributing to its conservatism and homogeneity. From that point it is only a small step to realize that such people, comfortable within their dense network of relationships, will defend their network if its efficacy as an environment within which they get their needs met is in any way threatened. This means that sanctions will be brought to bear against members who threaten the status quo and that members who must choose to stay within a network to get their needs met will inevitably conform to the norms of the group. It can

be seen then that density of social network has a very real part to play in both establishing and reinforcing norms.

Finally, even though the need to meet survival needs and the dependence on others that this entails plays a significant part in binding people together into social networks, that is by no means the only reason such networks exist. Although people will exercise their power to choose whenever they can, people are very often content with the security of a closely bonded relationship structure; it is not so much dependence that they perceive, as it is interdependence, so they choose to stay within the networks they have always known.

Familiarity is another reason why dense networks do not easily disintegrate. It would in theory be possible to offer people belonging to dense network structures alternative methods of meeting their survival and selection needs. This has been done, for example, by employers and governments with job training, relocation, or development schemes, but many have failed in the past and will continue to fail as long as people are content as they are.

The application to language. In conclusion, this discussion needs to be applied to language. If individuals seek to get their needs met through a network of human relationships, one of their most basic social needs is to communicate with each other. A child has no choice about how his needs are met, nor of the language of the social network that he must first learn. As long as an individual continues in a situation in which his first language is used, there is no need—perhaps no opportunity—but to continue to use that language and that language alone.

A possibility for choice comes into play only when more than one language is used in the social networks within which a person functions. At this point the dynamics of a social network come into play to influence the outcome. The strongest pressure is to survive. An individual will use whatever language necessary to ensure this result, normally the language used where his most pressing needs are met. If a person belongs to a dense, multiplex social network, he will constantly be in contact with the language of that network and will have relatively little opportunity to hear or use another language. Furthermore, pressure to conform to the linguistic norms of that network will be particularly strong. This pressure is, of course, the same for all members of the network, thereby contributing to the maintenance of the existing language.

For a person operating in a sparse, uniplex network, the situation is different. Interacting with a variety of people not otherwise related, he has more opportunity to be in contact with a lingua franca or standard dialect which he will need to use in the course of meeting his needs. Actual use depends, of course, on the language used in the networks in which he

operates, but the variety, the opportunity for variety, and the greater need to use the lingua franca is predictable. In this situation, a person has greater freedom of choice and is not influenced by necessity alone, nor by the pressures to conform which are typical of a dense network. Given the variety of relationships he enjoys and the variety of possibilities for having his needs met, he is in a position to cultivate those he prefers at the expense of those he finds less attractive. When it comes to languages, he is in a position to favor one over another. What actually happens in many cases, however, is that the need to use the lingua franca in many situations leaves less time and opportunity to use the less widely-used vernacular.

One more factor needs to be taken into account when considering communication needs—time. It takes relatively little time to meet survival needs such as hunger and thirst, but it takes a great deal of time to be able to handle communication needs competently—the time it takes to learn a language. This is a double-edged factor with implications leading in different directions. On the one hand, from the point of view of language acquisition or shift, it is not possible to switch from using one language to another as easily as, for example, changing jobs, the means of meeting physical needs. Changing the means of meeting communication needs cannot occur quickly so that considerable motivation is needed before it will happen.

From the point of view of language loss, the ability to use a language is gradually lost over a period of time if it is not used regularly. The main implication here is that, in studying social network structures with a view to understanding how communication needs are met or whether there is any expectation of change with regard to how needs are met, it is important to take into account how long those networks have been operating and how long they are likely to continue without significant change in form.

Dense networks tend to be conservative, but if they break up at significant, predictable points (e.g., when a child leaves home or school), pressures towards maintaining the status quo are lessened. If on the other hand, members of a particular group only operate in a sparse network for a limited period (e.g., while away from home on a training course) changes that come about more easily in such a situation cannot be predicted to have a lasting effect.

In conclusion then, social network analysis sheds considerable light on the social mechanisms involved in language maintenance. However, by taking the underlying theory to greater theoretical depths, i.e., by examining not only the clusters to which an individual belongs but also the strength of those clusters, the period of time those ties have been in existence and will continue to be in existence, and the amount of influence those clusters have upon an individual, language maintenance both for individuals and even for whole communities can be explained and even predicted.

10
The Social Network Hypothesis in Action

Preceding chapters describe the concept SOCIAL NETWORK from a theoretical point of view and attempt to elucidate its theoretical relevance to LANGUAGE MAINTENANCE. This chapter demonstrates how the hypothesis that the nature of underlying social networks determines and explains observable patterns of language maintenance—or loss, as the case may be—actually can be applied in practice. Five case studies based on data collected in New Caledonia are presented. All the examples are of people who live in New Caledonia—some of whom were interviewed in the course of the study described in earlier chapters, others subsequently. The studies are selected in order to illustrate the typology of bilingualism described in chapter 8. The other purpose of the studies is to demonstrate that there is a correlation beween conclusions that can be drawn directly from social network analysis and conclusions derivable from the more traditional sociolinguistic methodology described in chapters 2–6.

Case 1. The functionally monolingual vernacular speaker

Madame P is seventy years of age and lives in a rural community of about 200 inhabitants. She has lived in this community since her marriage and lived in the same region and, even prior to her marriage, she grew up speaking the same vernacular as the members of this, her husband's community. She is related by blood or by marriage to all members of the

community. The village is geographically compact, with 90% of its inhabitants living within 500 yards of her home, but it is isolated from other communities by the open sea on one side and 20 miles of rough roads on the other. Madame P participates in all the cultural activities organized by her community that concern her, such as the annual *First Yam Festival* or those organized by her extended family, the most common being weddings and funerals. With few exceptions, these activities involve her family and take place within the region where her vernacular is spoken.

Madame P's primary occupation centers around the collection and preparation of food and other tasks appropriate to looking after a house and family. In times past she would have undertaken such activities in the company of her mother, aunts, and sisters. In recent years, she has found herself in the company of her daughters, daughters-in-law, granddaughters, and nieces. Whatever she undertakes, she spends part of every day in the company of family members who speak her vernacular.

Madame P's voluntary associations are with members of her family. The most pervasive activity in this category centers around the dissemination of local news by conversation, discussion, and storytelling. Such interaction is sometimes enlivened by imported leisure activities such as cards or dominoes. The church is the focus of all other voluntary association.

Madame P's husband was a deacon in the church and, as a result, she was drawn into a considerable amount of church-related activity. For the most part, this is on the local level and only involves use of the vernacular. Once or twice in the year, however, it gives her an opportunity to travel out of her local area to attend regional or national church gatherings. Her natural tendency in such circumstances is to stay with her family or close acquaintances, with whom she can communicate in the vernacular. Her second choice is to interact with people with whom she can communicate using the church language, another vernacular from the island of Lifou. Nonetheless, these occasions do give her the opportunity to develop some ability in understanding and speaking the trade language, French. Apart from church activities, Madame P rarely ventures away from her home community. This was especially so in her younger years when she was fully occupied by raising her children. On the rare occasion that she travels to the main town for other reasons, she stays with her children who act as her intermediaries for any business she may need to conduct.

It is clear from this brief description that Madame P belongs to a community characterized by a dense, multiplex social network within which the vernacular is the standard means of communication. By comparison to this very strong and highly developed network, the very sparse network in which she is occasionally involved where French is used pales in significance. It is

not surprising then that she is an authority on her own language but has very poor ability in communicating in French.

It is possible to reconstruct the pattern of Madame P's social networks for her entire adult life. They are remarkably circumscribed and easy to describe because they are so dense and multiplex. This is true for the vast majority of adults of her generation who live in the rural communities of New Caledonia, whether male or female. Because of her church involvement, however, Madame P is actually more widely-travelled and more capable of communicating in French than most of her peers. Furthermore, because of the pressure to conform that such networks impose on their members, it is predictable that younger adults who have less reason to travel outside of their home communities will fall into a pattern very similar to that of Madame P. In the case of younger adults, the only significant difference is that they functioned within a network where French was used when they were at school. Once school was left behind, however, their ability to use the French acquired there gradually declined, being replaced by an increasing command of the vernacular.

Madame P is functionally monolingual. She has some knowledge of French which she can use in limited circumstances to meet her most basic needs, but she uses the vernacular most of the time. This is the only language in which she is truly competent and able to meet her personal, social, and occupation-related needs. In this, she is prototypic of adults living in rural New Caledonia.

Such functional monolinguals can also be found in urban areas, usually in what may loosely be called *ghettos*—areas characterized by dominant social network clusters which are dense and multiplex. If a person does not go outside the community for employment, it is quite possible to remain functionally monolingual even in an urban environment.[13]

Case 2. The functionally bilingual speaker

R is thirty-eight years old and lives in a rural community of about 200 people. All his neighbors within a radius of one mile from his home are his relatives, with whom he communicates exclusively in the vernacular.

[13]Milroy (1980) specifically worked with urban communities characterized by dense, multiplex social networks. Labov (1972) did also in his work with New York gangs, although he did not use the concept of social networks. Both these investigators were studying varieties of English rather than bilingualism, but it would be interesting to know whether the people they interviewed were functionally *monolingual* in their dialect of English or whether they were able to control standard English as well as their dialect.

When at home, his occupations are fishing and gardening, which he undertakes in the company of his wife, his children, or his relatives who live nearby. To the extent that he is physically present and participates in the life of his home community, R consciously conforms to the social and linguistic norms of that community. These include almost exclusive use of the vernacular and participation in various traditional communal activities.

Despite these strong roots, R is not a typical member of his community. He was among the first of his community to have access to the full range of educational facilities, and he succeeded in obtaining a bachelor's degree. As a consequence, he has spent many years outside his community, both during his years of education and subsequently in various periods of employment. During these periods, his key social network clusters have been characterized by the use of French, of which he is a competent user.

This period of absence has affected R's life in various ways. He married a woman whose vernacular is different from his own, with whom he communicates in French, in her vernacular, and in his own. He communicates in all three languages with his children, also. Even though he very consciously wants them to become fluent in his vernacular, he is aware of the importance of French and speaks to them in both languages.

Even while residing in his home community, R's interest in and contact with the wider world continues. Part of his function within the community is to serve as an intermediary with the outside world. He is called upon to mediate and interpret whenever French-speaking outsiders visit the community or when members of the community undertake business requiring the use of French. With regard to voluntary associations, he is involved with church and artistic activities. As a result, he often travels to participate in meetings where French is the medium of communication. Such activities outside of his community requiring the use of French occupy him for approximately eight to ten days of every month.

To summarize, R spends 70% of his time as an integral member of a closed community characterized by a dense, multiplex social network within which a vernacular language is the exclusive means of communication. In addition, however, R maintains links with other networks which are sparse and uniplex within which French is the means of communication. Unlike most people even of his own age, R has had sufficient opportunity to become functionally bilingual and is able to maintain this skill, using it to serve his home community.

Most rural communities have one or two people like R who serve as intermediaries between the functionally monolingual members of the community and the outside world. In most cases, however, they are neither as well educated nor as competent in the trade language as R. Usually it is a feature of the functionally bilingual that they are not fully bilingual in all

domains. They can be very fluent and competent in the trade language within their occupation network, but may have great difficulty in expressing themselves adequately on topics that are normally reserved for discussion within networks, such as the kinship network, where the vernacular is normally used.

Case 3. The urban or displaced bilingual speaker

N is about forty years old. She grew up in a rural setting and learned two vernaculars—that of her parents and that of the region where she lived. She also learned the trade language, French, at school and went on to complete her secondary education and teacher training in an urban situation. She married a monolingual French speaker and has lived and worked ever since as a teacher in the town or in areas where she could not communicate in the vernacular.

N does not live close to nor does she work with any of her extended family. Although she sees various members of her family regularly throughout the year, there is no consistent pattern of interaction due to geographical distance. Most of her voluntary associations, therefore, are not with relatives. She does not associate with any of her work-related colleagues in her leisure time. In all of the network clusters to which she belongs, French is the normal language of communication. She only uses her mother tongue on sporadic occasions when she is with members of her extended family or when she interacts informally with colleagues or friends who speak the same language. She estimates that in the course of a month she may use her mother tongue 20% of the time and French on all other occasions.

The social networks to which N belongs are sparse and uniplex; the pressures on her to conform to the norms of her various social network clusters are relatively diffuse. In her case, however, as with many urban bilinguals, the strongest pressures tend to force her into a particular linguistic mold. Thus, for example, her strongest network is her kinship network, comprising for the most part her nuclear family. In her home context, she is obliged to speak French with her husband and children who are monolingual French speakers, but this pressure is reversed towards use of the vernacular when she is with her parents or siblings. Because she is a displaced bilingual, however, this pressure is much less than in a rural setting and has only a relatively limited effect on her linguistic choices.

It is not surprising that N has become a competent speaker of French. However, she still uses her mother tongue and is not likely to completely lose this ability, even though she recognizes that she does not control it as

well as she would like. What she regrets the most is that she is losing the ability to speak the other vernacular she learned as a child. By her own admission, this is because she no longer uses it since she no longer functions in any social networks where she is able to use it.

This case study illustrates three sets of linguistic dynamics. N illustrates how a person may adopt a language learned as a second language in school as a primary means of communication. At the same time, she illustrates how a vernacular may be maintained in the face of considerable pressure from a dominant language. Third, N illustrates how the ability to use a language learned as a child may be lost. In all cases, the dynamics are closely associated with the characteristics of the social network clusters to which the person belongs.

Many urban bilinguals are like N in that their social network systems cause them to favor the use of the trade language, even to the extent of losing some of their ability to use their mother tongue, but by no means do all urban bilinguals fall into this category. N operates as she does because she is essentially cut off from significant contact with people who share her vernacular; the social networks in which she uses her vernacular are not only sparse and uniplex but also only sporadic in operation. To that extent she is a displaced bilingual, whereas many people living in urban environments are more accurately characterized as functional bilinguals who maintain the use of their vernacular in their kinship and voluntary association networks, which can be quite dense and multiplex even in the urban situation. These functional bilinguals only use French in their occupation network; in practice they retain full mastery of their vernacular and may in fact be limited in their ability to use French.

Case 4. The forced bilingual speaker

K's father was a pastor, and as a result K did not grow up in a homogeneous linguistic environment, his father's home community, as is normal for most children in New Caledonia. Instead of learning only his father's language as a child, he learned several vernaculars imperfectly as a result of residing in several different communities during the early years of his life. The only language which he consistently came into contact with and learned well was French.

After K completed his education and embarked upon independent adulthood, he had to decide where he would settle and raise his own family. His choices were limited—the most obvious being to return to his father's home community where land was available to build a house. In making that choice, he made both a sociological one and a linguistic one. By going

to live in that small rural community, he became a member of a dense, multiplex social network which imposed the same pressures upon him as it does on all its members. For K, this was a traumatic experience since he had to break into the community, as it were, from the outside instead of growing up on the inside.

One of the norms for that community is that the vernacular is used for all communication within the community. Since the social network system of the community is dense and multiplex, K felt a great deal of pressure to conform and, as a consequence, was obliged to relearn and become competent in that language. This was not easy for him, and even after twenty years in the community, he is known for not speaking the language well (although an outsider would never know); he can still make people laugh by his idiosyncratic misuse of the language.

Today K is one of the most prominent leaders of his community. It is not only his personality and natural gifts, but also his wide-ranging experience and knowledge of the wider world that have propelled him into that position. His knowledge of French is highly valued and makes him an obvious choice for the position of intermediary between his home community and the wider world where French is the language of communication. Despite this position of trust and influence, K knows that he is obliged to communicate in the vernacular within the community if he wants people to listen and to take notice of what he has to say. Even then, he says, they do not always listen, making decisions that run counter to his advice.

This latter phenomenon is a sociological factor of considerable significance, and it highlights the value of the concept of social network. It can be argued that people like K have a disproportionate amount of influence in small rural communities. They are undoubtedly agents of change and import many ideas and material objects from the outside world. It is only a small step then to assume that they might also be able singlehandedly to convert their community to new linguistic habits. However, the vernaculars of New Caledonia are as strong today as they have ever been in the past 100 years. The vast majority of the rural population still uses them for all of their most significant linguistic needs, and many town dwellers are also consciously seeking to maintain knowledge of their vernaculars. The reasons for this cannot be glossed over lightly, but need to be confronted realistically.

K's personal view is that the social pressure emanating from his community as a cohesive unit obliged him to conform to the norm of communicating in the vernacular. Similarly, changes that have been successfully imported are those that have received the backing of the community as a whole; they were accepted as a new norm by the community. Innovations

that have failed are those which were rejected or ignored by the community. In such tight-knit communities which have an inbuilt pressure to conformity, individuals are only successful in initiating change to the extent that they can convince the whole community to adopt the new system as a new norm. When it comes to anything as automatic and ingrained as language, change is almost impossible unless the social cohesion that results from dense, multiplex networks is broken down. In such circumstances, it is much easier for an individual like K to bow to the pressure and pay the price it takes to conform.

As an individual type, K is not unique, but he is still somewhat rare in New Caledonia. Nonetheless, the same principles can be seen at work in others whose situations are considerably different. K has a cousin, for example, who grew up in his community learning only the vernacular, but also learned French in school. This cousin did well in school and, unlike K, went on to obtain paid employment, living in the main town since he left school. In his case, he has been using French in nearly all his key network clusters for twenty years and has became an urbane and urbanized French speaker. When he returns to his home community for short visits or vacations, however, he knows that he must make a determined attempt to communicate in the vernacular, or his family and friends will impose not very subtle constraints on him to conform. As the years have gone by, this process has become increasingly painful to him and his family. His solution is to stay away from the rural community. He only visits when he must, often without his family, and stays for as short a time as possible. As a result, he enjoys little prestige from his family and is only appreciated for the financial contribution he makes. Although individuals like K's cousin may be characterized as Type 3 urban bilingual speakers or Type 5 monolingual trade language speakers, they are not having any significant influence on the social patterns of the communities where the Type 1 functionally monolingual vernacular speakers dominate.

K's wife, A, has had a similar experience. She grew up as a functional monolingual, but speaking a vernacular different from her husband's. When she married and moved to his community, one of the first obligations imposed upon her was to learn her husband's vernacular. Pressure was not overt, but she knew that if she wanted to be accepted as a full member of the community, she had no choice but to learn the language. In her case, she can and does communicate with her husband and children in French on some occasions, but the pressure of the community as a whole was such that the option of using French was not considered to be a suitable method for circumventing the communication barrier. In passing, it can be noted that a dense, multiplex community provides the best

possible environment for language learning, with multiple opportunities for hearing and using the language every day.[14]

Fifteen years later, A uses her acquired vernacular for nearly all of her communication needs, to the extent that she is losing her ability in her own mother tongue. Given that she is married to K, she also uses French when visitors come to their home or when she travels outside of her home community, but this still only accounts for a very small proportion of her time.

A is by no means unique. All women in New Caledonia who marry into dense, multiplex communities and who stay there on a permanent basis have to learn the language of that community. The forced bilingual speaker is, then, a significant one when these women are taken into account. It must be recognized, however, that most of these women become bilingual in two vernaculars rather than in one vernacular and French.

Case 5. The monolingual trade language speaker

B is the child of French parents and grew up speaking only French. He came to New Caledonia as a teacher, married a local girl, and stayed. During that time he has lived either in small multilingual communities, such as a boarding school where French was the dominant means of communication, or in urban environments where French has the same role. The network clusters within which he functions are sparse and uniplex. Even though he has regular contact with members of his wife's family (more than with his own), and even though he is consciously aware of and interested in linguistic issues, he has never learned another language, not even his wife's. This lack could be rationalized in a number of ways, but the observable, sociological facts are that he has never functioned in dense, multiplex networks where pressure to conform provided sufficient motivation or where a close-knit community would have provided an optimal environment for language learning. If he had lived in his wife's community, B might have learned the vernacular.

Even though of mixed race, B's children are also growing up to be monolingual speakers of French. There has been much discussion as to why children learn languages in the way that they do, but in this case, the children function in loose networks within which one language almost

[14]The concept of the social network would also provide a good foundation on which to develop a theory of language learning. Dense, multiplex social networks provide both motivation and opportunity for language learning and are thereby the best possible learning environment. It is probably no coincidence that children, who learn languages better than adults, usually function in networks that are dense and multiplex, whether in the home or in their peer groups.

totally dominates. By contrast, children who function within dense, multiplex networks always learn some of the language used in those networks, even if they also learn other languages through their parents or by other means, such as education.

Predictions based on the typology. These five case studies demonstrate how a profile of key social network clusters can be formed for an individual speaker. From such a profile it is possible to draw conclusions about a person's relative ability in two different languages on the basis of (1) the type of networks involved, (2) the language used in the particular networks, (3) the proportion of time spent functioning in each network, and (4) the amount of time elapsed since the particular pattern of networks was established. Assuming that a network profile will remain constant in the future, it is also possible to predict what a person's language use and relative ability will be in the future. The advantage of this New Caledonia study is that it is possible to correlate predictive insights derived from a study of social network patterns with actual test scores obtained at an earlier stage in the investigation.

Madame P, the functionally monolingual vernacular speaker, lives within social network patterns that encourage continuing and even increasing skill, in her mother tongue but militate against little more than minimal skill in French. This is borne out by the aural comprehension test score of 30% that Madame P actually obtained. In her own mother tongue, Madame P scored 100%.

The social network profile of R, the functionally bilingual speaker, indicates that he is highly competent in his mother tongue, with significant ability to understand and use French. His actual score in the French comprehension test was 84%. Others who live in rural communities and fit the functionally bilingual profile also scored between 70% and 94%.

Many people living in urban areas should also be characterized as functionally bilingual. This is borne out by at least one individual tested, a man in full-time employment where he used French all day, but who otherwise maintained strong network clusters within which the vernacular was primarily used. He scored only 66% in the French aural comprehension test. This is a clear indicator that it is not simply the general environment (rural versus urban) that influences a person's bilingual competence in a determinative way but the net effect of key social network clusters.

N, the displaced bilingual, scored 81% in the aural French test, and others like her scored between 80% and 92%. These scores are not as high as for mother tongue speakers (95–100%), but they are, nonetheless, consistently high, and the range is generally narrower than for functionally bilingual speakers.

The case of one individual who was initially considered a displaced bilingual raised some questions regarding bilinguals which should be considered.

> W grew up learning a vernacular as his mother tongue. Since he lived in an urban environment, however, he had contact with French to the point that he now considers himself more competent in French than in his mother tongue. He is single and lives at home, where he speaks the vernacular with his mother but French with his siblings. There are many in the apartment complex where he lives with whom he interacts on a one-to-one basis in the vernacular, but in larger, multilingual groups, French is normally used. He uses French in his occupational and voluntary association networks most of the time, but also uses the vernacular from time to time if the person he is with initiates its use. Nonetheless, he scored only 75% in the aural comprehension test for French, which is in the range expected of a functionally bilingual speaker and would seem to be a very low level of competence for a language used for the majority of a person's communication needs.

W's situation may be reflective of two underlying issues. First, it is possible that young people growing up in bilingual situations, who only function in sparse, uniplex networks, and who, in addition, use both languages at will in all their network clusters are those who are the most likely to suffer from an inability to handle either language with full mastery. This is a whole area of research which bristles with implications that need further investigation.

The second issue is that young people have not yet reached the stage of life where their social network patterns have become fully fixed. In W's case, he is currently in a situation where he has approximately an equal command of both of his languages but without full mastery of either. It can be predicted that he will develop his abilities in one of two ways. If he marries a monolingual French speaker or someone who speaks a different vernacular, or even someone like himself who is more comfortable speaking French, and if he settles in a multilingual community, it is likely that his ability in French will increase and that his use and command of his vernacular will decrease. In other words, he will develop into a full displaced bilingual speaker. If, on the other hand, he marries a girl from his parents' community who is functionally monolingual or even functionally bilingual, or if he settles in a community, whether urban or rural, where his vernacular dominates some or all of the key network clusters, then it is more likely that his ability in the vernacular will develop at the expense of his skill in French. He will then become entrenched as a functionally bilingual speaker.

No aural test scores are available for people in the forced bilingual speaker category. This is because the very nature of the study imposed rigid constraints on the investigation. In an effort to collect a truly representative sample with no hidden bias, people like K, who had not grown up in the community being investigated and who were known not to be fully competent in the vernacular of the community, were automatically excluded from testing. These kinds of limitations, inevitable though they are in the attempt to obtain reliable data, nonetheless militate against the production of a complete, multidimensional picture of the situation. Social network data are much easier to collect, which means that by using this method in the future, all the minority groupings of a community can be investigated and analyzed as well as the majority, thereby producing a more complete picture of the sociolinguistic situation. For the record, it can be estimated that K has an ability in French similar to that of a functionally bilingual speaker and would, therefore, probably have scored between 70% and 90% on the aural test.

It is fairly self-evident that adults who speak only one language (assuming no intellectual impairment) should be able to understand and communicate in that language with full mastery in semantic domains commensurate with their usual communication needs. This is what would be expected of monolingual trade-language speakers.

Several monolingual speakers of French, including B, took the aural test as a control on the quality of the test instrument. They all scored between 95 and 100%. Not only did they score consistently close to 100%, but they also demonstrated remarkable ability to recall what their minds had subconsciously registered, even though at certain moments they were not consciously concentrating on the test procedure. This ease of recall was noticed in most of the monolingual speakers tested but was not evident in any of the bilingual respondents who were tested. It can also be remarked that none of the bilingual respondents scored as high in their second language as even the lowest of the monolingual speakers (i.e., 95%), even though some of them had been using it almost exclusively for many years. Perhaps little should be made of this observation in the context of this particular study, but it may provide evidence for the hypothesis that bilinguals very rarely achieve full, mother tongue competence in their second language. It is reasonable to suppose that a need to master two languages must require some psychological compensation and that this may mean in practice that the bilingual is never as fully competent in two languages as a monolingual is in his one.

In conclusion, even though the matrix of scores and comparisons is not complete, it seems reasonable to suppose that the analyses developed from considering social network data do reflect linguistic realities. In this case,

deductions drawn from the social network data concerning relative linguistic competence have been supported by data derived from specific testing of this ability. If this much is true, it gives much more confidence in supposing that predictions concerning language maintenance, derived from the same data, will also prove to be realistic. It seems clear that irrefutable claims about such a topic as language maintenance are not possible. Until we can peer into the future with more certainty, however, the study of language use in the context of social networks would appear to be a very useful tool—useful for making predictions about language maintenance that have some basis in present reality and that reflect what is known about the dynamics of human social interaction that play a significant role in promoting conformity, or conversely, preparing the way for radical change.

A view of a community. Before concluding this chapter, it is necessary to consider a different perspective—that of an entire community. All of the above examples focused on individuals. As a significant trend, however, language maintenance is a result of choices made by a group of people who belong to a discernible social network that we call a community, and so it is important to understand and analyze the community as a unit as well. This can be done by viewing the community as a sum of its parts. For example, a typical rural community in New Caledonia is populated by people who are linked to each other by dense, multiplex social networks. Of the total population, approximately 95% would be functional monolinguals who spend the majority of their time within the confines of this dense network system where only their vernacular is spoken. The other 5% of the population, although integral members of the community's network, may spend up to 20% of their time (in exceptional cases more than that) in additional sparse networks with people who belong to other communities. This 5% can be classified as functional bilinguals who of necessity use the trade language when functioning as intermediaries between their home communities and other communities where a different language is spoken. Since these communities are characterized by dense, multiplex social networks, where the use of the vernacular dominates, the social dynamics inherent in these networks, which strongly enforce conformity, will almost certainly ensure the maintenance of the use of the vernacular for as long as these same social networks remain unchanged.

In order to make the picture complete, it needs to be recognized that, just as individuals do not exist in isolation, neither are communities isolated units, but they belong to a wider network of interrelated communities. Such a network can also be analyzed and described with some profit. For example, a typical rural community in New Caledonia would normally function in a network with the communities in the same geographical location. If the people

of those communities are interrelated, there will be a kinship network. If they work together or attend the same religious functions, there will be an occupational or voluntary association network, and so on. Where there is a common vernacular, people are much more likely to be related and to spend time together. In other words, the network system linking the communities is much more likely to be dense and multiplex. This factor in turn tends to promote the maintenance of a vernacular. In other locations, intercommunity networks may be relatively sparse and uniplex because of geographical isolation, historical rivalry, or quite simply because of difficulty in communication due to different languages.

Nearly all rural communities in New Caledonia have sparse, uniplex relationships with the main town. There is no close geographic relationship for most of them. Kinship relationships exist, but they are sparse. There is no significant occupational relationship (i.e., no commuting) and only sporadic links on the basis of voluntary association. It is not surprising then that urban mores have little influence on the ingrained habits of rural communities, especially upon linguistic choices.

The communities just described happen to be small and homogeneous and are, therefore, relatively easy to describe. Towns and cities are inevitably more complex and heterogeneous, but it is still possible to analyze and describe them. The most fruitful method would be first to analyze a town in terms of its component communities and then to analyze and describe the social network relationships that exist between different communities that are grouped in close spatial relationship. Sometimes the geographic proximity can blind the casual observer to the fact that such communities are not linked by any substantial social relationships, and that is a whole subject of discussion in itself. Thus, in the case of New Caledonia's main town, Noumea, it is possible that further research would reveal that the two predominant communities, European and Melanesian, are only linked by geographic proximity and very sparse occupational networks.

In terms of methodology, however, even though relationships between communities are more difficult to analyze than those between individuals, it is nonetheless possible, using insights derived from the social network concept. What this brief survey of community-level relationships implies for language maintenance in New Caledonia is that current linguistic norms are very likely to be maintained in rural areas. The urban situation needs more investigation, but, given that network relationships are so weak, both within the town and between town and rural communities, it is unlikely that they will have any significant impact on the linguistic situation in the foreseeable future.

11
Summary

This book has developed in two stages. First, a detailed description of the sociolinguistic situation of rural Melanesian communities of New Caledonia was presented. Second, the concept of the social network was examined, and an application suitable for analyzing and categorizing bilingual communities was developed.

In brief, social network theory systematizes the fact that all human behavior involves relationships and that any system of relationships can be analyzed in terms of a network. A network is developed among the clusters of kin-culture, geographic location, occupation, and voluntary associations. Social networks are not just interesting features that round out a sociolinguistic picture. They are an important link in a causality chain.

Language only has significance as a system of communication within the context of a community of individuals who need and wish to communicate with each other. For all its theoretical richness of introspective capacity to explore an individual's inner world, the day-to-day function of language is to be a communicative tool for people who live together in communities. Those communities exist because the individuals concerned have chosen or have been obliged to form reciprocal relationships. The types of relationships formed influence the languages used for maintaining them.

Relationships are the glue that binds people together. If all the members of a community are individually bound to each other by a specific relationship, they form a solid block which will tend to stick together and conform to the same norms. This is DENSITY. If people are bound together by many different relationships, the link between them is like a many-stranded rope—very

difficult to break. This is MULTIPLEXITY. People bound into a closely compacted social network have plenty of opportunity to be exposed to the standards and norms of that network. As long as there is a motive for remaining part of a network there is every reason to conform to its norms—to speak the language and do those things that are normal for that group. Even should there be a conscious desire to break free from such a network, it may be quite difficult to do so. Sanctions that can be applied to maintain conformity are often considerable.

Conversely, people who belong to sparse, uniplex networks are not bound so closely together. They are more likely to come into contact with many more different ideas and influences in general and to be much more free to change if it suits their needs. In the linguistic realm, they both need and have the opportunity to use a language appropriate to a loose-knit and wide-ranging network. In bilingual communities this will be the standard language; in multilingual communities, it will be the lingua franca.

This book also presented a study of language maintenance in Melanesia. Initial data collection was based on a traditional questionnaire and interview methodology. Even though it was possible to draw reliable conclusions from these data, it was a cumbersome approach that failed to produce a truly integrated picture. The results were always merely a sum of the parts and never a unified whole in which the whole became more important and more compelling than the constituents.

At a later stage, the concept of social network was applied to the same linguistic situation with very interesting results. This concept provided a focus that not only brought together various strands in a unified whole that otherwise seemed disjointed but also provided a tool that was universally applicable wherever social relationships of any kind were in operation. As we reappraised the social network patterns of the various communities studied in the earlier phase, a consistency was found that not only matched the results of the questionnaire-based analysis but also matched what might have been predicted from data from other situations where the concept of social network had been applied.

The cumulative evidence of the situation among New Caledonia Melanesians strongly supports the contention, as made, for example, by Milroy (1980:173–203), that communities characterized by dense, multiplex social networks, have strong norm-enforcement mechanisms—that they will tend to be conservative and will maintain the status quo even in the face of considerable pressure to change. This is exactly what was discovered about the rural Melanesian communities of New Caledonia. It was already known that they were conservative in their linguistic preferences and that they were maintaining the use of their mother tongue even in the face of quite strong pressure from French. It was, therefore, of considerable

significance to discover that they were communities characterized by dense, multiplex social networks.

Today in New Caledonia, the primary sociolinguistic characteristic of rural communities is bilingualism. Linguists in the 1950s predicted the disappearance of the vernacular languages of New Caledonia within ten years. Their comments clearly reflect the fact that a major social and linguistic ferment was observable at that time. That ferment still continues, but the passage of time has demonstrated that the vernacular languages are very resilient. Not only have they not disappeared en masse as predicted, but in many ways they are stronger and the speakers of these languages are much more consciously committed to their preservation than before. This present study does not stand entirely alone then, but stands in a historical perspective provided by an observation, albeit briefly stated, made thirty years ago.

In addition, the study evolved over a period of nearly ten years, and, even though many superficial things can change in the course of such a period, the basic sociolinguistic features of rural Melanesian communities that have been highlighted by this study have remained the same throughout this period.

As far as can be ascertained, bilingualism is not just a modern phenomenon but was a characteristic of Melanesian communities even before the arrival of Europeans. The main difference between then and now is that a European language, French, is now the common element in the vast majority of instances of bilingualism. Being the lingua franca, it has an important role in promoting unity as it acts as the common means of communication for all the language groups represented on the island. In the past, bilingualism would have been between different, usually neighboring Melanesian languages, and there was no single, unifying language.

The introduction of French as a completely new element has undoubtedly brought about radical changes in the overall linguistic situation in New Caledonia. The net result, however, has been a broadening of the linguistic repertoire rather than a reduction. French has not replaced the vernaculars in their function as mother tongue languages despite the fears of linguists. The only language that became extinct in the last thirty years was replaced by another vernacular, not by French. French has, however, replaced certain vernaculars in their function as languages of wider communication. In the past there never was one single language of wider communication. In the last hundred years, however, Houailou and Drehu were both promoted by the Protestant church to fulfill this function. Now, in the last twenty years, that function as a lingua franca has been taken over by French, especially for the younger generation. It is thus possible to talk of replacement in a limited sense, but in this case the result is an enriching extension of linguistic

opportunities rather than the steady disappearance of competing linguistic codes.

Having stated that Melanesian communities are characterized by bilingualism, however, it cannot be assumed that all members of such communities have equal competence in both languages or the same degree of competence as one another. Nonetheless, patterns of competence are very similar throughout New Caledonia. The usual pattern is for the rural Melanesian community to be characterized by the vernacular being the mother tongue of every person who is a member by virtue of birth. It is also the primary means of internal communication between all permanent members of the community and is the most frequently used and the most competently handled. In addition, each community has a small number of members (typically two to three individuals for a population of 200) who act as intermediaries between the community and any other segments of the population at large with whom it is necessary to communicate in French. Such people usually find themselves in this role because they have already become reasonably competent in communicating in French. As they continue using French in their role as intermediary, they continue to maintain this competence. On the other hand, other members of the community who do not function in this role have very limited opportunities to use French. Even though every member of the community may have some ability in French, usually as a result of participating in the French educational system, this ability tends to decline with lack of use. As a result of this combination of facts, the ability to communicate with reasonable competence in French is limited to certain domains for the majority of the rural population. These domains are those needed for communication with persons from outside the community who do not speak the vernacular. Apart from school years, however, the occasions when rural villagers need to function in those domains is quite limited. Most verbal activity in a rural environment centers around family and communal life, and the vernacular is totally appropriate and adequate for such domains.

Not only is the vernacular adequate and appropriate for most of the needs of rural Melanesians; it is also the language of choice. The various methods of sampling used throughout this study have consistently indicated a strong, positive attitude towards the vernaculars of New Caledonia on the part of those who speak them. This has almost certainly not always been the case; but, on the whole, the more educated people become and the more they become consciously aware of their roots and of their sociocultural identity, the more they want to preserve their mother tongue.

This is not to imply that the people of New Caledonia have a negative attitude towards French. Rather, they have a realistic and pragmatic attitude towards it. They are aware of the positive benefits it can bring,

but recognize that those benefits are limited and that there are things in life of value to them other than Western-style employment and material prosperity.

It is not within the scope of this study to be prescriptive with regard to language development or educational policies. Rather, as a descriptive study it highlights the facts of the situation. The key characteristic of New Caledonia is that of stable bilingualism. The French language provides a window on the world and is a key to unity and communication between different groups. At the same time, vernaculars meet important needs and provide a social and cultural richness that could not be maintained without them. The way ahead is for those involved in language development and social programs that impinge on the linguistic situation to design policies that take these realities into account.

One final point can be made. The vernacular languages of New Caledonia are of primary concern and importance to the people who speak them and of relatively little importance to anyone else. Perhaps the most fruitful way ahead would be to give the speakers of these languages themselves every opportunity to make their own decisions and to develop their languages in the way that best suits their needs and desires.

Much more could be said about why particular kinds of social networks influence their members in different ways, especially with regard to language use, but enough has been said to provide a basic outline for a possible theoretical underpinning for a sociolinguistic theory of language maintenance. It now remains to test, modify, and improve the theory—and to see whether it represents reality in an accurate way, and whether it will lead to a deeper understanding of how and why language is used in the way it is in bilingual and multilingual societies.

Enough has been said to demonstrate that the concept *social network* should be taken into account in future attempts to explain the relationship between language and society and, more specifically, in any attempt to study the dynamics of language maintenance and language shift.

[blank]

Appendix A

Communal Questionnaire
Individual Questionnaire

Questionnaire Communal **NC1982**

Langue: Tribu: Commune:

Locuteur:

Langue, Coutume et Attitude.

Quelle langue est parlée la plus habituellement dans la tribu?

Quelle langue est parlée normalement en famille?

Est-ce qu'il y en a qui ne parlent que le français aux enfants? Combien de familles?

Quelle langue est utilisée pour les cérémonies coutumières?

Quelles coutumes sont régulièrement pratiquées?

Signe d'arrivée	Résolution des disputes (terre)
Décisions communales	La chasse, pêche, culture.
Mariages	Enterrements
Construction d'une case	Festival d'igname

Enseignements aux enfants des valeurs d'adulte.

Est-ce que la coutume est toujours très fort
perd sa valeur
ne se fait plus?

Français

Quand est-ce qu'on parle habituellement français?

Quelle est la valeur d'une connaissance de français?

Quelle serait l'attitude envers une personne de la tribu qui parlait toujours le français?

Quelle langue est parlée
par ceux qui rentrent à la tribu de Nouméa?
par ceux qui viennent résider dans la tribu de dehors, à cause de mariage etc.?

Quelle est l'attitude en général envers?

Scolarité. Ecole depuis quand?

Ecole Primaire: Combien d'enfants:

Combien d'instituteurs? M/F ?
Si Mélanésien, quelle langue?

Jusqu'à quel niveau?

Quelle langue en maternelle ou C.P.?

Quel % reste toujours en tribu et n'entre jamais en 3me/6me?

Eglise. Quelle(s) langue(s) sont utilisée(s) pour

la liturgie

les cantiques
(langue locale?)

la lecture biblique
(traduite?)

le sermon
(traduit?)

les prières

les annonces

l'école de dimanche

groupe de femmes

groupe de jeunes

conseil presbytéral

Individuel **Tribu:** **Commune:**

Nom: M./Mme./Mlle:

Date de naissance: Lieu de Naissance:

Scolarité. Où es-tu allé pour l'école primaire?

pour aller au collège? au lycée?

A quel niveau as-tu terminé tes études?

Résidence. Où est ton domicile habituel?

As-tu jamais résidé ailleurs pour une longue période? Si oui

Quelle tribu/commune? Combien de temps? Chez qui/pour quelle raison?

Langues

COCHEZ la case appropriée	Langue de ta tribu seulement	Français seulement	Toutes les deux	Autre (laquelle)
La lère langue tu as appris comme enfant				
Langue parlée par ta mère				
Langue parlée par ton père				
Langue que tu parles aux enfants si tu n'es pas parent, la langue tu parlerais à tes enfants				
Quelle langue utilises-tu habituellement quand tu es tout seul et tu réfléchis sur un problème				
Quand tu es fâché				
Quand tu fais un calcul				

Quand tu dors et tu rêves				
Quand tu bavardes avec tes copains/copines				
Quand tu veux exprimer une opinion personnelle				

Quand tu entends un discours ou un sermon en français, COMBIEN comprends-tu? (SOULIONEZ une seule réponse)

–un peu seulement
–à peu près la moitié
–tout ce que j'entends.

	Dans quels milieux?	Avec qui?
Quand parles-tu habituellement le français?		

A ton avis, quelle est la valeur d'apprendre le français?

La Coutume. A ton avis

COMBIEN des traditions coutumières doit-on maintenir et pratiquer régulièrement? (SOULIONEZ une seule réponse)

–rien du tout
–certaines traditions seulement
–toutes les traditions que possible.

Littérature. A ton avis, est-ce qu'il serait bon de savoir lire et écrire la langue de ta tribu?

Si tu pouvais choisir, quelle langue préférerais-tu pour lire (COCHEZ la case appropriée)	Langue de la tribu	Franç.	J'achèterais ces livres
manuels de santé, couture, culture, élevage, mécanique			Oui/non
informations, journaux			Oui/non
bandes dessinées			Oui/non
histoires/traditions, coutumières			Oui/non
le Nouveau Testament			Oui/non

Si cette littérature existait, indiquez dans la 3me colonne quel genre de littérature tu achèterais.

La vie religieuse. (COCHEZ la case appropriée)

Assistes-tu régulièrement Oui/Non au culte ou à la messe?	Langue de la tribu	Franç.	Les deux
Quelle langue préfères-tu pour bien comprendre et bien participer dans le culte/la messe?			
Quelle langue utilises-tu quand tu pries à Dieu quand tu es tout seul?			

Est-ce que tu lis la Bible régulièrement toi-même? Oui/Non.

Dans quelle(s) langues?

Si le Nouveau Testament existait dans ta propre langue, est-ce que tu le lirais régulièrement? (SOULIGNEZ une seule réponse)

–Non, je ne le lirais pas dans ma langue.
–Peut-être je le lirais.
–Oui, je le lirais souvent dans ma langue.

Appendix B

1. Population figures
2. Sampling proportions
3. Answers to sociolinguistic questionnaires
4. Comprehension test scores

Note that in regard to figures for the sociolinguistic questionnaire, the percentages do not in all cases add up to 100%. This is because the percentage of respondents who gave no answer to a particular question has not been systematically recorded.

Individual Sociolinguistic

	TIA	PAI
Population (1976 census)	91	193
Estimated no. of adults (60%)	54	115
Completed questionnaires	41	28
Adults (% of adult population)	75%	24%
15–29 years (% of respondents)	56%	46%
30–49 years	27%	29%
over 49 years	17%	25%
Without secondary education	66%	93%
With some secondary education	34%	7%
Average years outside language area	2.6	4.5
Learned vernacular as mother tongue	93%	89%
Speak only vernacular to children	73%	54%
(NOTE: Remainder claim to have learned or speak both. None learned		
Think in vernacular	85%	46%
Dream in vernacular	83%	61%
Express opinions in vernacular	73%	57%
Self-evaluation of comprehension of spoken French		
Understand a little	25%	36%
Understand half	46%	50%
Understand all	29%	14%

Questionnaire

ARA	BAL	POU	PAO	KOE	NAP	MOU	Aggregate Totals & Averages
98	82	188	212	219	114	130	1327
60	49	113	127	130	68	78	794
24	10	18	16	18	24	32	211
40%	20%	16%	13%	14%	35%	41%	30%
54%	30%	50%	50%	50%	54%	63%	50%
29%	30%	33%	31%	39%	33%	28%	31%
17%	40%	17%	19%	11%	13%	9%	19%
79%	90%	100%	94%	83%	83%	78%	85%
21%	10%	0%	6%	17%	17%	22%	15%
4.0	4.4	4.4	4.9	3.9	2.5	3.6	3.8
100%	90%	100%	100%	89%	96%	94%	93%
92%	80%	100%	88%	50%	50%	69%	73%
or speak French only.)							
75%	70%	61%	63%	61%	58%	68%	67%
71%	80%	56%	81%	56%	75%	77%	73%
71%	60%	72%	69%	44%	67%	66%	64%
							Without Pao or Bal
25%	40%	11%	38%	5%	8%	16%	18%
50%	30%	56%	50%	67%	79%	62%	59%
25%	30%	33%	12%	28%	13%	22%	23%

	TIA	PAI
When do you speak French:		
Speak with outsiders	78%	73%
Speak at school	15%	18%
Speak at home	7%	2%
What is the value of knowing French?		
communicate with outsiders	57%	46%
to get on well	11%	11%
no value	15%	7%
Traditional culture		
How much traditional culture should be retained?		
everything possible	73%	54%
only some	27%	46%
nothing	—	—
Vernacular literacy		
In favor	98%	86%
Not in favor	—	7%
No answer	2%	7%
Prefer general literature in vernacular	83%	50%
Prefer general literature in French	5%	11%
Prefer traditional literature in vernacular	100%	86%
Prefer traditional literature in French	—	4%
Prefer traditional literature in both	—	11%

ARA	BAL	POU	PAO	KOE	NAP	MOU	Aggregate Totals & Averages
75%	80%	78%	88%	69%	42%	63%	72%
19%	—	19%	—	17%	48%	23%	18%
2%	—	3%	6%	8%	10%	5%	5%
59%	80%	83%	94%	67%	73%	41%	66%
25%	—	—	—	11%	10%	34%	11%
8%	10%	6%	—	—	—	6%	6%
75%	70%	50%	31%	67%	33%	82%	
25%	30%	44%	50%	22%	67%	18%	96%
—	—	6%	6%	—	—	—	1%
92%	70%	94%	63%	78%	63%	91%	82%
4%	10%	6%	6%	17%	—	—	5%
4%	20%	—	31%	5%	37%	9%	13%
50%	40%	33%	44%	5%	50%	50%	45%
21%	40%	6%	—	39%	17%	6%	16%
88%	100%	50%	75%	33%	75%	75%	75%
13%	—	22%	—	28%	17%	6%	10%
—	—	22%	—	39%	—	6%	9%

	TIA	PAI
Language and church		
Regular church attendence		
yes	83%	75%
no/no answer	17%	25%
Prefer vernacular in church	81%	64%
Prefer French in church	7%	—
Prefer both in church	10%	36%
Pray in vernacular	66%	68%
Pray in French	15%	11%
Pray in both	17%	21%
Translation of the New Testament		
Read Bible often	78%	68%
Read Bible seldom/never	17%	32%
Prefer New Testament in vernacular	100%	75%
Prefer New Testament in French	—	7%
Prefer New Testament in both	—	18%
Would read New Testament in mother tongue	95%	68%
Might read New Testament in mother tongue	3%	29%
Would not read New Testament in mother tongue	—	3%
Would buy New Testament in mother tongue	95%	93%
Would not buy New Testament in mother tongue	—	—
No answer	5%	7%

ARA	BAL	POU	PAO	KOE	NAP	MOU	Aggregate Totals & Averages
88%	60%	67%	100%	72%	75%	94%	79%
12%	40%	33%	—	28%	25%	6%	21%
58%	70%	17%	88%	17%	63%	63%	58%
17%	10%	—	—	11%	—	9%	6%
25%	20%	83%	12%	72%	37%	28%	36%
29%	50%	17%	88%	28%	46%	47%	49%
63%	50%	66%	—	50%	37%	34%	36%
8%	—	17%	12%	22%	17%	19%	15%
38%	40%	22%	50%	56%	67%	59%	53%
62%	50%	78%	38%	39%	29%	41%	43%
79%	60%	50%	100%	33%	67%	85%	72%
21%	20%	28%	—	22%	21%	6%	14%
—	—	22%	—	45%	4%	3%	10%
63%	80%	11%	94%	44%	88%	69%	68%
25%	20%	72%	6%	39%	4%	22%	25%
12%	—	17%	—	17%	8%	3%	7%
79%	60%	67%	81%	50%	50%	88%	74%
13%	20%	33%	—	33%	8%	—	12%
8%	20%	—	19%	17%	42%	12%	14%

		Comprehension	
	TIA	PAI	ARA
Population (1976 census)	91	193	98
Estimated no. of adults (60%)	54	115	60
Tests completed	24	12	12
Adults (% of adult population)	45%	10%	20%
15–29 years[15] (% of respondents)	53%	50%	50%
30–49 years	30%	33%	33%
over 49 years	17%	17%	17%

Comprehension ability control in percentages

(The first column indicates the percentage of population at each level of comprehension per self-evaluation on the sociolinguistic questionnaire. The second column provides the percentage of those actually tested for each level of comprehension.)

Levels of comprehension			
a little	25–29	36–25	25–25
half	46–42	50–67	50–58
everything	29–29	14–8	25–17
Comprehension test scores			
under 30	72	57	55
over 30	55	40	65
average total	65	48	60

[15]According to the 1976 census, the percentages of the actual population (in rounded figures) are as follows: 0–14 years: 40%; 15–29: 30%; 30-49: 20%; over 49: 10%. Therefore, of the target population (15 years and over) alone, 50% are 15–29 years, 33% are 30–49 years, and 17% are over 49 years.

Tests					
BAL	POU	PAO	KOE	NAP	MOU
82	188	212	219	114	130
49	113	127	130	68	78
8	14	4	13	14	12
16%	12%	3%	10%	20%	15%
37.5%	50%	75%	54%	50%	50%
37.5%	36%	25%	31%	43%	33%
25%	14%	—	15%	7%	17%
40–25	11–14	38–25	5–8	8–7	16–8
30–37.5	56–50	50–25	67–61	79–79	62–67
30–37.5	33–36	12–50	28–31	13–14	22–25
70	53	53	67	68	58
54	49	—	48	32	40
60	50	53	58	50	50

Communal Sociolinguistic Questionnaire

Completed for 18 communities

Language spoken in community	Vernacular—100%
Language spoken in family	Vernacular—100% An average of one family per village also speaks some French in the home.
Language used for traditional customs	Vernacular—100%
Status of practice of traditional customs	Still strong—78% Strong but with some reservations—22%
Use of French	With outsiders—100%
Value of French	In order to communicate with outsiders—67% In order to communicate with outsiders and to get on well—33%
Language used by those returning to community for visits.	Vernacular—100%
Language used by women marrying into language community	They learn to communicate in language of their new home—100%

School

Language used in preschool classes	French only—78% French plus some vernacular—22% Vernacular only—17%
Language used in life of the church	Predominantly vernacular and some French—33% Predominantly French and some vernacular—44% French only—6%

Appendix C

Statistical Exploration Of Comprehension Test Data Sociolinguistic Survey Of New Caledonia, 1982

Contributed by Peter Wild, South Pacific Commission, Noumea

The discussion falls into five parts:

(1) Justification of the focus of the analysis—the distribution of comprehension test scores for individuals within a test point

(2) An explanation of the major descriptive device, the stem-and-leaf plot

(3) Descriptive analysis of the comprehension test scores both in a local vernacular (Nenema) and French

(4) Probable generalization of the sampled data to the target population

(5) Conclusions

It is assumed throughout that the test scores are a good measure of comprehension. Validating this is a psycholinguistic question which this statistical analysis must take for granted.

1. The Distribution of Comprehension Test Scores

The fundamental emphasis of this analysis is the distribution of comprehension test scores for individuals within a test point. While summary

measures of comprehension for test points as a whole can be informative, it is the distribution of comprehension scores which determines information flow to the whole test point. To illustrate this point compare the following hypothetical French comprehension test scores at three small test points each consisting of four individuals. Assume that within each test point all individuals share a perfectly intelligible vernacular.

Test point A:	100%	100%	0%	0%
Test point B:	50%	50%	50%	50%
Test point C:	75%	75%	25%	25%

There is no difference between the average score for the three test points; the average for each test point is 50%. The comprehension pattern for different test points, however, is quite different and has important implications for the communication of information to all members of the test point.

At test point A the passage was perfectly intelligible to half the individuals while totally unintelligible to the other half. To convey any meaning to the village as a whole would require translation, a fact which could not be hidden from members of the community. The message could in theory be conveyed accurately through translation because of its perfect comprehension by some individuals.

In contrast, the passage is understood at the same level of partial comprehension by all individuals at village B. Translation between individuals will not result in a clear message in this case since the passage is only partially intelligible to all members of the village. Moreover, this level of comprehension may be perceived as normal, there being no variation among individuals.

At village C the passage is fairly intelligible to half the individuals and slightly intelligible to the other half. Translation might be considered not worthwhile because the passage is partially intelligible to some and totally intelligible to none. Translation might eliminate the gap in comprehension but would still result in a defective message because the passage is totally intelligible to no one.

The ideal, of course, is perfect comprehension for everyone, all scores being 100%. By assumption, this would occur if the material were delivered initially in the local vernacular. In essence this analysis attempts to characterize the observed distribution of comprehension scores for a local vernacular and French, and to contrast these two classes of distributions.

2. Stem-and-Leaf Plots

Having argued the importance of the distribution of comprehension tests scores, the question is how to present the data in such detail without confusion. The solution is a device as simple as it is valuable, the stem-and-leaf plot.

The stem-and-leaf plot made its debut in J. W. Tukey 1982 and has quickly become a popular method of exploring the distributions of many types of data. The plot resembles a transposed histogram, but is more informative as well as being easier to construct. As the stem-and-leaf plot is a relatively recent innovation, it is worth giving a brief explanation of the special cases of this plot used in this analysis.

The plot consists of a *stem* with an attached *leaf*. The stem of the plot consists of the numbers 10 to 0 arranged vertically and representing the ten's digit of the percentage score, as in Table C1.

Table C1. The Stem Plot

10:
9:
8:
7:
6:
5:
4:
3:
2:
1:
0:

The *leaf* of the plot is drawn to the right of the stem. It represents the units digits of percentage scores for individuals tested. The best illustration is an example. Average French comprehension test scores for eight individuals at Balade were 81, 79, 79, 74, 74, 52, 39, 3. These can be represented by the stem-and-leaf plot, as in Table C2.

A feature of stem-and-leaf plots is that it is possible to read off the scores from the plot as done in the explanatory annotation of Table C2. Unlike histograms which lose data when grouping, stem-and-leaf plots preserve data to two significant figures. The stem-and-leaf plot thus:

Table C2. The Stem-and-Leaf Plot

10:	
9:	
8: 1	(the score 81%)
7: 4 4 9 9	(the scores 74% and 79%)
6:	
5: 2	(the score 52%)
4:	
3: 9	(the score 39%)
2:	
1:	
0: 3	(the score 3%)

- rearranges the data, sorting observations into stem classes
- preserves data to two significant digits, suitable for most analysis
- depicts the distribution of the data
- is a springboard for description and further exploration

These plots and a few elementary summary statistics are all the mathematics that will be used in the analysis. The heavy artillery of formal statistical inference is neither appropriate nor necessary to explore the data.

3. Comprehension Test Data

Nenema comprehension test scores. Comprehension data for Nenema are available for three villages—Tiabet, Arama, and Paita. Nenema is the local vernacular at Tiabet. Related languages are spoken at Arama and Paita. The scores for Nenema comprehension are displayed in Table C3. The main characteristics of the distribution revealed by the plot at Tiabet are:

- all the scores are strongly concentrated near 100% with nineteen perfect scores and the remaining four scores being 90% and above
- there is little spread in comprehension
- there are no medium or low scores

The Nenema comprehension tests at Tiabet yield results that are unique in the survey. The scores represent the comprehension of a passage read

Table C3
Nenema Comprehension Scores in Three Communities

Tiabet	Paita	Arama
10: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	10:	10: 0 0 0 0
9: 0 0 0 5	9: 0 0	9: 0
8:	8:	8: 0
7:	7:	7: 0 0
6:	6: 5	6: 0
5:	5: 0	5: 0 0
4:	4: 0 5	4:
3:	3: 0	3:
2:	2:	2: 0
1:	1: ? ? ? ? ?	1:
0:	0:	0:

? are imputed low scores for individuals declining the Nenema test

aloud to a community of native speakers. Native speakers of French gave very similar results on the French passages.

The distribution most like that observed at Tiabet is that of Arama. It differs, however, in a number of important ways. The main characteristics of the distribution are:

- there is a peak at 100%
- there is wide range of scores
- half the scores are 70% or less and there are some low scores

The much smaller proportion of perfect scores, the wide range of scores, and the presence of low scores are distinguishing differences between the Tiabet and Arama distributions. Still lower comprehension scores are recorded at Paita. The main characteristics of this distribution are:

- no perfect and few high scores
- a wide range of scores
- most individuals tested scored around 50%
- a concentration of imputed low scores. These individuals took the French test but declined the Nenema test on the grounds that they did not understand Nenema.

French comprehension test scores. Analyzing the scores for the French comprehension tests presents a minor complication—each respondent was tested on three different passages. Analyzing scores from the three tests separately leads to undesirable extra work. Analyzing scores for just one test is unsatisfactory as it ignores information in the others. The first step then is to reduce the scores for the three tests to a summary measure of French comprehension for each individual. A straightforward arithmetic average seems the best choice. It takes into account the scores from all three passages, giving them equal weight. Equal weighting is reasonable since the passages are of approximately equal difficulty. There is no compelling reason at this stage to use a less familiar or more complex summary statistic.

It should be remembered that this section deals only with the individuals sampled. The distribution of comprehension scores for the village as a whole may be quite different. This matter is taken up in the next section on generalizing the results.

Stem-and-leaf plots of individual average scores for the French comprehension tests are presented in Table C4. A sociolinguistic analysis might properly discuss the detailed structure of the distribution of French comprehension scores for each village. This analysis will follow a simpler path. First, the common features of the French comprehension scores for the nine villages is identified. Then French and Nenema comprehension distributions are contrasted.

The nine plots in Table C4 show a variety of detailed structure. The most striking feature of the French comprehension data, however, is not the variation among villages but rather the fundamental similarity of the plots. The stem-and-leaf plots do most of the work for us. The characteristics of the distribution of French comprehension scores can be encapsulated as follows:

- there are no perfect and few high scores
- there is a wide range of scores in all villages
- scores below 30% are recorded in all villages

In all these aspects they differ markedly from the test scores for Nenema at Tiabet shown in Table C3.

To further explore the French comprehension test scores, it is useful to supplement the plots with summary statistics. Traditionally the arithmetic mean and standard deviation are used, but for these data the median and quartiles are more meaningful. The median splits the data into two equal parts—half of the observations are greater than the median and half are less than the median. Although the median will be very close to the mean for these data, the median makes more intepretative sense.

Table C4
Average French Comprehension Test Scores in Nine Communities

Tiabet	Paita	Arama
10:	10:	10:
9:	9:	9: 3
8: 1 2 4 4 4	8:	8: 2
7: 1 2 4 7 9	7: 1 3	7: 0 3 4 5
6: 3 7 8 8 8 8	6: 1 6	6: 4 6
5: 1 2 5	5: 4 4	5:
4: 5 7 8	4: 2	4: 7
3: 0	3: 2 2 4 8	3: 1 7
2: 6	2:	2:
1:	1: 8	1: 3
0:	0:	0:

Balade	Pouebo	Paola
10:	10:	10:
9:	9:	9:
8: 1	8:	8: 2
7: 4 4 9 9	7: 0	7:
6:	6: 0 3 6 9	6: 3
5: 2	5: 1 5 5	5: 6
4:	4: 4 6 9	4:
3: 9	3: 4 8	3:
2:	2: 7	2:
1:	1:	1: 0
0: 3	0:	0:

Koe	Napoemien	Mou
10:	10:	10:
9:	9:	9: 4
8: 1	8: 5 7	8:
7: 1 3 6 6 7	7: 2 9	7: 0 6
6: 3 6	6: 0 1 5 8 9	6: 4 9
5: 0 3	5:	5: 1 1
4: 4	4:	4: 9
3:	3:	3:
2: 6 6	2: 3	2:
1:	1: 9	1: 4 8 8 9
0:	0: 0 0 8	0:

Table C5
Nenema Comprehension Test Scores—Summary Statistics

Place	Number Tested	Maximum	Upper Quartile	Median	Lower Quartile	Minimum
Tiabet	23	100	100	100	100	90
Paita	12	90	58	38	0	0
Arama	12	100	100	75	55	20

Table C6
French Comprehension Test Average Scores—Summary Statistics

Place	Number Tested	Maximum	Upper Quartile	Median	Lower Quartile	Minimum
Tiabet	24	84	78	68	52	26
Paita	12	73	64	48	33	18
Arama	12	93	74	68	42	13
Balade	8	81	79	74	45	3
Pouebo	14	70	63	53	44	27
Paola	4	82	72	60	33	10
Koe	13	81	76	66	50	26
Napoemien	14	87	72	63	19	0
Mou	12	94	70	51	18	14

The quartiles further bisect the data. One quarter of the data is greater than the upper quartile and one quarter of the data is less than the lower quartile. It follows that half of the observations lie between the upper and lower quartiles forming what might be called the *middle* of the data. These statistics for Nenema and French comprehension scores are presented in Tables C5 and C6, respectively.

Table C6 shows that for the sample at all nine villages, at least 3/4 of the French comprehension scores were below 80%, half were below 75%, and one quarter were below 55%. This contrasts with the statistics shown for Nenema comprehension at Tiabet and Arama in Table C5. For Arama the upper quartile is 100% and for Tiabet even the lower quartile is 100%.

French versus Nenema comprehension test scores. The contrasts between the distribution of the French and Nenema test scores are now discussed in greater detail. The high scores which feature in the plots for Tiabet and Arama in Table C3 are absent in Table C4. Among the 112 individuals tested, there are only two who have average scores of 90% or

better for the French comprehension tests. This picture is reinforced by examining the comprehension scores for the three French passages separately. Only two of the 336 scores are 100%. That is, less than 1% of the scores are perfect. This is quite different from the comprehension of Nenema at Arama where one-third of the individuals tested scored perfectly. It is in diametric contrast to the comprehension scores for Nenema at Tiabet where all of the individuals scored 90% or better and five-sixth scored perfectly.

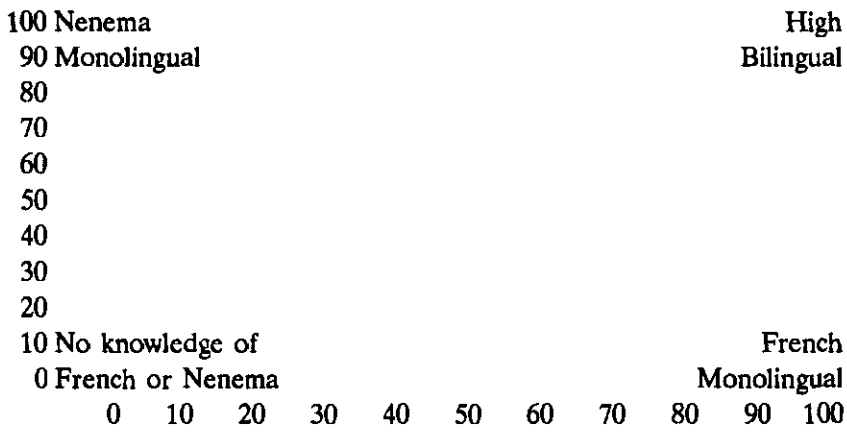
The other two features of the plots in Table C4—the wide range of scores and the presence of low scores—is shared by the plots for Paita and Arama in Table C3. These do not occur in the scores for Nenema at Tiabet.

The comprehension scores for two languages measured on the same individual form a bivariate distribution. These are represented in grid form in the bilingual comprehension plots in Table C7. This enables the comprehension of the two languages to be compared. Nenema comprehension scores are shown on the vertical axis and French comprehension scores are shown on the horizontal axis.

The four corners of the plot have the simple interpretions as shown in the schematic plot. Individuals fully bilingual in French and Nenema would have high scores in both tests and would be located in the top right corner of the graph. Native speakers of Nenema with no knowledge of French

Table C7
Nenema and French Bilingual Comprehension Plots

Schematic plot of extremes



Tiabet

100				1	1	3	1	6	3	4	
90							2		2		
80											
70											
60											
50											
40											
30											
20											
10											
0											
	0	10	20	30	40	50	60	70	80	90	100

Paita

100											
90						1	1				
80											
70											
60								1			
50				1							
40			1			1					
30						1					
20											
10						?		?	?	??	
0											
	0	10	20	30	40	50	60	70	80	90	100

Arama

100									3		1
90					1						
80						1					
70					1			1			
60			1								
50									1	1	
40											
30											
20								1			
10											
0											
	0	10	20	30	40	50	60	70	80	90	100

would be found in the top left corner. French native speakers with no knowledge of Nenema would be located in the extreme lower right corner of the plot. Speakers with no knowledge of either French or Nenema would be located in the bottom left corner of the graph.

The numbers on the plots for Tiabet, Paita, and Arama represent the number of individuals with scores in the corresponding bivariate range for those communities. The 6 in the Tiabet plot, for example, means that six individuals scored 100% in the Nenema comprehension test and from 60% to 69% in the French comprehension test. In these plots neither variable is intended to predict the other; it is the bivariate distribution that is of interest.

The plotted points for Tiabet are confined to a strip at the top of the graph. This reflects that Nenema is highly intelligible for all tested individuals while French is of very variable comprehension. It is never totally unintelligible, but neither are there any instances of full comprehension.

The plotted points for Arama are scattered, indicating variable comprehension for both languages. All individuals found at least one of Nenema or French partially intelligible. This is reflected by the absence of observations in the lower left corner. One individual (top right) found both languages highly intelligible.

The plotted points for Paita are scattered like those for Arama, but as a whole are closer to the lower left corner. There are no points reflecting high French comprehension. Except for the the two scores of 90%, Nenema comprehension is moderate to low. The five question marks on the 10–19% Nenema coordinate represent individuals who did the French test but declined the Nenema test on the grounds that they understood no Nenema.

This completes the statistical description of the comprehension test scores. Before stating conclusions, it is necessary to assess to what extent the results are indicative of the target populations from which the sample is drawn.

4. Generalization of the Survey Results

As already noted, the analysis thus far has related only to the distribution of test scores for tested individuals. The value in survey data lies in being able to generalize to a larger population. There are three main areas where greater generality could be sought:

- Geographic, to other villages
- Temporal, to the future
- Communal, to the target population within each village

It is worth clarifying which of these generalizations are amenable to statistical treatment. The detailed survey was restricted to the northern half of the main island and to a few months in 1982 and 1983. Geographic and temporal generalizations beyond these belong more properly to a sociolinguistic rather than a statistical analysis. (ft should be noted in passing that within the geographic range of the survey, villages with contrasting characteristics were chosen, resulting in a more representative sample.) Communal generalization, from the sampled individuals to the target population within each village, is a task where statistical techniques may be helpful. In assessing what is possible, the sampling procedure is of fundamental importance.

Unbiased generalization from the sample to the target population is the specific virtue of probability samples. Random selection of individuals is crucial to the theory of probability sampling. In practice, however, even the best implemented samples deviate from the perfect probability samples due to imperfect knowledge of the target population, imperfect selection procedures and nonresponse. Various mathematical techniques exist to reduce the biases arising from these departures from the ideal.

In addition to these difficulties, investigators in the field are often not free to approach individuals randomly. Samples consist of volunteers rather than individuals randomly selected by the investigator. In spite of the difficulties of generalization, nonprobability samples can yield valuable information. A variety of designs are available to improve the reliability of the sample of which quota samples are among the most common. This ensures that the sample contains members of a variety of subsets of the population. Quotas by age and sex are common methods of improving the representivity of the sample and have been used in this study. The mathematical treatment of nonprobability samples is not clear cut.

Generalizing from a nonprobability sample is a frequently encountered problem. It is worth sketching field procedures which might be useful. Ideally, the investigator should construct a frame, a list without omissions or duplicates of all individuals living in the village in the target population. This would be a time consuming task for any moderately sized village, but it would have a number of benefits. At the very least it could be used to ensure the coverage of the most competent speakers of the language and to give an accurate measure of the proportion of the village sampled. It could also highlight differences between tested and nontested individuals.

A proportion of the target population will do the test. How would the remainder score? It may be possible to get a subjective estimate from a local helper. The helper could be asked to relate French competence of nontested individuals to that of tested individuals—higher, lower, about the same. Alternatively the investigator could make some assessments

himself. Yet again, self-assessment of French competence could be used to give an approximate value though this is likely to be most subjective of all.

A less subjective approach is to adopt a two-phase sample. A very easy and short test would be administered to many members of the target population. The scores for the short test would be related to the scores for the subsample who take the full test. From this, scores for the full test could be estimated for those who took the short test but declined the full test. It should be noted that any method to counteract the bias is liable to complications—mathematical, logistic, and even ethical. It is for the investigator to determine whether possible gains in sample quality justify the additional effort.

A statistically rigorous generalization from the sample to the target population will not be attempted here. It is, however, possible and worthwhile to discern the likely location of the distribution for the target populations in relation to the sampled distributions. From this it will be possible to assess whether the contrasts between Nenema and French comprehension observed in tested individuals apply to the population, although precise quantification is not contemplated.

The key question in generalizing from the sample to the target population is: How would the scores of the untested individuals compare with those tested? In terms of average level there are three possible answers: the same, higher, lower. If the scores of unsampled individuals have the same distribution as the sampled individuals then the characteristics also apply to the population. The stem-and-leaf plots have the same shape and the measures of spread and location will be similar for the whole village.

In most surveys, however, nonrespondents are different from respondents. The question is: In what way are they different (and by how much)? To assess this it is useful to consider two observations by the investigator:

(1) While a range of scores were sought, it was often difficult to get individuals with low comprehension of French to take the test.

(2) At some sites all known competent speakers of French were tested.

In other words, the sample puts an upper limit on French comprehension. Of those not tested, very few were believed to find French highly intelligible, and many were believed to have very low comprehension of French. This is largely an unavoidable property of the test itself. Although presumably an unbiased instrument for those tested, it results in a biased sample. This is because, while not difficult for competent speakers of French, the test would deter individuals with modest competence in the language. Few people relish a comprehension test in a nearly unintelligible language. No efforts to meet

age and sex quotas will eradicate the tendency to select higher scoring individuals.

The implication is that the sampled distributions will tend to have higher scores than those for the target population as a whole. While it is not possible to say how much higher, differences between mother-tongue and French comprehension are likely to be more pronounced in the target population than in the sample. Conclusions based on the sample alone will probably over-estimate French intelligibilty.

5. Conclusions

The data are consistent with the following statements on comprehension of French and Nenema for the surveyed villages:

1. Spoken French is moderately intelligible to a modest proportion of adults living in rural areas.
2. French is highly intelligible to very few adults living in rural areas.
3. The highest levels of comprehension of French among adults living in rural areas is far from the near-perfect levels observed in speakers tested in their mother tongue—French or a vernacular.
4. French is of low intelligibility to a large proportion of adults in the surveyed villages.

The Nenema comprehension tests at Tiabet, Arama, and Paita are consistent with the following (scarcely surprising) statements:

5. The vernacular is totally and universally comprehensible in the village where it is the mother tongue.
6. For villages where languages related to but distinct from Nenema are spoken, comprehension of Nenema is variable, being fully intelligible to some and not at all to others.
7. Intelligibility of the vernacular where it is the mother tongue is vastly better than that of French.
8. The data is not consistent with a moderate to high comprehension of French for all (or most) adults living in rural areas.

Appendix D

A Sample Method for Conducting Social Network Research

In studying a bilingual situation with a view to predicting future patterns of language use, it is important to know whether the situation is stable or whether it is in a process of more or less rapid change. A study of the social networks typical of a given community can be used as an indicator which will show if a situation is stable or not. Where the situation is clear cut, decisions can be made accordingly, and where it is not, more detailed study can be initiated.

The study of social networks has other advantages:

- Such relationships are universal.
- The study focuses very specifically on one area of concrete human behavior, but at the same time it incorporates information concerning language use, domains of language use, social and cultural stability, and, by inference, information concerning language attitudes.
- The study focuses at the research level on practical reality rather than on theoretical concepts, which makes the relevant information easier to elicit and verify.
- The study can produce quantifiable, comparable results.

General Considerations

Before embarking on a lengthy and costly investigation, it is helpful to try to see clearly in advance where the investigation is likely to lead. It is most helpful is to spend a lengthy period (at least a week) in one particular community, which, based on preliminary information, appears to be representative of the population under investigation.

During this period, interview and interact with as many people as possible with a view to refining the instruments being used and to discovering any unforeseen cultural or social pitfalls. Use the time to verify by observation and follow-up discussion results produced by the more formal instruments. This investment of time can be very helpful in guiding the course of the total investigation and in providing a larger sample against which future inadequate samples can be compared.

From this vantage point it may be possible to foresee whether a fast, far-ranging investigation with more impressionistic results may be more relevant than a slower, smaller, but more detailed investigation. Inevitably, detailed quantifiable results are the ideal, but under real-life circumstances they are not always possible to obtain and may not be necessary.

It is assumed that the questionnaires should be used to stimulate informal conversation and discussion during which the relevant information will be elicited, rather than being used as tools for formal interviews. This assumption is reflected in the comments that accompany the following proposed questionnaires.

Individual Questionnaire

For all basic network clusters an indicator of the duration of the existence of each should be given, both in terms of past duration and likely future continuation. Thus, for the kinship cluster it will usually have been initiated at the birth of the respondent and will continue until death or an irreversible breakdown in family relationships. In the case of a network cluster based on a period of formal education, it is likely to be limited to a specific period.

1. Kinship-Culture Social Network Cluster

Introductory. Ask in general about the subject's family, ensuring that he is a bona fide member of the community with the correct linguistic credentials.

Kinship position and network. What is the subject's position in the family (parent, grandparent, child)? How many adults are in the family, living in the same unit? Only count permanent members of unit with whom there is daily/weekly contact. What language is used? In the case of

children, differentiate language used between parent and child and between siblings in the home environment.

Affinal subcluster. Is the same language used with in-laws? If not, a separate subcluster may have to be set up. Clarify this as much as necessary.

Culture activities cluster. For cultural activities (weddings, funerals), what language is used? Are the people involved always members of your family? Will all the members of your immediate family also be involved in any such activities that you would be involved in?

2. Geographical Location Social Network Cluster

Who are the people who live the closest to you? Are they also members of your family? Which language do you use for conversing with your neighbors? Do you have contact with any other people, using any other language, on a daily basis, as a result of where you live?

3. Occupation Social Network Cluster

What activities take up most of your time during an average week? Who shares in these activities with you? How many of these people are members of your family? If not members of your family, how many of these people live very close to you? What language(s) do you use in the course of these activities? Where more than one language is used, specify the activities and the amount of time using each language.

4. Voluntary Association Social Network Cluster

When you are not busy with the above activities, what else do you do (evenings, weekends, and holidays)? With whom do you share this time? Are they members of your family? Are they your neighbors? Are they people with whom you spend work time? What language do you use during this time? Specify all the detail necessary for a full picture.

Community Questionnaire

In small, rural communities it is often feasible to build an accurate profile of the community simply by talking with community leaders. It is probably easiest to start by finding out when the trade language is used in the community and by whom. Undoubtedly the results will be more impressionistic, but it is often possible to discover what percentage of the adult population operates in key network clusters in which the trade language is

used. This kind of information can be elicited at the most preliminary stages of field assessment.

1. People Who Use the Trade Language (TL)

How many people in the community use the TL regularly? (What percentage is this of the total population?) Who are these people? Why do they use the TL?

2. Activities Using the Trade Language

When do they use the TL? In their home? With which other members of the community? Do they go outside the community to work where they use the TL? Any other activities?

3. Vernacular Usage

Do they also speak the vernacular? Do they use it? When? How often? For all the other members of the community? Do they ever use only the vernacular in the course of their normal weekly activities? On what occasions would they not use the vernacular? How often are such situations likely to arise?

4. Time Factor

The time factor needs to be taken into consideration for each of the cluster analyses as appropriate. For example, have the networks been established in their current form for a long period and are they likely to continue? Are some of the networks, by their very nature, temporary? Some occupation networks, such as networks created in a formal education environment, have only a limited time span; thought must, therefore, be given to what happens when those networks are disbanded and replaced by others, if any predictions based on them are going to be accurate. Networks that have been established for a long time are more likely to impose pressure towards conformity than those more recently established.

Scoring Method

The following method of quantifying the density and multiplexity of social networks is taken from Milroy 1980:49-52.

1. Density

The density of a network may be calculated by a simple formula which expresses the ratio of the total possible links to the total actual links in the network cluster under consideration:

$$\text{Density} = \frac{100 \times Na\ \%}{N}$$

Na = total actual number of links

N = total possible number of links

2. Multiplexity

Multiplexity is calculated as the ratio of the actual number of different links between ego and the other people in the same network to the total of all possible ties.

$$\text{Multiplicity} = \frac{Nm \times 100\ \%}{N}$$

Nm = Number of possible multiplex links

N = Number of actual links

[blank]

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Language Maintenance in Melanesia

Sociolinguistics and Social Networks in New Caledonia

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Since as long ago as 1902 when the missionary ethnographer Maurice Leenhardt arrived, civil authorities—and more recently even linguists—have been predicting the imminent demise of the languages spoken by the native Melanesians of New Caledonia. This study, the result of three years of research, is based on an extensive program of individual and communal interviews designed to discover patterns of language use and attitudes towards languages used, and on observations made during a six-month residence in a rural Melansesian village. Analysis of these data reveals that the vernacular continues to be the language of choice for the majority of rural Melanesians. While French is the sole official means of communication in the educational system and the language of wider communication outside the scope of daily life in the village, the vernacular is the primary means of communication in the village and provides sociolinguistic identity and the means for expressing the rich symbols and metaphors of ceremonies and exchanges.

Statistics applied to the results of the surveys present the current linguistic situation, but a theoretical framework is needed to explain the maintenance of vernaculars despite widespread use of French. Social Network Theory is applied to this problem in a way which shows great promise for strengthening predictions concerning language shift.

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