

Social evolution and language change

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ABSTRACT

We propose substantive universals in the relationship between social evolution and language change. Social anthropologists have categorized societies into roughly four broad types by social organization: bands, tribes, chiefdoms and states. This classification is evolutionary in the sense that the society types arose in human history in the sequence given above. We compare these society types to a broad classification of types of language change: divergence and several types of interference (borrowing, convergence, and contact languages—lingua francas, pidgins, creoles and stable mixed languages). Divergence results from social fission and communicative isolation; it is found in all society types, though less so with states. Interference is a result of the three main loci of societal contact: marriage, trade and political integration. Extralinguistic exogamy can occasionally lead to significant borrowing. Trade involves different types of multilingualism depending on the society type; lingua francas and trade pidgins are associated with state societies and a few chiefdoms involved in long-distance riverine/marine trade. Intensive borrowing and stable mixed languages occur with incorporation into a state society in situ, and creoles with state-driven migration (including slavery); there may be examples in chiefdoms, where incorporation sometimes occurs. Thus, certain types of language change are a recent phenomenon in human history and the uniformitarian hypothesis for language change must be abandoned, at least for contact-induced change. The implications of comparing society types with respect to linguistic processes are explored for language history and language endangerment.

1. Introduction: language and society

What is the relation between language and society? Language is obviously a social phenomenon: its central function is interpersonal communication. Thus, one might expect language to be sensitive to social structure. And indeed, the results of decades of sociolinguistic research have demonstrated that many aspects of linguistic variation and change are dependent on social structure. Yet much of the sociolinguistic research informing theories of variation and change has been done on modern, industrial state societies, and moreover on the urban segments of those societies. How generalizable are those theories to nonurban and preindustrial societies? Conversely, many anthropological linguists have done studies on social and linguistic relationships in specific nonurban and preindustrial societies. However, one cannot lump together the diversity of nonurban and preindustrial societies to form a dichotomous ‘us-them’ model of social and linguistic interactions. In order to form valid generalizations from sociolinguistic and anthropological linguistic research, a comparative approach is necessary.

This paper represents initial hypotheses about the relationship between societies of different types and certain basic types of language change. The aim of this research is to go beyond unrestricted universals about the relationship between language and society such as ‘all languages are variable, and that variation is a result of social heterogeneity’. Such universals, while they represent fundamental facts about the nature of language and its relation to society, ultimately do not take us very far in the search for understanding the nature of language. Instead, we aim to look at the range of variation of types of societies, and seek universals correlating different types of linguistic processes with different society types. In constructing these restricted universals of language and society, we can formulate more substantive generalizations and thus offer more specific explanations. Of course, this paper is a first attempt at such an endeavor, and therefore the universals proposed below are quite broad and general in nature. But there are substantive universals to be found, and this encourages us to investigate these relations further.

The approach we take is drawn from linguistic typology, though what we draw from typology underlies any sort of empirical research: classify the independent parameters to be studied—in this case, language change and social evolution—and identify correlations between the values on the independent parameters. The typological classifications of language change and social evolution are presented in §§2-3. The classification of types of language change is broad: language divergence vs. various types of language interference, in particular borrowing, (structural) convergence, and various types of contact languages (lingua francas, pidgins, creoles and stable mixed languages). The classification of societies is based on a longstanding tradition in social anthropology. The version we adopt (with qualifications) is Service’s classification by social organization into bands, tribes, chiefdoms and states (Service 1971, 1975; see also Johnson & Earle 2000).

The processes of language change reflect social processes; this is a corollary of the fact that language is fundamentally social. We may summarize the relationship in a slogan: HOW YOU TALK DEPENDS ON WHO YOU TALK TO. We will return to the consequences of this fact in later sections of this paper. The relevant social processes are fission and contact: societies going apart and coming together for various reasons. But the nature of the fission and contact processes differs depending on the type of society or societies involved; and this is where the universals we propose lie. The process of fission is discussed in §4 and the basic types of contact in §§5-8, along with their linguistic consequences.

In social anthropology, the term ‘social evolution’ is used to describe the classification of societies by social organization. Evolution implies a dynamic classification, and in many cases, a directed change. This is the case with the society types described in §3. The archaeological record indicates that bands arose before tribes, tribes before chiefdoms, and chiefdoms before states in every continent. In other words, the social world has changed dramatically in the 13,000 years that have passed since the end of the last Ice Age (Diamond 1997). If the generalizations presented in this paper are correct, this means that the types of language change processes have also changed dramatically during that time. We cannot assume that processes of language

change that have occurred in recent times occurred, or could have occurred, ten thousand or even five thousand years ago. In other words, the uniformitarian hypothesis for processes of language change must be abandoned, at least for contact-induced change. The final section of this paper (§9) explores some of the consequences of this result for language history and language endangerment.

2. A typological classification of language change

The typological classification of language change that we will use is given in 1:

- (1) I. Language split/divergence
- II. Language interference
 - A. Borrowing (phonetic form + meaning)
 - B. Convergence (of grammatical patterns of form alone or meaning alone)
 - C. Contact languages
 - (1) lingua francas
 - (2) pidgins
 - (3) creoles
 - (4) stable mixed languages

In order to make this classification as independent as possible from the social variables to be investigated, we define language changes in terms of the linguistic effects for an individual speaker or speakers, since they are the originators of a change. The first category, language split or divergence, is defined as the appearance of a difference of any type in the language spoken by two different speakers where formerly no difference was present. This definition abstracts away from variation in the language, and also ignores the propagation of the linguistic differences, which is necessary for divergence to be established. The result of this phenomenon is of course represented in a branching linguistic family tree; it is also referred to as the genetic classification of languages.

The second category includes a variety of phenomena of language INTERFERENCE, in the sense of the term used by Weinreich (1968) in his pioneering work in this area. Interference is the appearance of a similarity between two languages known by at least one speaker where no similarity was previously present. Again, we abstract away from the propagation of such changes. All of the phenomena under the second division pose problems for the traditional linguistic family tree. In effect, they involve some degree of reticulation of that tree, albeit often quite minimal relative to the language system as a whole.

The subtypes of language interference are defined in terms of the linguistic phenomenon, not the social mechanisms that might give rise to the phenomenon. BORROWING is defined narrowly as the adoption of a form-meaning pairing from another language variety; the form or the meaning or both may be adapted by the borrowing speakers. The prototypical case of borrowing lexical items is included in this category; so is the borrowing of specific grammatical forms (particles or affixes).

CONVERGENCE is a not entirely happy term to describe the adoption of a grammatical pattern of either form or meaning; it corresponds to what has been called in the literature 'structural borrowing' or 'interference through shift'.¹ An example of convergence in a phonological pattern is the adoption of the uvular phonetic realization of the /r/ phoneme in various western European languages, originally from French (Trudgill 1983:56-59). An example of convergence in a syntactic pattern is the adoption of subject-object-verb word order

¹The term 'convergence' is used in this meaning by Aikhenvald 2002:6. It is not the ideal term but the alternatives are less attractive. 'Structural borrowing' does not adequately distinguish the phenomenon from borrowing proper. 'Interference through shift' implies a certain sociolinguistic process which in fact may not be the most likely process by which this phenomenon occurs (Ross 1996:245-47). 'Convergence' however implies a symmetry in the process between the two languages that is not always present. But we will use this term until a better one suggests itself.

by Ethiopian Semitic languages in contrast to other Semitic languages, from neighboring Cushitic and other languages with the same word order (Greenberg 1980). An example of convergence in a semantic (and possibly also syntactic) pattern is the copying of the perfect construction for past time reference by varieties of Silesian Polish (Weinreich 1968:41).

Contact languages are languages in which substantial amounts of borrowing and/or convergence between two (or more) languages have taken place, to the point that in all of the cases listed under II.C. (except lingua francas), much doubt has been raised to their genetic linguistic affiliation (eg, Thomason & Kaufman 1988). To some extent, contact languages represent the result of contact or convergence to an extreme that has led most linguists working in this area to distinguish these languages from 'ordinary' languages, all of which have undergone some borrowing or convergence. This is clearly the case for stable mixed languages, in which substantive grammatical morphemes and/or lexical items are divided between two genetically distinct 'parent' languages.

A further characteristic that joins together pidgins and creoles is the phenomenon of restructuring, where the grammatical patterns of the contact language differ significantly from that of the putative parent, but may not have an obvious source in convergence with another language. Lingua francas are sometimes also restructured; their lineage is not normally disputed. Nevertheless, as will be seen in §6, lingua francas will turn out to behave similarly to the other members of this type, and so they are included here.

3. A typological classification of social evolution

The term 'social evolution' has been used in social anthropology to describe a classification of societies in terms of their social organization. Evolution, of course, implies a dynamic rather than a static classification, and in fact the diversity of social structures has led some social anthropologists to rethink the classification in dynamic terms (and others to reject the classification entirely; see Johnson & Earle 2000:3). Evolution also implies directed change for many people, although this is not a necessary concomitant of evolutionary processes. In fact, the archeological record indicates that overall there has been directed change towards progressively larger societies (in terms of population size) and correspondingly more complex social organizations on certain measures of complexity (see below). Nevertheless, the archeological and historical record also indicates the existence of many local cases of the fission of larger social units into smaller ones with corresponding decreases in complexity by the same measures (§4).

Among those social anthropologists that have proposed a typological classification of social evolution, in particular Service, Fried and Johnson & Earle, there is a broad agreement on the categories, although this consensus cloaks differences in definitions and proposed causal factors. The classifications of the aforementioned anthropologists are compared in Table 1:

Service (1971)	Fried(1967)	Johnson & Earle (2000)
Band	Egalitarian Society	Family Group
Tribe		Local Group
Chiefdom	Rank Society	Regional Polity
State	Stratified Society, State	

TABLE 1. Social evolution: the more-or-less consensus view.

Service's classic fourfold division into band, tribe, chiefdom and state has been quite influential and his terminology has been widely adopted (eg, Diamond 1997); we will also adopt his terminology in this paper. Fried's classification merges bands and tribes as EGALITARIAN societies; we will use this term to group these two together. However, Fried makes a three-way distinction between ranked society, stratified society and state. Johnson & Earle's classification distinguishes band and tribe (though redefining the former), but merges chiefdom and state into a broader category of regional polity; others use the term STRATIFIED SOCIETY and we follow this use.

The basic classification found in Table 1 is necessarily a simplification of social reality, and the aforementioned authors make important qualifications and elaborations of the classification. We briefly review the most important of these qualifications and elaborations here.

First, the classification in Table 1 is not based on subsistence mode, commonly divided four ways into forager (hunting and gathering wild animals and plants), pastoralist (tending domesticated animals), horticulturalist/agriculturalist (tending domesticated plants) and industrial (Johnson & Earle 2000:6). Although there are some correlations between society type and mode of subsistence, they are found only at the extreme ends of the scale (see Figure 1):

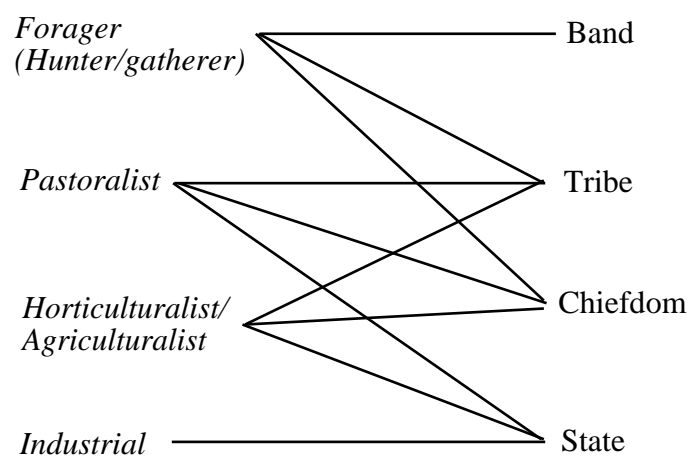


FIGURE 1. Society type \neq mode of subsistence.

Although bands subsist by foraging and industrial societies are states, every other combination other than forager states is found. The fundamental defining features of a society type is the nature of its social organization, not its mode of subsistence. Nevertheless, the mode of subsistence, and more generally the environment which supports that mode of subsistence, does create important variations on the social organization of the group. For example, a pastoral mode of subsistence leads to a nomadic society while a horticultural one leads to a sedentary society, and this difference in residence patterns leads to some differences in social structure, as can be seen by comparing the pastoral and agrarian society case studies in Johnson & Earle (2000).

Second, the range of social organizations that is actually found represents more of a continuum than a sharp division into four or so types (Johnson & Earle 2000:245; cf. Feinman & Neitzel 1984). There are social structures that represent transitions between all four of Service's types, as noted by Service himself (eg, Service 1971:100-3, 134-43; 1975:72-73). Even the distinction between band/tribe on the one hand and chiefdom/state on the other, respected by all of the classifications in Table 1, is not a sharp one (see §3.2). In other words, it is not the case that in evolving from one society type to the next type on the scale in Table 1, a society suddenly acquires all or even most of the defining characteristics of the new type. Social evolution is a gradual process.

Third, there is not a single, unilinear evolution from one society type to the next on the scale (Johnson & Earle 2000:4-7). That is, there is no strictly ordered sequence for the gradual acquisition of the characteristics of social organization along the scale in Table 1. If there were a unilinear evolution of society types, then one would be able to construct an implicational hierarchy of properties of social organization across societies. In the event, one does not find such a hierarchy. This state of affairs has led to debates over which characteristics of social organization are the essential ones for each society type (and even has led some anthropologists to question the classification).

Nevertheless, there is a partial ordering of the acquisition of characteristics of social organization in social evolution. A better model for understanding the nature of the fourfold classification would be to think of it in prototype terms. That is, once a society has acquired a certain set of social characteristics, most anthropologists would agree that it is a tribe, or a chiefdom, or whatever; it is the placement of the boundaries between the four types that is typically in dispute. The one characteristic that is most important for defining the scale of society types in Table 1, however, is increasing population size of the society.

The cluster of properties that characterizes the prototypes of the four types of social organization are given in Table 2 (adapted from Diamond 1997:268-69):

	BAND	TRIBE	CHIEFDOM	STATE
<i>Membership</i>				
<i>population</i>	dozens	hundreds	thousands	over 50,000
<i>settlement pattern</i>	seasonal dispersion into families	sedentary - one village, or pastoral	sedentary - many villages, or pastoral	sedentary - many villages and cities
<i>basis of relationship</i>	kin	kin-based clan	class and residence	class and residence
<i>Kin relations</i>				
<i>marriage rules</i>	exogamous within bands	exogamous within clans	endogamous within class	endogamous (kindred)

<i>residence rules</i>	patrilocal (?)	varied	varied/none	few/none
<i>Stratification</i>	egalitarian	egalitarian (sometimes 'big man')	stratified by kin (elite, commoner, slave(?))	complexly stratified, not by kin; slavery
<i>Division of labor</i>	none	none	divided	highly divided, incl. elite
<i>Bureaucracy</i>	none	none	1-2 levels	many levels
<i>Exchange</i>	reciprocal	reciprocal	tribute/ redistributive	taxation/ redistributive
<i>Ethnicities</i>	one; usually part of larger ethnicity	one	one, possibly more	one or more (commonly)

TABLE 2. Prototypical society types.

We now turn to a more detailed description of each society type. We do this for two reasons: because the types are unfamiliar to most linguists, and in order to show the value of the classification for historical and sociolinguistic research beyond that presented in the later sections of this paper.

3.1. Bands

BANDS are the smallest society type. They have attracted much attention in the anthropological literature because contemporary bands are presumed to be the closest existing societies to those of Paleolithic mankind, that is, the earliest modern human beings (eg, Service 1971:6-8; Johnson & Earle 2000:45-46; §9.2). The distribution of contemporary bands, or more precisely, bands in the 'ethnographic present'—roughly, the world at the time of the European expansion around 1500—is limited, however, because of the long coexistence of larger-scale societies. In most of the world, bands are found only in ecosystems that are not suitable for agriculture or pastoralism, typically deserts (Kalahari, Australia, Great Basin), rainforests (pygmies of Congo river basin; the Andaman Islanders, and scattered groups in the South Indian forests, the Malay Peninsula, Borneo, the Philippines, New Guinea, and Amazonia), and arctic/antarctic areas (northeast Siberia, North American Arctic, Tierra del Fuego). However, bands recently existed in more favorable ecosystems in Australia (Birdsell 1953) and in some parts of the Americas such as the west coast of North America and the horn of South America; and some bands have survived in areas otherwise occupied by other society types (the aforementioned forest groups; the Hadza and Sandawe; the Ket). Australian bands have been a particular focus of anthropological research because the societies of the entire continent were exclusively organized into foraging bands before the European conquests. The organization of bands elsewhere was partly affected by contact with other society types (Service 1975:66-67; see also §8.5). Hence it was believed that the Australian bands represented the most pristine band societies.

The band is commonly of a size around 25 at the minimum, consisting of a handful of consanguineally or affinally related families (Steward 1969:291; Wobst 1974:170). Band size is constrained by the ecosystem; in particular band size must respect the minimum population that can be supported, not an average, because a band must be able to survive bad years (Johnson & Earle 2000:55). The band is a residential unit only seasonally; at other parts of the year the individual families disperse to forage (Service 1971:58-59). Partly for this reason, Johnson & Earle argue that the appropriate level of social organization to characterize this society type is the family-level group, not the band (hence their term for the society type; Johnson & Earle

2000:42, 88). However, Steward argues that the band represents a significant socioeconomic unit, the unit necessary to engage in joint activities such as hunting, and to support one another in seasonal and annual fluctuations of resources (Steward 1969:290-91).

Service defines the band according to another very important social boundary, namely exogamy: members of the band must find spouses outside the band (Service 1971:54). A number of contemporary bands are not exogamous (Service's 'composite' and 'anomalous' bands; Service 1971:50-52). Johnson & Earle argue that the existence of such bands means that the band level is not well-defined and the family level group is the only cohesive social unit in this society type; they use the Great Basin Shoshone as their main example (Johnson & Earle 2000:64; see also Fix 1999:21; Layton & Barton 2001:16-18). But Service argues that bands without prescriptive marriage rules lack them because of the impact of state societies, particularly as a result of European conquests (Service 1971:72-96; see also Dole 1792:150-54); Steward, whose work on the Shoshone Johnson & Earle draw upon, also expresses caution (Steward 1969:292-95). The status of bands is the most controversial topic in the typology of societies.

Of course, exogamy means that there will be significant relations between bands who may exchange spouses (typically wives). Usually, bands will form a larger unit, something on the order of 500±300 persons (eg, Birdsell 1953:197-200), among which wives are exchanged. Wobst points out that this is not logically necessary: bands could theoretically exchange wives with any neighboring bands and thus the wife-exchanging pattern would form a continuum at a higher level of organization (Wobst 1976:53). But it typically does not (Fix 1999:25 questions this view, however, for at least some societies). Wobst further observes that the size of the larger unit corresponds to the number of neighbors in a hexagonal grid (5 to 17 neighbors one to two bands apart), and this type of grid fits well the modal number of neighbors actually observed in band societies (Wobst 1974:154, 163; 1976:50).

This larger, basically endogamous unit has been observed by many anthropologists, and hence it has a number of names: (dialectical) tribe (Birdsell 1953:172, 1968; Service 1971:58; compare Dixon 1980:29-32), maximum band (Steward 1969); connubium (Williams 1974); mating network (Wobst 1976); regional network (Johnson & Earle 2000:88, though not defined specifically in marriage terms). However, this larger unit, which we will call the MATING NETWORK, does not represent a significant larger unit of social organization, according to most of these authors (eg, Steward 1969:292, 294; Service 1971:88; Johnson & Earle 2000:88), although it will occasionally form as an actual group for special occasions such as religious events, which may also serve as times when marriage exchanges are contracted. Also, the existence of a mating network does not preclude marriage outside the network, though it is markedly less common. On the whole, the mating network is not a very cohesive social unit, and so the band proper is (arguably) the largest cohesive social unit in this society type.

Bands traditionally use particular territories, and families 'own' particular hunting, fishing or gathering areas, but bands are not strictly territorial in a defensive fashion (Service 1971:60; Johnson & Earle 2000:43). The band should be thought of as a social unit, defined by kin relations and exogamy. Members of a band can travel in another band's territory or lands of traditional use, with the expectation that members of the other band can also travel in the first band's traditional lands. This is one example of the fundamentally reciprocal nature of relations between bands (Service 1975:60-63; Johnson & Earle 2000:47-50; Layton & Barton 2001:16-17). Bands form alliances through exchange: exchange of wives, of use of territories, and of goods. These exchanges are performed less for economic reasons than to build and maintain alliances. Of course, these alliances are often essential for survival, in that one band can help an allied band through lean times, with expectation that this help will be reciprocated in time of need in the future.

Band political and economic structure is essentially egalitarian: there is no social stratification, no chief, and no division of labor (Service 1975, chapter 3; Johnson & Earle 2000:43-44). The chief exception to this pattern is the apparently universal division of labor and decision-making by age and sex (Service 1975:49; Johnson & Earle 2000:42). Age and sex are

not socially conferred roles but biologically defined roles of individuals. Individual band members may act as temporary leaders for specific purposes (hunting, religious ceremonies, etc.), but no one individual is a permanent leader (Service 1975:56; Johnson & Earle 2000:44). Band societies are not perfectly harmonious of course (after all, they are human). Conflict resolution is achieved informally, often through the intervention of kin (Service 1975:57); but an alternative solution to conflict resolution is simply separation, either temporarily through dispersal or permanently through the fission of the band (Johnson & Earle 2000:75); one part (possibly just a single individual or a family) may join another band.

3.2. Tribes

TRIBES represent a higher population density, and in most cases a more intensive exploitation of the natural resources of the ecosystem, through domestication. It appears that the abundance of resources in the west coast of North America, in particular the natural wealth of California and the salmon runs of the Pacific northwest, allowed for tribal organization and even chiefdoms (in the northwest coast) combined with a foraging mode of subsistence. In these cases, the higher population density and changes in social organization were due to more intensive exploitation of naturally rich resources, rather than the more active alteration of the ecosystem through domestication. But the usual state of affairs was the latter. In fact, tribes were widespread and are (or were) found in many parts of Africa, Asia, Oceania and the Americas, and particularly in Papua New Guinea.

The increased population density and the increased exploitation of the environment leads to a cycle that has not ended: the society manages the environment intensively to sustain the society's population size and density, and in order to maintain that population size and density, the environment must be continually managed intensively, or else the society will starve (Johnson & Earle 2000:29, 136-40, 141). In effect this means that the domesticated animals and plants must be cared for year-round and protected—from environmental crises, from predators, and especially from competing tribes (Service 1971:101; Johnson & Earle 2000:125, 137-39). The shift in the balance between man and nature leads also to a shift of the relations between societies. Whereas bands typically do not fight, but instead disperse or migrate, tribes must defend their investment in their domesticated environment, and they are often in conflict. Tribes are therefore territorial in a different way from bands (Johnson & Earle 2000:125.) Tribes are not powerful enough to conquer and subjugate other tribes, however, so the conflict is in the form of guerrilla or terrorist warfare (Service 1971:104). These conflicts do not prevent the same tribes from engaging in trade and even in marriage exchanges (Fox 1983:178).

Tribal societies tend to have a population an order of magnitude larger than bands, namely in the hundreds, possibly up to one or two thousand. Sedentary tribes typically inhabit a single village; pastoralist tribes are somewhat more dispersed but form large camps for some part of the year. Tribes are divided into CLANS based on kin, that is, descent (Service 1971:106). Bands are basically defined in terms of kin relations as well (allowing for the occasional adoption of nonkin members), but Service argues that they do not form clans in the way that tribes do (ibid.). A tribe will be made up of clans, which are typically exogamous (eg, Fox 1983:223); marriage exchanges create alliances between clans (Johnson & Earle 2000:32), and sometimes also between neighboring tribes (which may have similar clans). There is a great variety of marriage and residence rules across tribes, in contrast to the (hypothesized) uniformity of band kinship relations (Service 1971:110-13).

Tribes, like bands, are roughly egalitarian: other than by age and sex, there is no real division of labor, and no social stratification (Service 1971:103; 1975, chapter 3). Unlike bands, however, where decision-making appears to be more distributed, Johnson & Earle paint a picture of tribes as being internally competitive as well as competing with neighboring tribes: within a tribe, powerful individuals vie with each other to provide leadership and accumulate wealth (Johnson & Earle 2000:133-36). In some societies of this type, a 'bigman' will emerge who acts as a leader by virtue of his skill and charisma. Bigman societies (such as those in the eastern highlands of Papua New Guinea) are in some ways a transition to the chiefdom (see below). But the bigman's privileged status is individual, not hereditary, and depends on the individual's

own abilities. Many tribes do not have a bigman, and leaders emerge only for particular purposes (Service 1971:103). Conflict resolution is similar to that of bands: informal, based on kin constraining the adversaries.

3.3. Chiefdoms

CHIEFDOMS represent yet another order of magnitude increase in population, this time numbered in the thousands (Johnson & Earle 2000:246). Again, there is an intensification of the exploitation of natural resources, though there exist forager chiefdoms in the Pacific northwest (Service 1971:47), and possibly the Calusa of Florida (Carneiro 1981:49) and the Chumash in California (Johnson & Earle 2000:262-63). Chiefdoms have largely been replaced by states in modern times (Diamond 1997:273), but they were found in all parts of the world, from many parts of Africa, the fringes of Europe, the Central Asian steppes, many of the islands of Oceania (particularly Micronesia and Polynesia), the circum-Caribbean area, and along the Amazon and its major tributaries (Service 1971:143-44).

Chiefdoms represent a major shift in comparison to the more egalitarian band and tribal societies. Chiefdoms represent the emergence of social stratification (Service 1971:145-53; Johnson & Earle 2000:249)—a hereditary ruling elite versus a class of commoners (Johnson & Earle 2000:250), a division of labor and taxation/redistribution of wealth (Johnson & Earle 2000:133-34). The primary division of labor is, of course, ruling (and managing) vs. producing food; but other specializations arose as well, in the production of manufactured objects and architectural monuments for the elite. The elite group is a hereditary group, and is typically endogamous partly in order to preserve the concentration of wealth and power (Service 1971:157; Johnson & Earle 2000:237). There is usually a careful ranking of individuals within the elite group according to inheritance (Service 1971:155; 1975:79-80). The commoners form a separate connubium, though they may be divided into exogamous kin-based clans. Service considers the latter a carryover from former tribal organization (Service 1971:153); there is a gradual transition in primary social organization from kin-based descent groups to horizontal social classes.

It is argued that the increased population size and the need to manage a larger range of resources intensively without destroying them leads to a permanent leadership (Johnson & Earle 2000:252). But the division of labor also requires redistribution of goods (Service 1975:94-97): since individuals and families become economically more specialized, they need to obtain from others what they do not produce themselves. Of course, much of the wealth is not redistributed but is retained by the elite, as a form of tribute (Carneiro 1981:58-63). In this way chiefdoms are no longer egalitarian societies.

Sedentary chiefdoms are made up of multiple villages, unlike tribes; Carneiro (1981) argues that this should be the essential distinguishing feature between tribes and chiefdoms (at least sedentary ones). A sociolinguistically significant aspect of a chiefdom's size and divided residency is that not everyone can know each other, as they can in a band or tribe (Diamond 1997:273), and hence face-to-face contact is no longer ubiquitous and social networks are more looseknit.

Villages are also hierarchicized: one village is the chief's village (Carneiro 1981:54). Pastoral chiefdoms also exist, of course, controlling a larger population and a larger pasture range. Chiefdoms are powerful enough to engage in some limited conquest of other societies (Service 1971:141; Carneiro 1981), including the taking of slaves, albeit not on the scale found in state societies. Carneiro argues that all chiefdoms include a third class of slaves for intensive labor (Carneiro 1981:65); but Service suggests that labor can be levied from the commoners (Service 1975:196-97). On the other hand, chiefdoms are equally prone to fissioning (Service 1975:95-96), often as a result of feuds between members of the elite, not because of an uprising by commoners (Service 1975:301; compare Braudel 1982:493-504).

3.4. States

STATES are yet another order of magnitude larger than chiefdoms; Diamond suggests that states have at least a population of 50,000 (Diamond 1997:268), and today there are states with over a billion people. States arose pristinely in Egypt, southwest Asia, east Asia, Mesoamerica and South America. Other states arose either in response to contact with (and pressure from) existing states, or by the expansion and fission of existing states, including the European expansion and colonization after 1500 (Service 1975). Although there have been no forager states, the Mongol Empire of the 14th century is an example of a pastoral state (Johnson & Earle 2000:264). The contemporary world is a world of states; all other societies have been conquered though not all of the latter have been destroyed or assimilated at this date.

It is difficult to identify a feature or features that dramatically differentiate the social organization of states compared to chiefdoms, in contrast to the differences between (prototypical) bands, tribes and chiefdoms. Some proposed distinguishing traits of states are a monopoly on the use of force; explicit legal systems, cities, and writing; but there are states that lack each of these features (Service 1975, ch. 16). Instead, the differences are often a matter of degree: more and larger villages or cities; more social stratification; a more intricate division of labor.

Service suggests that the most basic feature of a state is the development of an elaborate, institutionalized bureaucracy to manage the much larger population, land area, and the much greater intensification of the exploitation of the natural resources (Service 1975, ch. 17). Also, in a chiefdom the ruling chief is typically manager, military leader, judge and priest all at once: these different sources of power are not themselves divided (Johnson & Earle 2000:248, 260; cp. Service 1975:78, 296). In a state, the sources of power are typically divided and bureaucratized. Another significant difference is the decline of social groups defined by kinship (eg, Johnson & Earle 2000:339, 364-65) and their replacement by groups defined by class and residence. A distinguishing aspect of states that is relevant to the typology of language change is the ability of states to bring together sufficient force to conquer and incorporate other societies, leading to multiethnic and multilingual societies. These factors will be addressed in later sections.

Most anthropological models of social evolution end with agrarian states, but Johnson & Earle as well as sociologists such as Sjoberg (1960) and historians such as Braudel (1981, 1982, 1984) also consider agrarian vs. industrial states. Again, we should not expect mode of production to be the proper way to differentiate types of states but rather the nature of their social organization (compare Braudel 1982:238-39). Johnson & Earle suggest a distinction between feudalistic and market-based states (Johnson & Earle 2000:331). In a feudalistic state, the rural population (peasants) are tied to the land and to an upper-class landowner, and the wealth they produce is given directly to the landowner (what Johnson & Earle call staple finance; Johnson & Earle 2000:257, 331). The relationship is reciprocal, even if unequal, in that the landowner protects the peasants as well as exploiting them. In a market-based state, goods are bought and sold on the open market and there is no sort of loyalty or feudal relation between producers and buyers.

But Braudel (1982:114-18) and even Johnson & Earle (2000:256) point out that markets exist even in traditional agrarian states such as prerevolutionary China, where most peasants are basically tied to the land. In fact, Johnson & Earle (2000:374) note that market trade—where value is set by supply and demand—exists even for egalitarian societies, for scarce and valuable resources such as obsidian and salt. But these markets are essentially local (Braudel 1982:118-20). Braudel argues that the major economic shift in the evolution of states was the emergence of capitalists, that is, individuals who could amass vast amounts of wealth—often not by the free market, but usually by exploiting market imperfections and market distortions created by the state—and use the wealth for large-scale economic exploitation, particularly long-distance, large-scale trade (Braudel 1982, especially chapter 4; compare Johnson & Earle's concept of wealth finance; Johnson & Earle 2000:257-58, 331). This level is superimposed on the competitive (ie, relatively free) market economy (Braudel 1979:23-25; 1982:455; 1984:620, 628-30), which in

turn is superimposed on the subsistence economy that dominates egalitarian societies (Braudel 1979:23-24; Johnson & Earle 2000:23-27).

We believe that Johnson & Earle's and Braudel's analyses taken together point to the distinct social organization typically found in the modern industrial state, which first arose in Europe after its overseas expansion. In a feudalistic state, there is little social, geographical or occupational mobility. There is a minimum stratification into three classes (Sjoberg 1960, ch. 5): elite, commoner, and outcast, the latter including slaves, servants and untouchables (compare Braudel 1982:506), and also merchants, all often ethnic minorities (Sjoberg 1960:133-34; compare Carneiro's three-class analysis of chiefdoms). There is little social mobility between classes, by marriage or otherwise (Sjoberg 1960:137-42). Peasants—the overwhelming majority of the population in feudalistic states—are tied to the land and the landowner. Artisans form guilds, typically inherited by close kin (*ibid.*, 191). Cities are typically subdivided into neighborhood differentiated by occupation and ethnicity (*ibid.*, 100). Intercommunal interaction is discouraged (*ibid.*, 136). The result is a largely immobile, segregated society.

The significant shift in social structure occurs when the market is extended to labor itself (Johnson & Earle 2000:380): this is the contribution of Johnson & Earle's analysis. When this happens, individuals in the countryside are no longer tied to the land or a landowner, and individuals in the cities are no longer born into a profession, but instead are thrown into an open market, and many of the traditional social bonds of a feudalistic state are broken. But labor markets on a large scale, enough to alter (or destroy) the fabric of state society, can arise only when capital is mobilized on a large enough scale to create a labor market: this is the contribution of Braudel's analysis. Labor markets—that is, wage labor—began with unskilled urban labor and then extended to skilled urban labor (replacing the guilds) and rural agriculture (replacing the peasants). Braudel notes this process had begun by the sixteenth century in the leading capitalist centers of Europe, such as Venice (Braudel 1984:133), the Low Countries (*ibid.*, 162) and Portugal (*ibid.*, 140). The result is a much more fluid and mobile (and rootless and alienated) social organization than is found in “traditional” states. Hence, the contrast is best described as between FEUDALISTIC states (in approximately Johnson & Earle's sense) and CAPITALIST states (in Braudel's sense) with society-wide labor markets.

The consequences of this evolution for sociolinguistic analyses of variation and change are obvious, though we will not pursue them here. We mention only one linguistically significant example of the role of large-scale capital and the creation of a labor market that will be discussed in §8.4: the slave trade to the Americas and the acquisition of indentured labor for Oceania, and their role in the creation of the Atlantic and Pacific creoles. Nevertheless the same processes are at work in “free” labor markets today, with a similar social result. In fact, capitalist wage labor resembles more the outcast class of feudalistic states than the structured commoner class: ‘Slavery, serfdom and wage labor are historically and socially different solutions to a universal problem, which remains fundamentally the same’ (Braudel 1984:63).

We now turn to the relationship between social evolution and language change.

4. Social fission and linguistic family trees

Language split or divergence is seemingly straightforwardly the result of social fission: a society splits apart and the varieties each new society speaks diverge. These varieties diverge because of the communicative isolation of the societies, following the basic principle enumerated in §1—if you stop talking to them, you'll start talking less like them, and more like those who you still talk to. The history of the process is reflected in the linguistic family tree model, in which branchings of the family tree represent fission events of societies. A linguistic family tree represents a hypothesis of the social processes that gave rise to it, though the social processes are more complex than the usual tree model implies, as will be seen below.

Social fission occurs among all the society types described in §3. Social fission can be divided into two types. The first is fission of a society type into two (or more) of the same type, when demographic pressures exceed the society's capacity to exploit the environment. Hence an

increasing band will split into separate bands (Service 1971:102; Johnson & Earle 2000:77 [their 'camps']), and a tribe or local group will fission from a tribe to form a new village and tribe (Service 1975:43; Johnson & Earle 2000:45, 142). Likewise, chiefdoms regularly fission:

The expansion of a chiefdom presumably can go on to the point of exceeding its ability to function efficiently and it may then fall into two or more parts. The "rise and fall" of chiefdoms has been such a frequent phenomenon that it seems to be part of their nature. (Service 1971:142; see also Service 1975:102; Johnson & Earle 2000:276, 282, 283)

Finally, of course, states undergo fission of this type, Yugoslavia and the Soviet Union being prominent recent examples, although this process is much less common among states than it appears to have been among bands, tribes and chiefdoms; see §8.

The second type of social fission involves the breakup of a society type into smaller units of a different society type: states into chiefdoms, chiefdoms into tribes and tribes into bands. Examples of the breakup of states into chiefdoms include the Roman Empire and possibly contemporary 'failed states' such as Somalia and Afghanistan. The Polynesian chiefdom(s) that colonized New Zealand fissioned into tribes, presumably because of the large available resource base and lack of competition for it (Service 1971:137-38). Finally, Johnson & Earle note that 'without the threat of force or famine, local groups [tribes] naturally fission into family groups [bands]' (Johnson & Earle 1987:316).

Both types of social fission can lead to linguistic divergence. In fact, a primary piece of linguistic evidence for the ubiquity of fission in societies is the fact that everywhere the count of languages by linguists is less than the count of societies by anthropologists. But in fact fission rarely leads to true communicative isolation. First, social contact is often maintained by the fissioned societies, who may remain neighbors and continue to exchange goods and spouses. Second, a fissioning group may be too small to survive on its own, and fuses with a neighboring group, which may have fissioned from a shared ancestral group (Fix 1999:32, 33; see also §8.1). Both of these phenomena lead to language contact between closely related varieties which obscures patterns of language split/social fission. This is reflected in the fact that some linguistic genetic groupings at varying levels of historical depth are more uncertain than others. For example Indo-European is widely accepted, but the immediate internal subgrouping is not; this presumably reflects a "cleaner" break between Indo-European society and its parent society than the fissioning of Indo-European society into its component parts (compare Bellwood 1997:127).

Moreover, depending on the nature of the contact, the fissioning/fusing societies may maintain their linguistic unity. That is, the fission/fusion process may not lead to linguistic split/divergence. This can be described best by the parallel phenomenon of genetic divergence among fissioning societies.

If a group of people split from a society, the fissioning group will most likely be people who know each other, in fact often a kin group. This is called kin-structured migration (Fix 1999:79). Hence the genes of the fissioning group are a nonrandom sample of the original society's gene pool (*ibid.*). Also, the genes of the remaining members of the original society are also a nonrandom sample of the original society's gene pool (*ibid.*, 90). For this reason, genetic divergence between the fissioning groups will increase, even if the fissioning group fuses with another society, as long as the fission and fusion processes are nonrandom. (The fusion process will of course alter the gene frequencies of the fused society.) However, divergence will decrease if the fissioning is random and fusion is to random neighboring groups (*ibid.*, 83, 89).

The same principles apply to language divergence. This is because language is a fundamentally variable phenomenon, so a proper description of a language must include the variants and their frequency in the society, as in typical quantitative sociolinguistic studies. The fissioning group will probably know each other, in fact probably will be kin. Hence their language will be a nonrandom sample of linguistic variants from the original language, in

accordance with the principle in §1: the fissioning group will speak more like each other because they had been speaking more to each other even when part of the original society. Conversely, the proportion of linguistic variants remaining in the original society will be a nonrandom sample of the original society's pattern of variation. Linguistic divergence between the fissioning groups will increase, even if the fissioning group fuses with another society, as long as the processes are nonrandom. However, linguistic divergence will decrease if fission is random and fusion is to random neighboring groups.

An illustration of this principle of organization can be found in band societies. In §3, we argued that bands were an intermediate level between the family-level group and the largely endogamous mating network of neighboring bands. There is some linguistic divergence between the varieties spoken by neighboring bands. But the social contact between bands in a mating network, including of course the marriage exchanges, is both great enough and sufficiently random that it is appropriate to speak of a mating network as speaking a single language—this is the significance of the term 'dialectal tribe' in Australian anthropological studies.² (Mating networks may also include groups speaking other languages; see §6.)

Likewise, for larger-scale societies, one observes varying diffusion patterns of linguistic structures emanating from a variety of sources. This results in tangled isoglosses such as those in traditional German dialects (Keller 1961:xii-xiii), reflecting the medieval German chiefdoms and low-mobility rural areas of the German feudalistic states, which reflects a degree of randomness in the social contacts of neighboring groups. Of course, immigration to urban centers in states (especially capitalist states) leads to a decrease in divergence as well. However, this is a process of political integration (§8.5) rather than an example of incomplete social fission.

Thus, fissioning of societies does not necessarily lead to linguistic split/divergence. Linguistic divergence is found only if the fission (and fusion) processes are sufficiently nonrandom. If communicative interactions between the fissioned societies remains frequent enough and random enough, then linguistic cohesion will be retained. We will return to this point in §6. Nevertheless, the fact that fissioned societies often diverge linguistically explains the high degree of linguistic diversity of areas inhabited by egalitarian societies compared to areas occupied by states: the former possess much smaller and much more numerous independent societies than the latter.

5. Interference and the loci of social contact

Interference reflects contact between societies as transparently as language split reflects social fission. But the linguistic phenomena of interference are quite varied, and so are the types of social contact that give rise to them. The different types of linguistic interference were outlined in §2, and in this section we turn to the types of social contact.

Service and Johnson & Earle are in basic agreement on the classification of types of social contact, although they apparently arrived at their conclusion independently. Service writes of the reasons that people would form larger groups than the mother-child dyad:

Why should there be groups at all, except for the mother-child dyad? This question has been discussed at length by White (1959) who follows Zuckerman (1932) in relating forms of primate social organization to THE SEARCH FOR MATES, FOOD, AND PROTECTION...From the point of view of the individual, be he man or marmot, there are assuredly these three basic needs. (Service 1971:24-25, emphasis added)

In other words, the mother-child dyad will enter into contact with other human groups for these three reasons.

²In fact, as Dixon (1980:35) notes, there are about a third as many languages as 'tribes' in Australia, implying that fissioning of mating networks is a common process.

Johnson & Earle offer essentially the same three reasons for a family-sized group to be linked to other groups:

All cultures have at least a rudimentary political economy, inasmuch as families can never be entirely self-sufficient but are linked by NEEDS FOR SECURITY, MATING, AND TRADE. (Johnson & Earle 2000:26, emphasis added)

The only difference between the two sets of reasons is that Johnson & Earle broaden the category of food to goods in general (trade).

The same three reasons hold for contact of larger groups, as well as contact between more distant members of a single group. Mating, or marriage, leads to an obviously quite intimate contact between members of two groups, and can have interesting linguistic consequences. Trade also can involve contact between groups speaking different languages. Security or protection leads to contact of a particular kind, namely some degree of political alliance or integration (Service 1971:26-27). We will therefore define the last category slightly differently, in terms of the result—some degree of political integration—rather than the reason—security. (In the first two types of contact, the result is more closely connected to the process, so the definitional problem does not rise.)

In the next three sections, we turn to the three types of social contact—marriage, trade and political integration—and propose generalizations about the relation between the different society types described in §3 and the different types of language change described in §2. Before we do so, however, we must offer an important caveat. As noted in §3.4, we live in a world of states, and the impact of states, in particular the European conquests of the last five centuries, has been immense. Therefore, one must exercise caution in inferring patterns of social contact before state influence was felt in Africa, Asia, Oceania and the Americas. In particular, there is a danger of overestimating the intensity of contact and political integration before the European invasions.

European contact considerably altered the social situation in many parts of the world. For example, it was noted above that tribes and chiefdoms—the most widespread society types before the European invasions—were in constant conflict. European hegemony eliminated this conflict, and it led to intensified social contact. Heine writes regarding Africa, ‘Since the arrival of the Europeans the contacts between the various ethnic groups had considerably enlarged on account of the stamping out of tribal warfare and the improved means of communication’ (Heine 1970:74).

The arrival of Europeans did not always mean immediate conquest. In some cases, indigenous societies responded to the arrival of technologically advanced states by increased levels of political integration. For example, the Pacific Northwest of North America is known for its forager chiefdoms (see §3). But Johnson & Earle, who incidentally categorize these societies as local groups (tribes), write, ‘[European] [c]ontact encouraged the formation of larger political groups...A great elaboration of potlatches...probably led anthropologists to overestimate the scale of these events prior to contact’ (Johnson & Earle 2000:217; see also Service 1971:152-53). Service (1975) surveys a number of what he calls primitive states, that is, states that arose in historical time from indigenous chiefdoms in Africa, Polynesia and the eastern United States, and writes, ‘...secondary or derivative states...arose in response to relatively modern outside pressures and circumstances’ (Service 1975:19; see also *ibid.*, 104, 138, 140, 163).

More striking is that the indigenous social situation changed, sometimes drastically, even without direct European contact. For example, diseases decimated many Native American societies before they even saw Europeans (Diamond 1997:210-11). The drastic population losses led to tribal remnants coming together in villages, and hence an increase in marriages across social and linguistic groups that would not normally have occurred in aboriginal times (see Service 1975:69). (The same effect occurred in direct contact as well, of course, through massacre and deportation as well as disease; for Australia, see Mühlhäusler & Amery 1996.)

Trade patterns also changed indirectly through European contact. In particular, long distance trade patterns arose that did not exist before. For example, trade with Europeans along the West African and Congolese coasts led to intensification of long-distance trade by the coastal societies with inland tropical forest societies of Africa (eg, Heine 1970:68, 72). One tragic aspect of this particular trade was the seizure of members of interior tribes to sell as slaves to the Europeans.

Finally, introduction of new plants, animals and technology caused a change in social organization, generally in the direction of greater political integration. For example, the sweet potato made its way to the eastern New Guinea highlands long before European contact; it came from South America to the Philippines via the Spaniards. It rapidly replaced taro because it was more productive. This led to intensification of agriculture, higher population densities, and hence political changes (Diamond 1997:304; Johnson & Earle 2000:232).

The impact of Europeans has made attempts to recapture aboriginal social patterns fraught with difficulty. In particular, it may cause us to overestimate the degree of contact between aboriginal societies. Thus, some of the generalizations offered in the next three sections may be too broad, though in fact we will be proposing fairly restrictive universals, and so the problems arise not with our generalizations but with putative counterexamples to those generalizations.

We will discuss the three loci in the order that reflects their role in interference in progressively larger societies.

6. Marriage and language contact

Marriage is a potential locus of contact when such marriages involve partners speaking different languages. The effect of marriage patterns on language contact depends on the proportion of partners in a society who speak another language: a small proportion of partners speaking another language will have little effect, especially if the partners speak several different languages.

The basic principles of language stability and change with respect to marriage follow from the principle in §1: they can be formulated as: ‘who you talk to depends on who your parents are [descent], and who you marry [alliance]’. Descent and alliance refer to the basic concepts underlying the analysis of kinship systems. Obviously, the tremendous variety of kinship systems cannot be described here in any detail (see Fox 1983 and Parkin 1997 for useful surveys and analyses). We will focus on the major categories and in particular the role of marriage in kinship systems.

Kinship systems are divided essentially into prescriptive (also called elementary) and nonprescriptive (complex) systems, with an intermediate mixed type (also known as the Crow-Omaha type). Prescriptive systems are those in which the marriage partner is ideally prescribed to come from a particular group. In symmetric systems the groups exchange wives, that is, the group of wife-takers from a second group are also the wife-givers to that group (Fox 1983, ch. 7; Parkin 1997, ch 8). (There are variations on this theme, in which the exchange is only reciprocated in the next generation [Fox 1983:204-6; Parkin 1997, ch. 8], or exchanges are reciprocated in alternate generations [Fox 1983:195-99].) If symmetric exchanges are repeated over generations, the result is that cross-cousins are in separate groups and can marry, while parallel cousins are in the same group and cannot marry. In asymmetric systems, the wife-takers are not wife-givers, that is, a group takes wives from another group but gives wives to a third group (Fox 1983, ch. 8; Parkin 1997, ch. 9). Complex cycles and other asymmetric exchange relations can arise in societies with asymmetric prescriptive systems. In these prescriptive systems the groups are exogamous, and the social process of exchanging wives creates alliances between the groups.

Nonprescriptive systems do not prescribe that one’s partner come from a specifically defined group of persons. Instead, free exchange is allowed, but is usually restricted to persons a certain genealogical distance from oneself (eg, beyond first cousins). The persons to whom

marriage is prohibited, an individual's kindred, is defined relative to the individual, not in terms of a kin group (Fox 1983:164-73). The mixed systems allow free exchange of partners apart from an excluded group, but the excluded group is partly defined in terms of the individual, and partly in terms of a kinship group or clan. The Crow-type system is the matrilineal version: marriage must be outside one's own clan (ie, the clan of one's mother and one's mother's mother), the father's clan and the mother's father's clan, and the Omaha-type system is the patrilineal version (there is some variation in which clans outside one's own are excluded).³

Dole examined over 700 kinship systems and argues that certain kinship systems are correlated with social organization (see especially Dole 1972:147, Table 1). Small egalitarian societies possess prescriptive systems (Dole's bifurcate merging type; see also Fox 1983:227).⁴ Mixed systems (her cross generation type) are found in tribes and simple chiefdoms. Dole divides nonprescriptive systems into lineage and modern isolating types. Lineage systems define the kindred as one's lineage and are found in complex chiefdoms and feudalistic states. Modern isolating systems define the kindred in terms of the nuclear family outwards and are found in capitalist states. Dole argues that certain other kinship systems are the result of social disruption as a result of state conquest (see §3.1).

All of these marriage systems lead to marriage outside one's own group, whether that group is defined in terms of the kin group one belongs to (prescriptive systems) or relative to the individual's kindred (nonprescriptive systems). In both cases, one marries out. But for either type of marriage systems, there are limits to how far out one marries:

Groups speaking the same language and being alike in other ways might well exchange wives among themselves—but the connubium stopped at the boundaries of the language, territory, or colour, or whatever marked off 'us' from 'them' (Fox 1983:178)

Even in contemporary societies, the marriage pool or isolate is around 900-2000 people (Fox 1983:237). In other words, although one marries out from one's band, clan or near kindred, one belongs to a larger, mainly endogamous social unit.

Fox explicitly mentions language as a major defining factor for the connubium. In fact, spouse exchange between exogamous groups speaking different languages has existed, so this is not a universal. But it appears to be relatively rare, for a number of reasons.

First, larger societies will favor intralinguistic exogamy. In larger societies, one need not look beyond the society itself in order to marry outside the clan or kindred. In the dense populations of these societies, most marriages are geographically quite local (see the case studies in Fix 1999:39-47). Fix reports however that marrying outside the tribe was common among the Gainj-Kalam of Papua New Guinea (*ibid.*, 36-38), although partly restricted by language. For stratified societies, there are additional pressures to marry within one's class. Endogamy within elites is found even though they are a small group, because endogamy preserves their monopoly on wealth. That leaves the commoner class to marry among themselves (and of course they are far more numerous).

Second, the ubiquity of fission (§4) means that many neighboring groups will speak the same language, even among smaller societies where marrying out is necessary. For example,

³There are other rarer systems which do not involve exchange between groups, namely brother-sister marriage and parallel-cousin marriage (Fox 1983:4; Parkin 1997:117-22). These systems are typically endogamous (Parkin 1997:118); one effect of such marriages is to keep wealth in the family, another is to minimize family feuds within lineages (*ibid.*, 183).

⁴In fact, some argue on the basis of reconstructions of kinship terminology that a particular type of prescriptive system, the tetradic system, is the original kinship and marriage system of the first modern human band societies (Allen 1986, 1989; Hage 1999, 2001, 2002; compare Service 1971:54-56).

Asymmetric systems are also found in chiefdoms (e.g. Fox 1983:213): one effect of asymmetric systems is to reinforce the hierarchical relations of rank between families, particularly in the elite class.

bands must marry out but if the mating network is made up of neighboring groups that fissioned in the past, it is likely that the bands in the network speak the same language. In fact, prescriptive spouse exchange will serve to reinforce the linguistic cohesion of the bands in the mating network, following the principle described at the end of §4. The linguistic unity of the dialectical tribe reflects the intensity of social interaction and its random nature.

Thus, the most likely occurrence of extralinguistic exogamy which would have long-term linguistic effects is when a mating network consists of bands speaking different languages. The prescriptive marriage system will ensure repeated extralinguistic marriages between the same pairs or sets of bands over generations. This is exactly the case in the best documented example of extralinguistic exogamy, that between the Ritharngu and Ngandi and between the Warndarang and Nunggubuyu Australian aboriginal bands (Heath 1978, 1981). In both pairs, the first named speaks a language of the Pama-Nyungan group of Australian, and the second named speaks a non-Pama-Nyungan language. There has been regular exogamy between the groups which Heath argues must date from before European contact; he estimates that the level of marriages to speakers of the other language has regularly been around 50% (Heath 1981:359; Heath 1978:14 is more cautious). There have also been regular seasonal gatherings bringing the two linguistic groups together (*ibid.*). The result has been stable bilingualism and intensive borrowing of vocabulary and even some inflectional morphology. Nevertheless, the languages are clearly identifiable as Pama-Nyungan and non-Pama-Nyungan respectively.

Hence, extralinguistic exogamy happens; but it is difficult to find intensive cases of it. Table 3 presents several ethnographic reports for marriage outside the ‘tribe’ (mating network) for various band societies:

<i>Band Societies</i>	<i>Proportion of extra-‘tribal’ or extralinguistic exogamy</i>	<i>Source</i>
Kugu Nganhcara	‘sometimes’, but usually between own ‘patrilects’	Johnson 1990:423
Seri	‘some number of marriages’	Owen 1965:683; notes lexical borrowing from Pima
Fuegians	‘frequent’, but ‘preferred...dialect endogamy’	Owen 1965:681
Australian aborigines	15% average, ranging from 7%-21%, based on 760 marriages throughout Australia	Tindale 1953:186
Fish Lake Valley Paiute	16%: 5/32 marriages in 1870, but ‘proximity was an important factor in the choice of mates’	Steward 1938:67, cited in Owen 1965:682
Eastern California Shoshoni	19%: 4/21 marriages in one village	Steward 1938:91-93, cited in Owen 1965:682
Belted Mountain Shoshoni	50%: 4/8 marriages	Steward 1938:99, cited in Owen 1965:682
Southeast Arnhem Land	‘up to 50%’ for 4 ‘clans’ [bands], 200 persons	Heath 1981:359

TABLE 3. Extra-‘tribal’ and extralinguistic exogamy.

Among the peripheral bands, numbers are small except for Tindale’s major study; but with the significant exception of the aforementioned four Australian groups, and the very small sample from the Belted Mountain Shoshoni, most of the figures hover around 15% to at most 20% of marriages. (With all of these figures, the possibility of a higher proportion of extra-‘tribal’ marriages due to European hegemony cannot be ruled out; see §5.) Given that a marriage partner is only half of a marriage, this means that typically at most 8%-10% of the adults come from outside the ‘tribe’ and thus might be speakers of another language. Hence,

the effect of band exogamy on language change is likely to be light to moderate borrowing, except in the apparently rare cases where extralinguistic exogamy is exceptionally high.

A high degree of extralinguistic exogamy does not necessarily entail the high degree of borrowing that is found in southeast Arnhem Land. The upper Vaupés river basin in northwest Amazon is characterized by exogamous units defined by language; hence there is 100% linguistic exogamy (Sorenson 1972). Nevertheless, there has been very little borrowing between the languages (Aikhenvald 1999:388-89; 2002:205), a fact attributed to the equation of linguistic and tribal identity (Sorenson 1972:82).

In sum, extralinguistic exogamy in bands (and possibly also tribes) may lead to borrowing of varying degrees of intensity depending in part on the proportion of extralinguistic marriages. In larger societies, and even in most bands and tribes, marriages are largely intralinguistic.

7. Trade and multilingualism

The second locus of social contact is trade. The outcome of trading patterns is a range of degrees of multilingualism and the emergence of contact languages, specifically *lingua francas* and (trade) pidgins. Before discussing trade patterns among different societies, we present a more fine-grained typological classification of multilingualism found in trading relations in Table 4:

TYPE OF LANGUAGE USE	MINIMUM LINGUISTIC KNOWLEDGE
<i>Nonreciprocal</i>	passive bilingualism
<i>Reciprocal:</i>	active bilingualism
<i>Symmetrical</i>	
<i>Asymmetrical</i>	
<i>First party</i>	one-way bilingualism [→ bilateral pidgin]
<i>Third party</i>	<i>lingua franca</i> [→ multilateral pidgin]

→ = *full* → *restructured* → *simplified/restricted*

TABLE 4. The continuum of language contact.

The type of multilingual language interaction requiring the minimal degree of bilingualism (passive bilingualism) is nonreciprocal language use, also known as dual-lingualism (Lincoln 1979/80): each speaker speaks his/her own language, but understands the other's language. Only passive knowledge of the other's language is necessary, though of course one could engage in nonreciprocal language use even knowing the other's language actively. Reciprocal language use requires active knowledge of the other's language on the part of at least one of the speakers. If both speakers use both languages in interaction, then the language use is symmetrical. If the speaker uses only one of the languages, then the language use is asymmetrical. If the language used is the native language of one of the speakers, only one-way bilingualism is necessary (ie, only one of the speakers need be bilingual); this is first-party language use. If the language used is the native language of neither speaker, then both must be active bilinguals in the third language (third-party language use). The language thus used is a *lingua franca*. This is a narrow definition of a *lingua franca* (Samarin 1987; 1991:52, fn 4); many linguists use the term for first-party asymmetrical language use as well, but we will find it necessary to distinguish the two. Further, as indicated in the table, the last two types are sometimes restructured, usually simplified; if dramatically so, they are categorized as pidgins. Again, we wish to distinguish two types of pidgins, BILATERAL PIDGINS arising from

asymmetrical first-party language use, and MULTILATERAL PIDGINS resulting from third-party language use.

The arrangement of Table 4 is not accidental. The order of types of multilingualism reflects the types found in bands/tribes, chiefdoms and states. The generalization appears to be that small egalitarian societies engage in symmetrical language use, passive or active; some chiefdoms also engage in asymmetrical first-party language use (and, rarely, develop bilateral pidgins), while states use all types, including multilateral pidgins.

There is some evidence that asymmetrical first-party language use and lingua francas tend to replace symmetrical language use as societies become larger and more complex. Tables 5 and 6 present data from western and central Kenya in 1968 (Heine 1970:102) and Gapun village, Papua New Guinea in 1987 (Kulick, 1993:118, fn 2):

Mother tongue only	13.3%
Mother tongue + vernacular(s)	0.6%
Mother tongue + vernacular(s) + lingua franca(s)	17.6%
Mother tongue + lingua franca(s) only	68.5%

lingua francas: Swahili 85.5%, English 27.8%

TABLE 5. Linguistic knowledge in western and central Kenya in 1968.

<i>Sex and age of speakers</i>	<i>Languages spoken:</i>		
Male, >50yr	Taiap	Tok Pisin	Kopar, Adjora (<i>1 or 2 others</i>)
Male, >40yr; Female, >35yr	Taiap	Tok Pisin	Kopar <i>or</i> Adjora
>14yr	Taiap	Tok Pisin	(Kopar <i>or</i> Adjora)
<14yr	(Taiap)	Tok Pisin	

() = *passive knowledge*

TABLE 6. Linguistic knowledge in Gapun village, Papua New Guinea in 1987.

By 1968 Kenya had been under state control for two centuries and contact with Arab and European states had altered trading patterns in the interior for many more centuries. By that time, virtually none of the multilingual speakers had knowledge of only local vernaculars, and the vast majority had knowledge of the lingua franca(s) only. Almost all of the multilingual speakers knew Swahili, and about one third knew English as well.

The data from Gapun village documents the loss of multilingualism in a former tribe society, now integrated into the state of Papua New Guinea. Taiap is the native language, spoken only in

the village (Kulick 1993:94). Tok Pisin is the lingua franca, and also the state language of Papua New Guinea; it was introduced into Gapun after World War I (ibid., 95). The oldest male speakers in 1987 were multilingual in several of the local languages as well as Tok Pisin, which at first was just another language for intercultural communication. Younger villagers gradually abandoned use of the local languages in favor of Tok Pisin. (The youngest speakers have even abandoned the village language, but that is a result of political integration; see §8.5.)

Since state societies display all of the types of multilingual language use in Table 4, the generalizations about multilingual language use and society type presented above must be evaluated against nonstate societies before the European expansion and the massive changes to social organization and trading patterns that ensued. The generalizations were in fact formed by examining this data, but there are a number of interesting and disputed cases. Examination of these cases indicates that a better generalization may be formulated in terms of trading patterns, which correlate closely to society type. Symmetrical multilingualism (reciprocal or not) is found in local trade, the usual trading patterns among egalitarian societies. Asymmetrical first-party multilingualism (including bilateral pidgins) is found in long-distance trade, which some chiefdoms based on large rivers or ocean routes engaged in. Lingua francas and multilateral pidgins are found in region-wide long-distance trade, which is characteristic of state participation or influence.

7.1. Egalitarian societies, local trade and multilingualism

Trade among bands for economic purposes is limited: ‘frequent trading would not have been necessary [in prehistoric times] because the range of objects used was limited and generally of long life’ (Johnson & Earle 2000:76; see also ibid., 103, 116). Exchange of goods among individuals in bands played a major social role, however, by establishing reciprocal obligations and alliances between bands (Johnson & Earle 2000:48). These exchanges are typically relatively local, namely among bands that have regular contact. Since the bands are relatively equal, multilingualism in the local languages was the typical outcome of this sort of contact.

Tribes are also largely self-sufficient, and trade continues to be relatively marginal except to perform the social function of establishing and reaffirming alliances (Johnson & Earle 1987:201). These alliances are at least as important for tribes as for bands because of the more intense exploitation of resources and the pressure of competing tribes. Johnson & Earle note the importance of trade in the tribal case studies (eg., Johnson & Earle 2000:156 [Yanomamo], 185 [Tsembaga]). Nevertheless, the trade is still essentially local, although passing beyond immediately neighboring villages. The tribes are still more or less equal, though they may rise and fall in dominance (Johnson & Earle 2000:181). Johnson & Earle suggest that men engage in more of the trade (Johnson & Earle 2000:156, 185); this is also reflected in the language repertoires in Gapun village in Table 6.

Thus, multilingualism in the local languages remains the normal mode of linguistic interaction for egalitarian societies (see Mühlhäusler 1996:11 for Australia). This explains the absence of lingua francas and trade pidgins in certain linguistically diverse parts of the world, which has been considered surprising by a number of researchers:

...the number of reported pidgins is surprisingly small given the linguistic diversity of Papua New Guinea and the number of trading networks in which there was contact between [Austronesian] and other languages. (Mühlhäusler et al. 1996:417)

...basically in the whole interior of Canada, despite the diversity of languages and despite the multiple interethnic contacts...no pidgins are recorded. (Bakker & Grant 1996:1152)

The headwaters of the Xingu river in the Brazilian state of Mato Grosso constitute an area of extraordinary ethnic and linguistic diversity...The tribes of

the Upper Xingu entertain close economic and cultural relations... Yet, no lingua franca seems to have developed. (Adelaar 1996a:1345)

Currently, there exists no obvious sociolinguistic or historical explanation for the apparent scarcity of indigenous contact languages in the Southwest; for this area showed as much linguistic diversity, and experienced as extensive intertribal and interethnic contacts, as other regions in North America. (Drechsel 1996:1216; California is also cited in this regard; *ibid.*, 1215)

The reason is that all of these areas were inhabited by egalitarian societies.

7.2. Stratified societies, long-distance trade and trade languages

Chiefdoms involve social stratification, economic specialization, and the consequent management of resources and accumulation of wealth by the chief and the elite (§3.3). Economic specialization, the need for technology for further intensification of the exploitation of the environment, and the accumulation and display of wealth by the elite, all give rise to long-distance trade for valued and/or locally unavailable objects, including trade with egalitarian societies. (However, less trade was necessary in ecologically diverse chiefdoms and states, such as Hawaii and the Inka state; Johnson & Earle 2000:318.) Long-distance trade was largely undertaken by the chief or the elite (Johnson & Earle 2000:214 [Northwest Coast], 238 [Kirghiz], 277-78 [Trobriand Islands *kula* voyages]), though more local trade can be individual (*ibid.*, 272 [Trobriand Islands]).⁵ Of course there continued to be exchanges for the formation of alliances, which were also coordinated by chiefs and could operate over long distances (Service 1975:100-1). Hence there are substantial differences in the trading patterns of chiefdoms compared to egalitarian societies.

In states, long-distance trade includes trade among provinces of the state, as well as trade with neighboring societies. From the perspective of the scale of egalitarian societies and even chiefdoms, much of state trade is long-distance, although local markets continue to be active loci of trade (§3.4). The organization of this trade fostered a higher degree of integration of the state (Service 1975:138-39), and combined with external trade, led to a region-wide trade network organized and therefore controlled by the state elite, including its merchants (§3.4). Finally, the expansion of long-distance trade created the vast amounts of wealth necessary to maintain a state and its control by the elite (Johnson & Earle 2000:305-6). States can, of course, expand their long-distance trading networks into nonstate societies (Johnson & Earle 2000:385-86). All of these characteristics reach their most extreme expression in capitalist states, since the latter arise through the expansion, organization and integration of larger and larger scale markets.

Examination of non-European lingua francas and pidgins in Africa, Oceania and the Americas strongly suggests that they are found under circumstances of long-distance and region-wide trade found in states, and possibly in some chiefdoms and in one case in a tribal society.

Heine (1970) surveys lingua francas and pidgins in sub-Saharan Africa. Virtually all of the lingua francas and pidgins arose in states (all page references in the following paragraphs are to Heine 1970 unless otherwise noted). Some lingua francas appear to have arisen primarily because of trade fostered by states, while others are associated with states chiefly by virtue of their function in political integration (§8.2; of course the same language can function as both an internal lingua franca for political integration and an 'external' lingua franca for trade between societies).

⁵Johnson & Earle suggest that local groups also engage in long-distance trade, but this is because they include the Northwest Coast Indians in their category of local groups. Yet Northwest Coast tribes have chiefs, a hierarchically ordered elite, a division of labor, redistribution and some slavery (Johnson & Earle 2000:210-15)—all prototypical characteristics of a chiefdom (§3.3; see also Service 1971:47).

A number of lingua francas arose before European contact with sub-Saharan Africa. These lingua francas fall into two categories. The first are the languages of states of ultimately Near Eastern origin. Arabic, including a pidginized form, functioned as a major lingua franca for trade between the Arab empire and sub-Saharan societies (115-18). The second are languages of sub-Saharan states (called 'empires' in the African historical tradition) that arose as a result of contact with Near Eastern origin states, as a result of long-distance trade with Arab states across the Sahara desert or the Indian Ocean. Their language was used for political integration but also for trade, and often remained in the latter function after the political collapse of the empire. The Zenj empire arose as a result of trade along the Indian coast, and Swahili spread with it (83). Kanuri developed into a lingua franca along with the Kanem-Bornu empire (112). The Hausa "states" developed as a result of trade between the Arab states and the rainforest peoples, leading to Hausa's use as a lingua franca (151-53). It appears that Songhai became a lingua franca with the advent of the Songhai empire, and was clearly a lingua franca by the empire's height in the 15th-16th centuries (159-60). The vicissitudes of the Mali empire starting in the 11th century led to a series of lingua francas: Mandingo (164), which split into Malinke (165), Dyula (166) and Bambara (164; see §8.2), and also apparently gave rise to the pidginized Kangbe (170-71). Much later, the Wadai empire was founded in the 17th century in what is now eastern Chad by an Arab leader, but Maba as the language of the capital and surrounding area became the lingua franca of the empire (115).

Some societies that controlled trade between Africans and Europeans gave rise to lingua francas. The Duala managed trade between the British and the Cameroon interior from the 18th century (125). The Wolof benefited from early contact with the Europeans and managed trade on the Senegalese coast (147-48). The Ovimbundu managed trade between Europeans and Bantus in southwest Africa from the 19th century (54-55). Other lingua francas are associated with regional trade networks that arose well after European contact, presumably as a consequence of that contact and the increased trade it stimulated. This appears to be true of Mbum (Adamawa plateau; 130), Gbaya (western Central Africa Republic; 130), Lwena (the Angola-Congo-Zambia border area; 56), and Jukun (Benue River; 129).

There is one category of lingua francas that might have arisen before the emergence of states as a result of Near Eastern or European state contact. These lingua francas are found on the Congo River and its tributaries. On the Congo River itself, the early phases of Kituba (68) and Lingala (73) may antedate European contact, and there may have been a lingua franca preceding Lingala (72) there as well. However, Samarin argues against this view (Samarin 1990/1991; see §8.4). Early Sango may have been a trade language on the Ubangi River before European contact (131), but Samarin argues persuasively against this view also (Samarin 1982; see §8.4). On the Lualaba River, Tshiluba may have been a pre-European lingua franca (65).

These lingua francas may not involve states. But the societies on the Congo River before European contact was a complex chiefdom, if not a state (Ehret 2002:270-72); and it was based on a major river system. It is possible that long-distance trade along the Congo river and its major tributaries had developed, and complex societies based around that trade existed before the Europeans arrived.

In precontact Oceania, Australia was inhabited by bands, most of Papua New Guinea by tribes, some of which may have been incipient chiefdoms, and much of Micronesia and Polynesia by chiefdoms of Austronesian-speaking peoples. A few pre-contact pidgins have been reported from Papua New Guinea.⁶ Although these were used by societies that were at most incipient chiefdoms, they arose in circumstances that favored their rise even in this society type.

⁶Many other languages used among nonstate societies in the *Atlas of languages of intercultural communication in the Pacific, Asia, and the Americas* (Wurm et al. 1996) are described as 'lingua francas', but the term is used in its broad sense and it is likely that they represent one-way multilingualism rather than third-party language use. Descriptions of their use, where given, imply asymmetric bilingualism except where discussed here.

There were a number of bilateral pidgins involving Yimas, a language spoken on the Sepik River. Pidgin Yimas is in fact several bilateral pidgins, each used with a particular linguistic community (Mühlhäusler et al. 1996:419, based on unpublished work by Jeff Williams; Foley [1988] describes the Yimas-Arafundi pidgin). The Yimas pidgins are used by individual clans, reflecting a common pattern where trade is exclusive to particular families or elites (eg, Johnson & Earle 2000:156, 214, 238, 252, 267). Mühlhäusler et al. also cite reports of other bilateral pidgins in the Middle Sepik river area (Mühlhäusler et al. 1996:420-21). All of these Papuan societies are tribes, but they are found on a major river and have specialized economic niches. In particular, the Yimas are fisherfolk and incipient stratification has been reported for the Sepik fisherfolk societies (Harrison 1987:492).

Two bilateral pidgins were used by the Austronesian Motu people for their *hiri* or long-distance trading voyages from the Port Moresby area to the Gulf of Papua (Dutton 1983, 1996). The long-distance trade was required because of the poor agricultural environment of the Motu (Oram 1982:5) and were undertaken only when necessary (ibid., 26). The Motu traded with the Eleman and Koriki; they stayed for at least one or two months (Oram 1982:15) and were largely segregated from the local people (Dutton 1983:87). The trading languages were predominantly based on Toaripi (an Eleman language) and Koriki respectively; they were the Motu's trading partners. The pidgins were used only in this trade. The Motu were organized as tribes without an overarching political structure (Oram 1982:3). However, in some villages, headmen were hereditary (ibid.), and more significant, the Motu villages did not make war on one another (ibid., 9), which suggests an emerging regional political identity, a first step towards a chiefdom. It appears that the long-distance trade necessitated by food shortages, combined with the long-term absence and the segregation from the local people during the stay of the traders, were the motivating factors for the emergence of the bilateral pidgin in this small society.

There are a number of trade pidgins and lingua francas reported in North America (Silverstein 1996). Initial European contact was by signs and interpreters. In some cases, interpreters knew only local languages (Silverstein 1996:118); in other cases, it appears that some languages were more widely known, at least among certain individuals, but early European reports were unsophisticated and may describe dialect continua or a bilateral pidgin devised for use with Europeans (ibid., 119). However, soon after contact, extended trade networks and political integration led to some languages becoming lingua francas in the narrow sense, including pidginized forms. Of the latter, the ones that were based largely on indigenous languages and achieved some degree of stability were Montagnais Jargon (early 17th century, French-Montagnais contact), Pidgin Delaware (17th century, Delaware-Dutch/Swedish/English; see also Goddard 1997); Apalachee-Spanish jargon (early 18th century, Apalachee/Spanish); Mobilian Jargon 18th-19th century, lower Mississippi societies-French/English); Chinook Jargon (Northwest coast societies-English); and Pidgin Eskimo, an Inuit-European variety and an Eskimo-Athapaskan variety (Silverstein 1996:121-31).⁷

Of the post-contact varieties discussed by Silverstein, two have been argued to be precontact in origin, Chinook Jargon and Mobilian Jargon. Hymes (1980) offers some early reports that might be evidence of a precontact pidgin antedating Chinook Jargon, but Samarin (1986:25-26) questions their reliability and the inferences that can be drawn from them. Hymes proposes that Chinook Jargon arose as a result of precontact slave trade in the Columbia River area; but a detailed study of slavery in the Northwest Coast concludes that extensive slave trading did not occur in the area before contact (Donald 1984, esp. 152-53; see also Samarin 1986:29). Also, large-scale migrant labor, not small-scale, localized slavery, can give rise to a contact language, but that language is a creole, not a pidgin (Samarin 1986:29, 30; see §8.4). This does not rule out the possibility that Chinook Jargon arose as a trade pidgin in precontact times, which is also argued by Thomason. However, linguistic diversity does not require a lingua franca or pidgin for trade, and it is likely that trade was restricted to particular members of the society (Samarin 1986:28-29; see above). Also, the evidence offered by Donald suggests that long-distance,

⁷Silverstein suggests the Eskimo-Athapaskan pidgin arose before direct European contact (Silverstein 1996:120), but Samarin notes that the earliest statement about a precontact Eskimo-Athapaskan pidgin (by Stefánsson) was made 200 years after the first European contact in the Arctic (Samarin 1986:23).

intensive trading networks appear to have arisen as a result of European contact (*ibid.*; compare Silverstein 1996:127). Moreover, the European vessels were manned by a large number of indigenous Alaskan and Siberian people, further stimulating the rise of a pidgin (Samarin 1988).

The case for Mobilian Jargon is weaker. The earliest explorers do not mention a *lingua franca* or pidgin, and used interpreters, as did the Indians among themselves (Crawford 1978:21-29), there is no positive evidence for a precontact origin (Silverstein 1996:124; Drechsel 1997:294). After the Europeans established settlements in the Gulf area at the end of the seventeenth century), a *lingua franca* was reported, and the first examples of the pidgin were recorded (Drechsel 1997:215-44). Mobilian Jargon was used among Native Americans and between them and European and Africans, peaking in the eighteenth century (*ibid.*, 254). Drechsel speculates that a pidgin must have been used among the precontact chiefdoms (*ibid.*, 285-86), but as we have seen, this is by no means a necessary conclusion. Silverstein argues that Mobilian arose as a pidginized western Muskogean language spoken with the French, with possible contributions from Apalachee-Spanish and from Algonquian languages used in the Mississippi tributaries (Silverstein 1996:120, 124, 125).

The native North American pidgins for which a precontact origin has been proposed both arose in chiefdoms. It is possible that trade pidgins might be able to arise in chiefdoms, perhaps as bilateral pidgins as in Oceania; or more likely, that existing chiefdoms were able to take advantage of the broader post-contact trading networks to the point that their languages sometimes served as the basis for a trade pidgin.

In sum, trade languages are largely associated with states, both before and after the European overseas expansion and the changes in trading patterns that ensued. The majority of cases where trade languages are found in nonstate societies occur in chiefdoms, are associated with riverine or marine long-distance trade, and usually involve a bilateral trade language (asymmetric first party language use or a bilateral pidgin).

8. Political integration and its linguistic effects

The last form of contact between societies that may speak different languages is political integration, the response to the need for security. We may distinguish four levels of political integration, which are partly correlated with the four society types.

The first is SEGMENTARY FUSION, a feature of egalitarian societies. As noted in §§3.1-3.2, egalitarian societies are self-sufficient, and they join together for different purposes: ritual, festival, war, etc. The main characteristic of the fusion of egalitarian societies is its opportunistic and impermanent nature: once the immediate purpose of fusion is past, they separate into politically autonomous units again (Service 1975:64-65). This sort of political integration is quite weak and transitory and for this reason, the basic political unit is taken to be the single tribe or band. However, a group that splits from one egalitarian society may fuse with another society permanently (eg, Fix 1999:33-34).

The second level of integration is SYMBIOSIS, which we define as politically independent but economically highly interdependent. Symbiotic relations are commonly found between pastoralist and agrarian societies, typically chiefdoms (Service 1971:136). If the habitat is such that neighboring regions favor pastoralism and agriculture, the complementary economies may engage in a high enough degree of trade that economic specialization occurs to a high degree, leading to substantial trade but no political integration. Symbiotic relations appear to be commonest among stratified societies. For example, among Johnson & Earle's case studies of pastoralists, the stratified Kirghiz and Basseri are symbiotic with neighboring agriculturalists, whereas the egalitarian Turkana appear not to be so dependent on their neighbors (Johnson & Earle 2000:196). Finally, economic specialization, including economic exploitation, occurs between states in what Braudel describes as a world-economy (Braudel 1984, ch. 1).

The third level of political integration is INCORPORATION, which we define as political integration into a single unit (typically by conquest) but still a semi-autonomous society segregated from other components of the society. Incorporation is most characteristic of feudalistic states. States have enough power to conquer and incorporate other societies; but a feudalistic state frequently keeps its component communities segregated (§3.4). The semi-autonomous status of incorporated societies may be due to sociocultural attitudes in the state, or to the weakness of the state in its ability to force the complete assimilation of the incorporated society, or finally in the peripheral status of the incorporated group in the state (ie, the state does not bother to attempt to assimilate the group). Conversely, some chiefdoms may be strong enough to conquer and incorporate other societies (Service 1971:141; Service 1975:100); otherwise, chiefdoms may simply drive out, exterminate, imprison or sacrifice the conquered people (Service 1971:141).

Incorporation may occur either in situ—the state (or powerful chiefdom) simply conquers a neighboring region and includes it in its territory—or through transplantation—the state uproots the members of the society or societies by means of migrant labor and/or slavery and creates a new dependent society in a new location, commonly a settlement colony. In general, incorporation in situ is far less destructive of the incorporated society than incorporation through transplantation.

The last level of political integration is ASSIMILATION, that is, the complete integration and loss of autonomy of the incorporated society. Incorporation may eventually lead to assimilation. The difference between incorporation and assimilation depends to a significant extent on the degree of internal integration of the state and its economy, and the degree of control the state exercises over its parts. Capitalist states, with the increasing extension of markets for wage labor through all aspects of society and the consequent breakdown of social structures that segregate communities within the society, are most likely to foster complete assimilation. But assimilation can occur in feudalistic states (and perhaps also chiefdoms) if the social, cultural and economic factors favor assimilation over semi-autonomy for a sufficiently long period of time.

8.1. Linguistic convergence in egalitarian societies

We suggest that the type of linguistic change most likely to be associated with segementary fusion/fission of egalitarian societies is convergence, that is, increasing similarity of structural patterns between languages. The two areas where this hypothesis can best be tested are Australia, occupied solely by band societies for at least 40,000 years, and Papua New Guinea, occupied also for 40,000 years and until European contact almost exclusively occupied by egalitarian societies. It is well known that aboriginal Australian languages, while belonging to many separate genetic groups, are remarkably similar in phoneme segment inventories, phonotactic patterns, morphology and syntax (Dixon 1980, Blake 1987; however, the most convergent languages are also genetically closely related, namely the widespread Pama-Nyungan subgroup). The non-Austronesian languages of Papua New Guinea are genetically quite diverse, and even if they originated in a common ancestor, the families are extremely deep. Nevertheless there is a substantial number of typological similarities through much of the island (Foley 1986:9-12, 25-26).

The Americas, the other major area occupied by many egalitarian societies, are much more typologically diverse (eg, Mithun 1999). However, the Americas is also a much larger and geographically more diverse area than Australia or Papua New Guinea. Furthermore, major migrations into the Americas are much more recent, with less time for convergent features to diffuse: although there is controversial evidence of early migrations, large-scale population movement or expansion has taken place only in the last 14,000 years. Also, it is possible that the many chiefdoms of North America and the Amazon, and states in Mesoamerica and the Andes, have have different sorts of linguistic effects on the convergence of structural patterns among Native American languages.

8.2. Incorporation and lingua francas

Perhaps the commonest result of incorporation of societies by states (and possibly complex chiefdoms) is the use of the language of the conquering society by the conquered society or societies in some political and economic domains. The result is one-way bilingualism or a lingua franca (if the conquered societies use the language among themselves as well as with the conquering society). The lingua franca may serve the purpose of regionwide long-distance trade between the provinces of the state (§7.2), but it also serves the function of furthering the political integration of the state. Increasing degrees of assimilation lead to language shift, usually on the part of the conquered society (well known exceptions to this directionality are the Normans in England and the Franks in France). In these contexts, convergence is possible; however, we know of no studies investigating whether convergence is greater among languages spoken within a state than in non-integrated societies. Otherwise, no observable structural changes would be observable unless the lingua franca is restructured (see below).

Where lingua francas are attested outside the Eurasian area occupied by states since ancient times, they are associated with states, either before or after European contact. In Central and South America, Nahuatl and Quechua functioned as lingua francas for the Aztec and Inca states respectively, while the *Linguas Gerais* of Brazil originated in the Portuguese colonial era (Holm 1989:605-6; Adelaar 1996b). Many African lingua francas are primarily languages used for political integration of states, although they may also be used in trade (§7.2; all references here are to Heine 1970 unless otherwise noted). The Abyssinian empire emerged long before European contact, leading to the use of Amharic as the language among the incorporated societies (107). The Mosi 'states' evolved into 'empires', presumably in response to increased trade across the Sahara and with societies in contact with Europeans, and Mosi concomitantly became a lingua franca (161-62).

After European contact in Africa, lingua francas arose in newly formed African states. Some African societies responding to European state contact created states as a political defense, incorporating local societies. The Lozi/Kololo/Luyi empire (Kololo/Lozi; 52-53) arose in the 19th century as Sotho peoples fled the disruption caused by Zulus and Griqua, in turn as a response to European invasion of South Africa (see Service 1975:115). The Avongara people (Zande; 110) crossed the Mbomu River around 1800 and conquered a number of societies and imposed their language. The Bambara empire (Bambara; 168) arose first after the destruction of the Songhai empire by the Moroccans in the 16th century, and survived until the 19th century, benefiting from its central location between Arab and European trade routes. The Ful formed an empire in the 19th century at the expense of the Hausa and Bambara states, and the Ful dominated the political administration under French colonialization; as a result, Adamawa Ful has become a lingua franca (128-29). The rise of the Ashanti empire in the 18th century led to Twi being used as a lingua franca (141-42).

Other languages became lingua francas in Africa when European states established state colonies and used the local society as its administration. Susu had brief prominence around 1790 but is now a contemporary lingua franca in the Sierra Leone estuary (146). Ewe became a lingua franca after the Germans took control of the Slave Coast (140). Ga became a lingua franca in the 19th century after German missionaries chose it for missionary work (144). Bulu may have been a lingua franca before its choice by American missionaries in the late 19th century, but its clear expansion occurred around that time (119-21). After the British took control of Sierra Leone in the 19th century, Mende and Temne came to be used as lingua francas as the peoples moved from the interior towards the coast (145). Yoruba had been a lingua franca in Dahomey and Togoland in the late 19th century under German administration (139). Tswana became a lingua franca after the establishment of the Bechuanaland Protectorate (now Botswana; 52). The Nyanja and their language spread as a lingua franca as the people expanded after creation of the Nyasaland Protectorate (now Malawi; 60-61). Ganda became a lingua franca as the British extended their administration through the Kingdom of Buganda (now Uganda; 105-6). Ewondo (Yaoundé) became a lingua franca as a result of the German colonization of Cameroon 122-24), as did Bali to a lesser extent (126-27).

8.3. Incorporation, colonization and stable mixed languages

Stable mixed languages represent an extremely rare and unusual effect of societal contact; a small number of examples have been well documented. One type of mixed language, exemplified by Ma'a (Mbugu), is likely to be the endpoint of a process of progressively more extreme borrowing (Thomason & Kaufman 1988:104; contrast Mous 1994). Thomason & Kaufman note that in a few cases, a society borrows increasingly large amounts of vocabulary and even the inflectional morphology of a language. One possible end result of this process is functional turnover (Matras 2000:87-91): the basic lexicon and sometimes some grammatical affixes of the original language are restricted to a secret or in-group register of the now-acquired language of the larger society. The social explanation for extreme borrowing and functional turnover, instead of simple language shift (see below), is that the incorporated societies are strongly resistant to assimilation.

Well-documented examples of extreme borrowing include the Asia Minor Greek dialects from before World War I (Dawkins 1916; Thomason & Kaufman 1988:215-22) and the Arabic of Kormakiti in Cyprus (Newton 1964; Thomason & Kaufman 1988:105-7). The Asia Minor Greek dialects were spoken by Greek communities surrounded by Turkish communities in the Ottoman state. The Greek speakers were commonly bilingual, and some Greek speakers shifted to Turkish (and also to Islam; Thomason & Kaufman 1988:215). The Kormakiti Arabic speakers are Maronites who left Lebanon some time after 1191, thus originally speakers of Arabic (Newton 1964:43), and migrated to the medieval state of Cyprus.

Functional turnover occurred in the Romani varieties of Western Europe (including Britain and Scandinavia), called Para-Romani (Matras 2000:88-90). There is no currently existing Para-Romani language (Matras 2000:88), but instead an ability to insert Romani vocabulary into utterances in the adoptive society's language (eg, English or Spanish). Matras also suggests that the current status of Ma'a (Mbugu) is a result of functional turnover (Matras 2000:90-91). Members of the community speak two varieties as first languages. Thomason (1997:469) describes them as two languages, one being very close to the neighboring Bantu language Pare. Mous (1994:175) describes them as two registers of the same language, and calls them Inner Mbugu and Normal Mbugu, the latter being very much like Pare and largely intelligible with it (Mous 1994:176). Inner Mbugu possesses a basic vocabulary, including personal, possessive and demonstrative pronouns, that is largely Southern Cushitic (Thomason & Kaufman 1988:225), though not from any one existing Southern Cushitic language (Greenberg 1999:627). But Inner Mbugu also possesses much nonbasic vocabulary and almost all grammatical inflections that agree closely with Pare (Mous 1994).

The sociohistorical data suggest that Mbugu is a case of progressively extreme borrowing of Pare/Shambaa by a Southern Cushitic speaking society (Thomason 1997:478-82; contra Mous 1994, who argues for a Bantu secret language origin). For example, 19th century sources indicate that the Bantu inflections were not yet obligatory at that time (Greenberg 1999:629). Thomason & Kaufman note that 'different (and independent) sources present a picture of the Ma'a people as resisters of total cultural assimilation' (Thomason & Kaufman 1988:225; see references in Thomason 1997:472). The present-day Ma'a (Mbugu) community is scattered among speakers of the Pare and Shambaa societies. The Ma'a/Mbugu people show traces of a pastoralist culture unlike their Bantu neighbors, and are physically somewhat different from them as well (Mous 1994:177). In a more recent period, there has been functional turnover, with Normal Mbugu, essentially a variety of Pare, being used for normal communication.

The Pare and Shambaa societies were probably complex chiefdoms rather than states at the time that the Ma'a were incorporated. Ma'a oral traditions indicate that the Ma'a fled southward to the Pare Mountains and then to the Shambaa region (Mous 1994:177; see also Ehret 2002:446). The 'state' of Ugweno was formed in the Pare Mountains around 1500 (Davidson 1969:178); Davidson's descriptions fits the structure of a chiefdom rather than a state. The Shambaa formed a 'state' in the 18th century (Davidson 1969:179-82; Ehret 2002:446), which again was probably a complex chiefdom. Although chiefdoms are typically ethnically

homogeneous (Johnson & Earle 2000:304) they can incorporate other societies (Service 1971:141, 1975:100; Carneiro 1981).

Two lesser-known societies that have the social history and linguistic effects associated with functional turnover are Ejnu (Lee-Smith 1996a) and Wutun (Lee-Smith & Wurm 1996) in northwest China. Both appear to represent social groups that have migrated and been incorporated into a state society. The Ejnu were probably a Shiite group from Persia, the Abdals, who migrated around the 8th century and were later dominated and marginalized by Sunni conquerors. Ejnu retains substantial core vocabulary of Persian (and Arabic) origin, but much Uighur vocabulary and affixes as well as structural patterns. The Wutun were Chinese from either Sichuan or Nanjing who migrated to Qinghai province by 1585 where they were incorporated into the Tibetan and then the Mongolian state. Wutun possesses a significant amount of Chinese vocabulary but also significant contributions from Tibetan and Bao'an Mongolian, and Tibetan and Bao'an affixes as well as structural patterns.

We suggest that extreme borrowing and functional turnover are found in feudalistic states and possibly some complex chiefdoms. Unlike smaller societies, feudalistic states have the political power to incorporate other societies; but unlike capitalistic societies, feudalistic states are weak and segregated enough to allow the incorporated society to resist assimilation.

Three other well-documented stable mixed languages appear to have a different social history as well as distinct linguistic consequences. Media Lengua (Muysken 1997), unlike Ma'a and the other aforementioned examples, employs almost entirely Spanish vocabulary (89%; *ibid.*, 378) but almost entirely Quechua grammatical inflections and constructions, yet is spoken by ethnically Quechua speakers. The Media Lengua communities were probably monolingual Quechua around 1900 (Muysken 1997:374). Men began to work in the Spanish-speaking cities and became fluent in Spanish. Media Lengua arose as a home language in these communities. Media Lengua is clearly a stable code (*ibid.*, 407-8). Media Lengua appears to be a unique result of an intermediate degree of assimilation of a former agrarian community to a capitalist state system.

Finally, Mednyj Aleut (Thomason & Kaufman 1988:233-38, drawing on Menovskikov 1969) and Michif (Bakker & Papen 1997; Bakker 1997) represent stable mixed languages resulting from the colonization of European states. In both cases, European resource exploiters (sealers and trappers) intermarried and settled in Aleut and Cree/Salteaux communities. The linguistic result was distinct grammatical components introduced into the resulting language (Russian verbal inflections in Mednyj Aleut; French words, morphemes and syntax in the noun phrase in Michif). In the case of Mednyj Aleut, there was also displacement of the Aleuts to Copper Island, not unlike the case of creoles discussed in §8.4.

These two situations have in common contact of a capitalist state society with a band or tribe society, but a temporary distancing of state influence. Nevertheless, with only two cases it is difficult to formulate any significant generalizations, and there are other cases which are superficially similar yet did not lead to mixed languages. For example, Pitcairnese arose as a result of the mutiny on the *Bounty* (Ross & Moverley 1964). The nine mutineers had with them nineteen Polynesians (mostly Tahitian), and removed them to Pitcairn Island, not unlike the removal of the Aleuts to Mednyj Island. Yet the result was a restructured variety of English with many Tahitian loanwords, and virtually no grammatical borrowing. Nevertheless, capitalist state societies appear to be a necessary condition for this type of stable mixed language.

8.4. Creoles and capitalist state colonization

Mufwene (2001) has argued that pidgins and creoles have very different histories resulting from the types of colonization patterns that spawned them. European-based pidgins arose as a result of trade and exploitation colonies, where the colonizing group controls economic aspects of intersocietal relations with indigenous groups but not socially integrate itself with them. In other words, like pidgins that have arisen outside the European colonization context, European-based pidgins have arisen in trade (§7.2; see also Mühlhäusler 1986:75).

Mufwene argues that creoles arise as a result of settlement colonies, in which both the European masters and their non-European slaves or indentured servants (and also European-origin indentured servants) are transplanted to a new location and create a new society (see also Samarin 1990/1991). The result of this social process is a restructuring of the language, in fact often so drastic a restructuring that the language is analyzed as a new language, namely a creole. In fact, many linguists argue that a creole is not descended from the lexical source language (see Mühlhäusler 1986, chapter 4). Mufwene argues against this view based on the social processes underlying creolization: there is transmission of the lexical source language, but a highly imperfect transmission. The creole arises as a consequence of the shift of a part of the new community, typically the slaves/migrant laborers from their former heritage languages. The greater the proportion of the transplanted society constituted by the language-shifting members, the more drastic is the restructuring of the lexical source language; this is demonstrated for example by the differences among the different 'creoles' and 'restructured varieties' of the Caribbean (eg, Mufwene 2001:39).

In other words, creoles arise as a result of incorporation via transplantation by states. In fact, virtually all of the known creoles, that is the European language based creoles of the Americas and Oceania, are the result of European state incorporation by transplantation. It also appears that transplantation typically leads to restructuring of the languages. For example, most of the African pidgins discussed by Heine are the result of migrant labor or massive migration to cities or industrial sites (page references are to Heine 1970 unless otherwise noted). Fanagalo may have originated in part with Indian migration to South Africa, and certainly developed through immigration of workers to the mines (49). Due to Fanagalo's colonial associations—it was used by whites to their workers—it has been replaced as the urban language by Town Bemba in the southern African copper belt (56-59). The Luba migrated to work on European mines, railways and harbors and eventually administration; Luba became a lingua franca but a pidginized variety was used between Europeans and Africans (64-67). Pidgin A-70 arose among workers in building sites along railway lines and then spread to urban areas and markets (124). Finally, there are pidginized varieties of Swahili used by the army, by the Indian migrants, and by the Europeans in contact with their servants and laborers (105).

A more contentious case is the origin the Central African lingua francas Kituba, Lingala and Sango. Samarin (1990/1991) reviews the historical sources and finds no clear evidence of lingua francas antedating European contact. It appears that Kituba (Kikongo) arose in a pidginized form in the 1890s as a result of the recruitment of massive numbers of porters along the trade route from the coast to Stanley Pool (*ibid.*, 55-56). Lingala (Bangala) in its pidginized form also arose around that time, as a result of workers from a variety of linguistic backgrounds being employed by Europeans on the shipping routes along the Congo River (Samarin 1990/1991:67-68).⁸ Sango also was pidginized towards the end of the 19th century (Samarin 1982). Although it did not arise in a plantation context, Samarin argues that it arose soon after the arrival of Europeans along with substantial numbers of nonlocal Africans into the Ubangi River basin, itself occupied by a variety of African societies speaking different languages (Samarin 1982:30).

8.5. Language shift

The endpoint of all these linguistic processes is language shift: speakers shift from their heritage language to that of another society. The linguistic effect of language shift is the loss of the heritage language, and in some cases particularly when the shifting population is proportionately very large, convergence of the adopted language to the heritage language (usually called substratum interference). There are many well-known examples of convergence through documented language shift (for a survey, see Thomason & Kaufman 1988, ch. 5). Two lesser known examples of a high degree of convergence with a social history suggesting shift

⁸Samarin argues that vernacular Lingala did not exist as a lingua franca (in the narrow sense) before this time. The languages spoken in the area are very closely related, and thus no lingua franca was necessary. Heine, on the other hand, argues that a lingua franca can spread rapidly due to ease of acquisition by speakers of closely related languages (Heine 1970:84, 123).

are Hezhou (Lee-Smith 1996b) and Tangwang (Lee-Smith 1996c), both spoken in northwest China. Both are both spoken by non-Chinese indigenous groups, and linguistically are almost entirely Chinese in vocabulary and morphology, but display structural patterns of Uighur and Dongxiang respectively. However, it should be noted that the convergence may be a consequence of extensive bilingualism (as in egalitarian societies) before the shift; this analysis is supported by studies of convergence in languages such as Yiddish (Talmy 1982; Prince 1998).

Assimilation in a state society, particularly the capitalist state societies that dominate the contemporary world, appears to be a sufficient condition for language shift. It is striking that minority languages in western Europe such as Breton, Basque and Welsh, for example, survived in apparent health until the transition to capitalist states led to their dramatic decline in the twentieth century. Nevertheless, it is highly likely that incorporation into feudalistic states has also led to language shift. There are even cases of presumed language shift in symbiotic relations among nonstate societies. An ancient symbiosis existed between forager bands and the agrarian states of southern India and Sri Lanka and probably led to language shift by the ethnically distinct groups such as the Vedda (Bird-David 1999:231-32); the same symbiosis and language shift probably took place among the Semang of Southeast Asia and the Negritos of the Philippines (Endicott 1999:275). This symbiosis was not characteristic of forager bands in Australia and the Americas (Bird-David 1999:232). The pygmy bands of central Africa have been in a forager-farmer symbiosis with neighboring Bantu chiefdoms (see Ehret 2002:274 on the BaTwa pygmies and Mongo chiefdoms), and have lost their presumably distinct languages (Fix 1999:25-26).

Thus, we must conclude that economic integration as well as political integration may lead to language shift. All of the aforementioned examples are in contact with stratified societies. Egalitarian societies are largely self-sufficient economically and are politically too weak to incorporate other societies, which suggests that language shift would be rare. However, language shift may occur in the case of segmentary fusion, particularly with a fissioned group or a society that is declining in numbers (Foley [1986:24-25] describes some possible examples).

9. Conclusions: language history and language endangerment

9.1. Summary of the proposed universals

The universals relating the typological classifications of language change and societies can be summarized as follows:

Language divergence or split is a characteristic of all society types from bands to states. Divergence is a consequence of social fission, which occurs for all society types, though it is much less common among states than other society types. Thus, we may expect to witness less divergence as states are consolidated and other society types disappear, although this depends on the degree of political integration of the state (see below).

Borrowing occurs in all types of language contact, but intensive borrowing appears to occur at the two extreme ends of the typology of societies, namely bands and states. In the case of bands, intensive borrowing occurs as a result of extralinguistic exogamy. It appears that extralinguistic exogamy must occur at a high level, possibly as high as 50%, for intensive borrowing to take place. But there is only one well-documented case, and high levels of exogamy need not lead to intensive borrowing. At the other end, incorporation of one society by another society, usually a state but possibly a chiefdom, can lead to increasingly intensive borrowing if the incorporated society is highly focused and resistant to assimilation and if the incorporating society is not a capitalist state.

Convergence of grammatical structure, like borrowing, ranges from the adoption of a few salient grammatical structures to much more extensive restructuring of the languages in question. Convergence appears to be the result of fairly extensive bilingualism, and appears to occur in all society types, but for different reasons. The loose alliances and trading/spouse

exchange relations between neighboring bands or tribes, usually achieved by active or passive multilingualism among the societies involved, leads to the diffusion of grammatical structures over broad areas. Chiefdoms and weak states with strong internal social divisions develop symbiotic political and economic relations, which also requires substantial multilingualism and can lead to a high degree of convergence. Finally, a slightly different situation obtains in states, where convergence of the state language variety with a language variety of an assimilated population may result from language shift by the assimilated population if the latter forms a large enough portion of the speech community.

Contact languages appear to be limited to states and under fairly rare circumstances chiefdoms. Asymmetric bilingualism and the bilateral pidgins that may arise from them are a consequence of long-distance trade. Long-distance trade is generally found among states, especially capitalist states, though some chiefdoms on major river and ocean routes, and even more rarely even a tribe, may also develop long-distance trade patterns and the contact languages that are associated with them. Lingua francas (in the narrow sense), and the bilateral and multilateral pidgins that may arise from them, require both long-distance and region-wide trade (ie, multilateral trading patterns between more than two societies). This state of affairs is associated almost exclusively with states, either in trade with other societies or in internal trade. The (disputed) possible counterexamples to this universal all involve chiefdoms, but may be the result of European state entry into the trading system.

Stable mixed languages are found in the attrition of societal independence when societies are incorporated or assimilated into feudalistic states, and in one well-documented case, a complex chiefdom. However, this is a rare consequence of the process of societal incorporation, and it is not understood when this process leads to stable mixed languages rather than the far more common case of language shift.

Creoles are found in capitalist states with the economic and political power to organize and transport large labor populations, either by military force, market forces or a combination of the two (ie, incorporation by transplantation). As a consequence, creoles appear to be a recent development; even the Pacific creoles that emerged from trade pidgins do not appear to have arisen before the large-scale labor movement that followed the introduction of European state-driven regional trading patterns.

Finally, language shift is a consequence of assimilation in states, particularly capitalist states, but may also occur under state incorporation and even in symbiosis between with stratified societies. Egalitarian societies probably undergo language shift only when a group splits from one society and fuses with another.

This is a very broad set of universals linking social evolution and language change. Nevertheless, they represent substantive universals which can be tested with further cases when such cases are identified and documented.

9.2. Language history

In §3, it was noted that the typology of societies is an evolutionary one because there is a historical sequence in the emergence of society types (even if in local cases there have been changes in the opposite direction): in the beginning of modern human history, there were bands; then tribes arose; then chiefdoms; then states, each from the immediately preceding stage of social complexity. If the typology of social evolution and language change presented in this paper is correct, it has important consequences for an understanding of human linguistic history.

With respect to the typology of language change given in §2, we can no longer assume a uniformitarian model for language change. Some sorts of language change, in particular certain types of language contact phenomena, did not occur before the rise of chiefdoms and especially states. If a finer-grained study of the types of borrowing and convergence that occur in different types of societies in contact also yields substantive generalizations, then we can propose still

more specific and more restrictive types of language changes that may have occurred at different points in language history.

The results also have consequences for attempts to use linguistic evidence for prehistoric linguistic families. We can illustrate this by a brief look at the chronology of social evolution.

Klein (1999) surveys the archaeological evolution for the emergence of humans. Klein suggests that modern human language arose at the time that ‘behaviorally modern humans’ arose, around fifty or more thousand years ago (Klein 1999:515-17; see McBrearty & Brooks 2000 for a more gradualist view). Whether or not modern human language emerged earlier than did behaviorally modern humans, it is extremely implausible that it arose after that date (Mellars 1998:95-97).

Klein also speculates that there may have been tribes or even chiefdoms before the domestication of plants and animals after the end of the last Ice Age. He suggests that there were dense, settled populations in the rock art areas of southwestern France/northern Spain 15ky ago, and that the burial in Sungir’ 22ky ago suggests social stratification of the sort found in chiefdoms (Klein 1999:545). However, a rich burial site is not generally considered to be sufficient evidence of chiefdoms; much greater wealth and architectural remains are usually necessary for evidence of a chiefdom (Carneiro 1981:53). Also, the settlements in western Europe do not appear to have been occupied year-round (Georges Sauvet, p. c.), and so may represent band camps. Layton postulates eight bands along the northern Spanish coast during the Magdalenian (Layton 1987:224, based on rock art distribution; Bailey 1983:152, 155 based on site habitation). More suggestive evidence are the kilns and fired clay objects of the East Gravettian culture (28-27ky; Klein 1999:542-43), although even these might have been visited seasonally. Hence, it seems relatively unlikely that any other society type than bands existed before the end of the last Ice Age, except possibly in a few regions for brief periods of time (perhaps when environmental conditions were more favorable). In fact, as Klein notes, the full range of modern hunter-gatherer technology did not develop until the end of the last Ice Age (Klein 1999:542).

We may now turn to the undoubted emergence of societies beyond bands after the end of the last Ice Age. Table 7 gives the first occurrences of villages (ie, sedentary tribes), chiefdoms and states in different locations in Africa, Eurasia, Oceania and the Americas (Diamond 1997:362-63, 278, 303; approximate dates for Africa inferred from Ehret 2002):

	<i>first villages</i>	<i>first chiefdoms</i>	<i>first states</i>
<i>West Africa</i>	9	2.5	1
<i>Ethiopia</i>	8	4	2
<i>Southern Africa</i>	2	1	–
<i>England</i>	5	4.5	1.5
<i>Near East</i>	11	7.5	5.7
<i>China</i>	9.5	6	4
<i>New Guinea</i>	8	–	–
<i>Australia</i>	–	–	–
<i>Eastern US</i>	2.5	2.2	–
<i>Mesoamerica</i>	3.5	3.5	2.3
<i>Andes</i>	5-4	3.5	2
<i>Amazonia</i>	8	2	–

TABLE 7. Emergence of villages , chiefdoms and states before European expansion (thousands of years before the present).

The conclusion that one can draw from Table 7 is that the sorts of language change phenomena that are associated with chiefdoms and states, in particular contact languages and so-

called mixed languages, probably did not exist at all more than seven or eight thousand years ago, and outside the central Eurasian band of early states, not more than four thousand years ago. These latter dates are within the time frame that the most conservative historical linguist would consider it possible to establish language families based on comparative reconstruction (eg, Kaufman 1990:23), part of which process is ruling out similarities due to contact and not common ancestry. Thus, in attempting to investigate deeper language families, one may reasonably safely rule out the potentially confounding effects of contact languages of the sort described in §§7-8. On the other hand, the sort of borrowing patterns, particularly those associated with extralinguistic exogamy (§6), are a potential, though probably rare, confounding effect in inferring deep language families.

9.3. Language diversity and language endangerment

Finally, the consequences of the analysis presented here for language diversity and language endangerment are extremely chilling. The diversity of human languages today—some six thousand languages, by the usual count—reflects the ‘ethnographic present’, that is, the political state of the world in the 15th century on the eve of the European conquests. That world is long gone. The following five centuries have witnessed the destruction of virtually all of the societies represented by the ‘ethnographic present’ and the incorporation or assimilation of the surviving members and their descendants into the approximately 120 nation states of the contemporary world. In other words, the last five centuries have largely been a period of (almost entirely forced) social fusion, not fission. The massive reduction in the number of societies in this period has as a virtually inevitable consequence the massive reduction in the languages that had emerged when those societies were created by fission. Even the contact languages and mixed languages that arose through social processes that came to exist for the first time in human history in the past few thousand years are probably a transitory phenomenon as increasing political and economic integration leads to assimilation and language shift. The only languages that we can safely say are not endangered are the politically dominant language of each modern nation-state.

Is there any hope for social and linguistic diversity to be drawn from this bleak picture? A serious moral quandary for linguists concerned with endangerment is posed by the basic principle given in §1: how you talk depends on who you talk to. The languages of small populations that have most successfully resisted loss (other than the aforementioned national languages) are those spoken by the groups most isolated from modern capitalist state society, and this often means the most economically and politically marginalized groups in a nation-state. Improving access to economic and political goods for these groups means closer integration into the capitalist state, which generally means loss of the language (and even so, remaining on the periphery of the global economy; Braudel 1984:542). A modern capitalist state with a fully mobile labor market will lead to linguistic homogenization, parallel to the biological phenomenon of genetic homeostasis in a large, undivided gene pool (Croft 2000:191). The only hope for the survival of a significant degree of the linguistic diversity we still have in the world today is the evolution of a new type of social organization that allows for separate social identities in a modern global society.

References

- Adelaar, Willem F. H. 1996a. Areas of multilingualism in northern South America. Wurm et al. 1996, 1345.
- Adelaar, Willem F. H. 1996b. The Tupí-Guaraní languages of Atlantic South America, and Línguas Gerais. Wurm et al. 1996, 1333-34.
- Aikhenvald, Alexandra Y. 1999. Areal diffusion and language contact in the Içana-Vaupés basin, north-west Amazonia. *The Amazonian languages*, ed. R. M. W. Dixon & Alexandra Y. Aikhenvald, 385-416. Cambridge: Cambridge University Press.
- Aikhenvald, Alexandra Y. 2002. *Language contact in Amazonia*. Oxford: Oxford University Press.
- Allen, N. J. 1986. Tetradic theory: an approach to kinship. *Journal of the Anthropological Society of Oxford* 17/2:87-109.

- Allen, N. J. 1989. The evolution of kinship terminologies. *Lingua* 77:173-85.
- Bailey, G. 1983. Economic change in late Pleistocene Cantabria. *Hunter-gatherer economy in prehistory: a European perspective*, ed G. Bailey, 149-65. Cambridge: Cambridge University Press.
- Bakker, Peter. 1997. *A language of our own: the genesis of Michif, the mixed Cree-French language of the Canadian Métis*. Oxford: Oxford University Press.
- Bakker, Peter & Anthony P. Grant. 1996. Interethnic communication in Canada, Alaska and adjacent areas. Wurm et al. 1996, 1107-69
- Bakker, Peter & Robert A. Papen. 1997. Michif: a mixed language based on Cree and French. *Contact languages: a wider perspective*, ed. Sarah G. Thomason, 295-363. Amsterdam: John Benjamins.
- Bellwood, Peter. Prehistorical cultural explanations for widespread language families. *Archaeology and linguistics: aboriginal Australia in global perspective*, ed. Patrick McConvell & Nicholas Evans, 123-34. Melbourne: Oxford University Press.
- Bird-David, Nurit. 1999. Introduction: South Asia. *The Cambridge encyclopedia of hunters and gatherers* ed, Richard B. Lee & Richard Daly, 231-39. Cambridge: Cambridge University Press.
- Birdsell, Joseph B. 1953. Some environmental and cultural factors influencing the structuring of Australian aboriginal populations. *American Naturalist* 87.171-207.
- Birdsell, Joseph B. 1968. Some predictions for the Pleistocene based on equilibrium systems among recent hunter-gatherers. *Man the hunter*, ed. Richard B. Lee & Irven DeVore, 229-40. Chicago: Aldine.
- Blake, Barry J. 1987. *Australian aboriginal grammar*. Beckenham: Croom Helm.
- Braudel, Fernand. 1981. *The structures of everyday life (Civilization and capitalism, vol. 1)*, translation revised by Siân Reynolds. New York: Harper & Row.
- Braudel, Fernand. 1982. *The wheels of commerce (Civilization and capitalism, vol. 2)*, transl. Siân Reynolds. New York: Harper & Row.
- Braudel, Fernand. 1984. *The perspective of the world (Civilization and capitalism, vol. 3)*, transl. Siân Reynolds. New York: Harper & Row.
- Carneiro, R. 1970. A theory of the origin of the state. *Science* 169:733-38.
- Carneiro, R. 1981. The chiefdom as precursor to the state. *The transition to statehood in the New World*, ed. G. Jones & R. Kautz, 37-79. Cambridge: Cambridge University Press.
- Chambers, J. K. & Peter Trudgill. 1998. *Dialectology* (2nd ed.). Cambridge: Cambridge University Press.
- Crawford, James M. *The Mobilian trade language*. Knoxville: University of Tennessee Press.
- Croft, William. 2000. *Explaining language change: an evolutionary approach*. London: Longman.
- Davisdon, Basil. 1969. *A history of East and Central Africa to the nineteenth century*. New York: Anchor.
- Dawkins, R. M. 1916. *Modern Greek in Asia Minor: a study of the dialects of Silli, Cappadocia and Pháras with grammars, texts, translations, and glossary*. Cambridge: Cambridge University Press.
- Diamond, Jared. 1997. *Guns, germs and steel: a short history of everybody for the last 13,000 years*. London: Vintage.
- Dixon, R. M. W. 1980. *The languages of Australia*. Cambridge: Cambridge University Press.
- Dole, Gertrude. 1972. Developmental sequences of kinship patterns. *Kinship Studies in the Morgan Centennial Year*, ed. Priscilla Reining, 134-167. The Anthropological Society of Washington.
- Donald, Leland. 1984. The slave trade on the Northwest Coast of North America. *Research in Economic Anthropology* 6.121-58.
- Donohue, Mark. 1996. Some trade language of insular South-East Asia and Irian Jaya. Wurm et al. 1996, 713-16.
- Drechsel, Emmanuel J. 1996. Native American contact languages of the contiguous United States. Wurm et al. 1996, 1213-39.
- Drechsel, Emmanuel J. 1997. *Mobilian Jargon: linguistic and sociohistorical aspects of a Native American pidgin*. Oxford: Oxford University Press.

- Dutton, Tom. 1983. Birds of a feather: a pair of rare pidgins from the Gulf of Papua. *The social context of creolization*, ed. E. Woolford & W. Washabaugh, 77-105. Ann Arbor: Karoma Publishers.
- Dutton, Tom. 1996. Hiri trading languages. Wurm et al. 1996, 233-36.
- Ehret, Christopher. 2002. *The civilizations of Africa: a history to 1800*. Charlottesville: University Press of Virginia.
- Endicott, Kirk. 1999. Introduction: Southeast Asia. *The Cambridge encyclopedia of hunters and gatherers* ed, Richard B. Lee & Richard Daly, 275-83. Cambridge: Cambridge University Press.
- Feinman, G. & J. Neitzel. 1984. Too many types: an overview of prestate sedentary societies in the Americas. *Advances in archaeological method and theory* 7, ed. M. Schiffer, 39-102. New York: Academic Press.
- Fix, Alan G. 1999. *Migration and colonization in human microevolution*. Cambridge: Cambridge University Press.
- Foley, William. 1986. *The Papuan languages of New Guinea*. Cambridge: Cambridge University Press.
- Foley, William. 1988. Language birth: the processes of pidginization and creolization. *Linguistics: the Cambridge survey, vol. IV*, ed. Frederick J. Newmeyer, 162-83. Cambridge: Cambridge University Press.
- Fox, Robin. 1967. *Kinship and marriage: an anthropological perspective*. Cambridge: Cambridge University Press.
- Fried, Morton. 1967. *The evolution of political society*. New York: Random House.
- Goddard, Ives. 1997. Pidgin Delaware. *Contact languages: a wider perspective*, ed. Sarah G. Thomason, 43-99. Amsterdam: John Benjamins.
- Golovko, Evgenij V. 1996. A case of nongenetic development in the Arctic area: the contribution of Aleut and Russian to the formation of Copper Island Aleut. *Language contact in the Arctic: northern pidgins and contact languages*, ed. Ernst Håkon Jahr & Ingvild Broch, 63-77. Berlin: Mouton de Gruyter.
- Greenberg, Joseph H. 1980. Circumfixes and typological change. *Papers from the 4th International Conference on Historical Linguistics*, ed. Elizabeth Traugott, Rebecca Labrum and Susan Shepherd, 233-241. Amsterdam: John Benjamins.
- Greenberg, Joseph H. 1999. Are there mixed languages? *Essays in Poetics, Literary History and Linguistics presented to Viacheslav Vsevolodovich Ivanov on the occasion of his seventieth birthday*, ed. L. Fleishman, M. Gasparov, T. Nikolaeva, A. Ospovat, V. Toporov, A. Vigasin, R. Vroon & A. Zalizniak, 626-633. Moscow: OGI.
- Gumperz, John J. 1971. *Language in social groups*. Stanford: Stanford University Press.
- Hage, Per. 1999. Alternate generation terminology: a theory for a finding. *Journal of Anthropological Research* 55.521-39.
- Hage, Per. 2001. The evolution of Dravidian kinship systems in Oceania: linguistic evidence. *Journal of the Royal Anthropological Institute* (N.S.) 7.487-508.
- Hage, Per. 2002. On the evolution of American Indian kinship systems in world historical perspective. Paper presented at the Conference on Global Perspectives in Human Language in Honor of Joseph Greenberg, Stanford University, April 2002.
- Harrison, Simon. 1987. Cultural efflorescence and political evolution on the Sepik River. *American Ethnologist* 14.491-507.
- Heath, Jeffrey. 1978. *Linguistic diffusion in Arnhem Land*. Canberra: Australian Institute of Aboriginal Studies.
- Heath, Jeffrey. 1981. A case of intensive lexical diffusion: Arnhem Land, Australia. *Language* 57.335-67.
- Heine, Bernd. 1970. *Status and use of African lingua francas*. München: Weltforum Verlag/New York: Humanities Press.
- Holm, John. 1989. *Pidgins and creoles, vol. II: reference survey*. Cambridge: Cambridge University Press.
- Hymes, Dell. 1980. Commentary. *Theoretical orientations in creole studies*, ed. A. Valdman & A. Highfield, 389-423. New York: Academic Press.
- Johnson, Allen W. & Timothy Earle. 1987. *The evolution of human societies: from foraging group to agrarian state*. Stanford: Stanford University Press.

- Johnson, Allen W. & Timothy Earle. 2000. *The evolution of human societies: from foraging group to agrarian state*, 2nd edition. Stanford: Stanford University Press.
- Johnson, Steve. 1990. Social parameters of linguistic change in an unstratified Aboriginal society. *Linguistic change and reconstruction methodology*, ed. Philip Baldi, 419-33. Berlin: Mouton de Gruyter.
- Kaufman, Terrence. 1990. Language history in South America: what we know and how to know more. *Amazonian linguistics: studies in lowland South American languages*, ed. Doris L. Payne, 13-73. Austin: University of Texas Press.
- Keller, R. E. 1961. *German dialects: phonology and morphology*. Manchester: University of Manchester Press.
- Klein, Richard G. 1999. *The human career: human biological and cultural origins* (2nd ed.). Chicago: University of Chicago Press.
- Kulick, Don. 1993. Growing up monolingual in a multilingual community: how language socialization patterns are leading to language shift in Gapun (Papua New Guinea). *Progression and regression in language*, ed. Kenneth Hyltenstam & Åke Viberg, 94-121. Cambridge: Cambridge University Press.
- Layton, Robert. 1987. The use of ethnographic parallels in interpreting Upper Palaeolithic rock art. *Comparative anthropology*, ed. Ladislav Holy, 210-39. Oxford: Blackwell.
- Layton, Robert & Robert Baron. 2001. Warfare and human social evolution. *Ethnoarchaeology and hunter-gatherers: pictures at an exhibition*, ed. K. J. Fewster & M. Zvelebil, 13-24. Oxford: Archaeopress.
- Lee, Richard B. & Richard Daly (ed.). 1999. *The Cambridge encyclopedia of hunters and gatherers*. Cambridge: Cambridge University Press.
- Lee-Smith, Mei W. 1996a. The Ejnu language. Wurm et al. 1996, 851-63.
- Lee-Smith, Mei W. 1996b. The Hezhou language. Wurm et al. 1996, 865-73.
- Lee-Smith, Mei W. 1996c. The Tangwang language. Wurm et al. 1996, 875-82.
- Lee-Smith, Mei W. & Stephen A. Wurm. 1996. The Wutun language. Wurm et al. 1996, 883-97.
- Lincoln, Peter C. 1979/80. Dual lingualism: passive bilingualism in action. *Te Reo* 22/23.65-72.
- Matras, Yaron. 2000. Mixed languages: a functional-communicative approach. *Bilingualism, Language and Cognition* 3.79-99.
- McBrearty, Sally & Alison S. Brooks. 2000. The revolution that wasn't: a new interpretation of the origins of modern human behavior. *Journal of Human Evolution* 39.453-563.
- Mellars, Paul. 1998. Neanderthals, modern humans and the archaeological evidence for language. *The origin and diversification of language* (Memoirs of the California Academy of Sciences, 24), ed. N. G. Jablonski & L. C. Aiello, 89-115. San Francisco: California Academy of Sciences.
- Menovščikov, G. K. 1969. O nekotoryx social'nyx aspektax èvoljucii jazyka. *Voprosy social'noj lingvistiki*, 110-34. Leningrad: Nauka.
- Mithun, Marianne. 1999 *The languages of Native North America*. Cambridge: Cambridge University Press.
- Mous, Maarten. 1994. Ma'a or Mbugu. *Mixed languages*, ed. Peter Bakker & Maarten Mous, 175-200. Amsterdam: Institute for Functional Research into Language and Language Use (IFOTT), University of Amsterdam.
- Mufwene, Salikoko. 2001. *The ecology of language evolution*. Cambridge: Cambridge University Press.
- Mühlhäusler, Peter. 1986. *Pidgin and creole linguistics*. Oxford: Basil Blackwell.
- Mühlhäusler, Peter. 1996. Post contact languages in mainland Australia after 1788. Wurm et al. 1996, 11-16.
- Mühlhäusler, Peter & Rob Amery. 1996. Koines and indigenous lingue franche in Australia. Wurm et al. 1996, 17-23.
- Mühlhäusler, Peter, Tom Dutton, Even Hovdhaugen, Jerry Williams & Stephen A. Wurm. 1996. Precolonial patterns of intercultural communication in the Pacific Islands. Wurm et al. 1996, 401-37.
- Muysken, Peter. 1997. Media Lengua. *Contact languages: a wider perspective*, ed. Sarah G. Thomason, 365-426. Amsterdam: John Benamins.
- Newton, Brian. 1964. An Arabic-Greek dialect. *Papers in memory of George C. Pappageotes* (supplement to *Word* 20), 43-52.

- Nurse, Derek. 1997. The contribution of linguistics to the study of history in Africa. *Journal of African History* 18.359-92.
- Oram, Nigel. 1982. pots for sago: the hiri trading network. *The hiri in history: further aspects of long distance Motu trade in Central Papua*, ed. Tom Dutton, 3-33. Canberra: The Australian National University.
- Owen, Roger C. 1965. The patrilocal band: a linguistically and culturally hybrid social unit. *American Anthropologist* 67.675-90.
- Parkin, Robert. 1997. *Kinship*. Oxford: Blackwell.
- Prince, Ellen F. 1998. The borrowing of meaning as a cause of internal syntactic change. *Historical linguistics 1997: selected papers from the 13th International Conference on Historical Linguistics*, ed. Monika S. Schmid, Jennifer R. Austin and Dieter Stein, 339-62. Amsterdam: John Benjamins.
- Ross, A. S. C. & A. W. Moverley. 1964. *The Pitcairnese language*. Oxford: Oxford University Press.
- Samarin, William J. 1982. Colonization and pidginization on the Ubangi River. *Journal of African Languages and Linguistics* 4.1-42.
- Samarin, William J. 1986. Chinook Jargon and pidgin historiography. *Canadian Journal of Anthropology/Revue canadienne d'anthropologie* 5.23-34.
- Samarin, William J. 1987. Lingua franca. *Sociolinguistics: an international handbook of the science of language and society*, ed. U. Ammon, N. Dittmar & K. J. Mattheier, 371-74. Berlin: Walter de Gruyter.
- Samarin, William J. 1988. Jargonization before Chinook Jargon. *Northwest Anthropological Research Notes* 22.219-38.
- Samarin, William J. 1990/1991. The origins of Kituba and Lingala. *Journal of African Languages and Linguistics* 12.47-77.
- Sanders, William T. & Joseph Marino. 1970. *New World prehistory: archaeology of the American Indian*. Englewood Cliffs, NJ: Prentice-Hall.
- Service, Elman R. 1971. *Primitive social organization: an evolutionary perspective* (2nd edition). New York: Random House.
- Service, Elman R. 1975. *Origins of the state and civilization: the process of cultural evolution*. New York: W. W. Norton.
- Silverstein, Michael. 1996. Dynamics of linguistic contact. *Handbook of North American Indians, vol. XVII: Language*, ed. Ives Goddard, 117-36. Washington, DC: Smithsonian Institution.
- Sjoberg, Gideon. 1960. *The preindustrial city: past and present*. New York: The Free Press.
- Sorenson, A. P. Jr. 1972. Multilingualism in the northwest Amazon. *Sociolinguistics*, ed J. B. Pride & Janet Holmes, 78-93.
- Steward, Julian H. 1938. *Basin-Plateau aboriginal socio-political groups*. (Bureau of American Ethnology, Bulletin 120.) Washington, D. C.: Smithsonian Institution.
- Steward, Julian H. 1968. Causal factors and processes in the evolution of pre-farming societies. *Man the hunter*, ed. Richard B. Lee & Irven DeVore, 321-34. Chicago: Aldine.
- Steward, Julian H. 1969. Postscript to bands: on taxonomy, processes, and causes. *Contributions to Anthropology: Band societies* (Contributions to Anthropology, Bulletin No. 228), ed. David Damas, 288-95. Ottawa: The National Museums of Canada.
- Talmy, Leonard. 1982. Borrowing semantic space: Yiddish verb prefixes between Germanic and Slavic. *Proceedings of the Eighth Annual Meeting of the Berkeley Linguistics Society*, ed. Monica Macaulay et al., 231-50. Berkeley: Berkeley Linguistics Society.
- Thomason, Sarah Grey. 1983. Chinook Jargon in areal and historical context. *Language* 59.820-70.
- Thomason, Sarah G. 1997. Ma'a (Mbugu). *Contact languages: a wider perspective*, ed. Sarah G. Thomason, 469-87. Amsterdam: John Benjamins.
- Thomason, Sarah G. & Terrence Kaufman. 1988. *Language Contact, Creolization and Genetic Linguistics*. Berkeley and Los Angeles: University of California Press.
- Tindale, Norman B. 1953. Tribal and intertribal marriage among the Australian aborigines. *Human Biology* 25.169-90.
- Trudgill, Peter. 1983. *On dialect: social and geographic perspectives*. New York: New York University Press.
- Weinreich, Uriel. 1968. *Languages in contact: findings and problems*. The Hague: Mouton.

- Williams, Bobby Joe. 1974. *A model of band society*. (Memoir of the Society for American Archaeology, 29.) Washington, D. C.: Society for American Archeology.
- Wobst, H. Martin. 1974. boundary conditions for Paleolithic social systems: a simulation approach. *American Antiquity* 39:147-78.
- Wobst, H. Martin. 1976. Locational relationships in Paleolithic society. *Journal of Human Evolution* 5:49-58.
- Wurm, Stephen, Peter Mühlhäusler & Darrell T. Tryon (ed.). 1996. *Atlas of languages of intercultural communication in the Pacific, Asia, and the Americas*. Berlin: Mouton de Gruyter.