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A
**THOUSAND
YEARS**

OF
**NONLINEAR
HISTORY**

Manuel De Landa

Swerve Editions New York 1997

Contents

I would like to dedicate this book to my parents,
 Manuel De Landa and Carmen Acosta De Landa. I would
 also like to thank Celia Schaber for her constant support
 and inspiration, Don McMahon for his careful editing
 and useful suggestions, and Meighan Gale and the editors
 at Zone Books.

— Manuel De Landa

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 Zone Books
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 New York, NY
 10012

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Printed in the United States of America.

Distributed by The MIT Press,
 Cambridge, Massachusetts, and London, England

Library of Congress Cataloging-in-Publication Data

De Landa, Manuel.
A thousand years of nonlinear history /

Manuel De Landa.

p. cm.

Includes bibliographical references and index.

ISBN 0-942299-31-0

1. Science – Philosophy – History. 2. Nonlinear theories
 – History. 3. Philosophy – History. 4. Geology – History.
 5. Biology – History. 6. Linguistics – History. I. Title.

Q174.8.D43 1997
 501 – dc20

96-38752
 CIP

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Linguistic History: 1000–1700 A.D.

Human languages are defined by the sounds, words, and grammatical constructions that slowly accumulate in a given community over centuries. These cultural materials do not accumulate randomly but rather enter into systematic relationships with one another, as well as with the human beings who serve as their organic support. The “sonic matter” of

a given language (the phonemes of French or English, for instance) is not only structured internally, forming a system of vowels and consonants in which a change in one element affects every other one, but also socioeconomically: sounds accumulate in a society following class or caste divisions, and, together with dress and diet, form an integral part of the system of traits which differentiates social strata. A similar point can be made about lexical materials and grammatical patterns. As the sociolinguist William Labov has observed, a language communicates information not only about the world but also about the group-membership of its human users.¹

This section outlines the broad history of linguistic accumulations in Europe between 1000 and 1700 A.D. and the more or less stable entities they gave rise to, particularly when linguistic materials accumulated within the walls of a city or town. Thus, as the sounds, words, and constructions constituting spoken Latin sedimented in the emerging urban centers of the southern regions of Europe, they were slowly transformed into a multiplicity of dialects, certain of which eventually developed into modern French,

Spanish, Portuguese, and Italian. (And a similar process transformed the Germanic branch of Indo-European dialects into various modern tongues, including English, German, and Dutch.)

Here we will explore the idea that the different structure-generating processes that result in meshworks and hierarchies may also account for the systematicity that defines and distinguishes every language. In particular, each vowel and consonant, each semantic label and syntactic pattern, will be thought of as a *replicator*, that is, as an entity that is transmitted from parents to offspring (and to new speakers) as a norm or *social obligation*. A variety of social and group dynamics provides the selection pressures that sort out these replicators into more or less homogeneous accumulations. Then, other social processes provide the “cement” that hardens these deposits of linguistic sediment into more or less stable and structured entities. This is not, of course, a new idea. Indeed, it would seem to be the basic assumption behind several schools of historical linguistics, even if it is not articulated as such. This is particularly clear in the role that *isolation*

plays in these theories. Much as reproductive isolation consolidates loose accumulations of genes into a new animal or plant species, *communicative isolation* transforms accumulations of linguistic replicators into separate entities. In the words of the evolutionary linguist M. L. Samuels:

It is... the mere fact of *isolation* or separation of groups that accounts for all simpler kinds of [linguistic] diversity. Complete separation, whether through migration or geographical or other barriers, may result in dialects being no longer mutually intelligible; and thus, if there is no standard language to serve as a link between them, new languages come into being. Lesser degrees of isolation result in what is known as a dialect continuum—a series of systems in which those nearest and most in contact show only slight differences, whereas the whole continuum, when considered from end to end, may show a large degree of total variation. Dialect continua are normally “horizontal” in dimension, i.e. they occupy a region in which fresh differences... continually appear as one proceeds from one village to the next; but in large towns they may also be “vertical,” i.e. the different groups belong to different social strata in the social scale.²

Thus, the flow of norms through generations (and across communities) may result in both meshworks and hierarchies. A continuum of dialects is a meshworklike collection of heterogeneous elements to the extent that each dialect retains its individuality and is articulated with the rest by overlapping with its immediate neighbors. It is this area of overlap—the common sounds, words, and constructions between nearby dialects—that articulates the whole without homogenization: two dialects on the outskirts of the continua may be quite different (or even mutually unintelligible), and yet they are connected to each other through intermediate dialects. For instance, the dialect of medieval Paris (now referred to as “Francien”) was connected to the dominant dialect of Italy (Tuscan) by many intermediate forms: a whole set of French, Franco-Provençal, and Gallo-Italian dialects. (Rather sharp transitions, or *isoglosses*, do occur in this continuum.)³

Conversely, the dominant variants of the language of a given city, as well as dialects that have become “standard” (such as *written Latin* in the Middle Ages), are relatively homogeneous entities, in which the norms have been fixed either through the deliberate intervention of an institution (in the case of “standards”) or by the “peer pressure” exercised by the members of a social stratum on each other. These more or less uniform accumulations of norms are ranked according to their prestige, with the standard language and the elite’s dialect

occupying the top of the pyramid. Of course, here as elsewhere, only mixtures of meshworks and hierarchies are found in reality, and any given dialect likely belongs simultaneously to a vertical hierarchy and to a horizontal continuum.

The acceleration of city building in the years 1000–1300 affected in many ways the linguistic materials that had accumulated in Europe in the previous millennium. In those three centuries the Romance languages were crystallizing into the forms with which we are today familiar. These stable entities emerged from the continuum of spoken-Latin dialects which coexisted with the standard written form in all the areas that had been subjected to the imperial rule of Rome. In terms of prestige, the homogenized standard was clearly at the top (and would continue to be until the seventeenth century), but social superiority did not translate into linguistic productivity: the written form, precisely because of its much-admired “frozen” body of norms, was largely sterile, incapable of giving birth to new languages. The meshwork of “vulgar” Latin, on the other hand, contained sounds, words, and constructions that replicated *with variation* and were therefore capable of fueling linguistic selection processes and generating new structures. As the sociolinguist Alberto Varvaro puts it, the divergence of the dialects that would become Romance languages began centuries earlier and was kept in check only by the power of the prestigious spoken norm of Rome:

In Imperial times the linguistic world of Latin had several important properties: a minority endowed with enormous political, social, economic and cultural prestige was absorbing a large majority who were less and less convinced of their own original and diverse identities.... In fact, only Basques and Bretons avoided Latinization; even the Germans, despite the fact that they now held power, gave way to this trend in all the areas where they were not in a majority. Yet, if we go back to the centuries of the Empire, the Latin spoken by these recently Latinized masses undoubtedly tolerated infringement of the norm.... Like all nonstandard phenomena in all languages, some were widely tolerated and some less so, and some were repressed as being too popular (socially and/or geographically).⁴

This state of affairs, in which variation within the meshwork was kept from diverging too much, changed radically with the collapse of the Roman Empire and the concomitant weakening of the hierarchical norm. This resulted, according to Varvaro, in “the loss of the centripetal orientation of the variation.”⁵ In the centuries leading to the second millennium, only among the feudal and ecclesiastical elites in the different regions

was there any sense of “universalism” with respect to the Latin language. The rural masses were left free to reinvent their languages and to forge local identities. The question now is, At what point in time did the speakers of these diverging dialects begin to “feel” they were using different languages? Before the year 1000, with one exception, hardly any of these low-prestige dialects had a definite name or identity. “These forms may have been named by the name of a village or district, when need arose, but more probably never received a name at all.”⁶ Most likely, all these people perceived themselves as speaking the same language, the spoken version of standard written Latin. Linguistic self-awareness (as well as the names of the new entities) required cultural distance from the linguistic meshwork in which these Latinized masses were immersed and viewing the whole from a hierarchical point of view. Not until the year 813 was the first name for a vulgar variant introduced: “Rustica Romana,” which later became vernacular Old French.

This introduction, and the awareness of linguistic divergence that it implied, came in the context of the linguistic reforms that the court of Charlemagne introduced in the ninth century. The specific aim of the Carolingian reforms was to reverse the “erosion” of written Latin, as well as to set standards of pronunciation for the reading of Latin aloud, particularly when reading from the Bible. Unlike the spontaneous evolution of dialects, this act of standardization involved a deliberate act of planning as well as a significant investment of resources (educational, political) to give weight to the new standards:

The tradition of reading Latin aloud as an artificial language, a sound for each written letter... has the air of being obvious, and as though it had been forever present. But someone, somewhere, had to establish that as a standardized norm, for it could not arise naturally in a native Romance community. There was a continuity through the years between Carolingian and Imperial Latin in the vocabulary and syntax of the educated, for these could always be resurrected from classical books by antiquarians, but what we now think of as traditional Latin pronunciation had no such direct continuity with that of the Empire.⁷

The Carolingian reforms were insufficient in themselves to create stable entities with stable names out of the changing “soup” of the dialect continuum, and several other planned interventions were necessary to precipitate the evolution of Romance vernaculars. In the centuries after the reforms, hierarchies of towns began to form with increasing intensity from the eleventh century on, and the local dialects of each of these

urban settlements acquired a degree of prestige commensurate to its rank. The most prestigious dialects were those of regional capitals (Florence, Paris) and core gateways (Venice). Simultaneously, the intensification of commercial and governmental activity within these and other towns began to create (or reactivate) a multiplicity of new uses for written language. Licenses, certificates, petitions, denunciations, wills, and post-mortem inventories began to be written with increasing frequency and keeping records became part of the daily routine of every merchant or bureaucrat.⁸

At the time of the Carolingian reforms, all four domains of practical literacy—business, government, church, and home—were dominated by standard Latin. But the rise in demand for writing skills forced urban elites, particularly those who spoke the most prestigious dialects, to devise fixed orthographies for their spoken languages and to enforce them as a standard. According to the linguistic historian Richard Wright, writing systems (such as that of Old French) did not evolve spontaneously but were the result of a planned response to specific problems of communication.⁹ The development of written forms of the various vernaculars, in turn, acted as a conservative pressure on urban dialects, reducing variation and hence slowing down their evolution. This deceleration may have been perceived by contemporary speakers of a given dialect as the emergence of a stable entity, an impression reinforced by the more or less simultaneous appearance of a name for the written form. But it is not the case that speakers of a dialect had become aware of its divergence from spoken Latin and this awareness provoked them to devise a label for the new language. The divergence did indeed exist as an objective phenomenon, but it was too slow and fuzzy (i.e., Latin diverged into a continuum of dialects) to be directly perceived without an institutional intervention.

The process through which the emerging Romance languages acquired names raises some interesting questions regarding the nature of “naming” in general. According to Gottlob Frege’s still-influential theory, the connection between a given name and its referent in the real world is effected through a mental entity (or psychological state) that we call “the meaning” of the name. (Frege called it the “sense” of a name, and Ferdinand de Saussure, his contemporary, called it the “signified.”) This meaning, once grasped by a speaker, is supposed to give him or her “instructions” (necessary and sufficient conditions) to identify the object or event that the name refers to. So, for example, the meaning of the words “tiger” or “zebra” allows their users to grasp that which all tigers or zebras have in common (i.e., that which makes them members of that category) and hence endows speakers with the ability to use the

names correctly (i.e., to apply them to the right category of entities).¹⁰ The problem here is, of course, that tigers or zebras do not have an essence in common. They are historical constructions, mere agglomerations of adaptive traits that happen to have come together through evolution and acquired stability (at least, enough for us to name them) through reproductive isolation. However genetically homogenized they may be, the external appearance of these animals still reveals a wide range of variation, and, hence, like dialects, they form a continuum of overlapping forms.

A rival theory of reference has been put forth by several philosophers, including Saul Kripke and Hillary Putnam, who deemphasize the "inside the head" aspects of reference and stress the historical and social aspects of language. The basic idea is that all names work like physical labels: they do not refer to an object via a mental entity, but directly, the way the word "this" does. (This is technically expressed by saying that all names have an "indexical component" and hence that they are all like proper names.) Names manage to "stick" to their referents because of the pressures that speakers place on one another: there is a causal chain leading from my use of a word, to the use by the person who taught it to me, to the use by his or her teacher, and so on, all the way to the original "baptismal ceremony" that introduced the label.¹¹ Hence, one's current usage of a term is "correct" only to the extent that it is connected to the whole *history of uses* of a name. According to this theory, names do not give every speaker the means to specify referents: for many words, only certain experts can confirm the accuracy of the usage. For example, if through genetic engineering we could build animals that looked like tigers or zebras but were a genetically distinct species, the meaning of "tiger" and "zebra" would be of little help to establish correct reference. We would have to rely, as Putnam says, on a social division of linguistic labor which gives groups of experts (geneticists, in this case) the authority to confirm whether or not something is the actual referent of a word, as determined at its baptismal introduction.

Putnam does not deny that we carry certain information in our heads regarding a referent, such as a few identifying traits for tigers (being quadrupedal and carnivorous, being yellow with black stripes, and so on). But these items are in many cases oversimplifications (he calls them "stereotypes"), and far from representing some essence that we grasp, these stereotypes are merely information that we are under a *social obligation* to learn when we acquire the word.¹² Hence, several social factors come into play in explaining how labels "stick" to their referents: the history of the accumulated uses of a word, the role of experts in determin-

ing its reference, and the obligatory acquisition of certain information which counts as part of our ability to use the word.

The causal theory of reference may be used to increase our understanding of linguistic history in two different ways. On the one hand, by emphasizing the social practices involved in fixing the reference of a term, nondiscursive practices that intervene in reality become especially important. Thus, successful reference is not purely linguistic and entails expertise in the manipulation and transformation of the objects and events which serve as the referents of words—regardless of whether this expertise is concentrated in a small number of people due to division of labor. In the particular case of the names of the Romance languages, this intervention in reality took the form of expert grammarians assessing degrees of divergence among dialects and devising spelling standards. It also involved institutional enforcement of these standards, resulting in the artificial isolation of some dialects and the consequent increase in their stability and durability. On the other hand, by showing that the meaning of a word is not what allows its users to determine its correct reference, implies that nothing in the meanings of terms like "French dialect" or "French language" (referring to the descendants of Occitan and Francien, respectively) can help us establish some essential difference between them. Our use of the term "French language" would be correct to the extent that it conforms to the history of its uses, a history which began with an institutional baptism, and does not depend on our grasp of some essential features of Francien. (Francien did possess certain distinguishing features, but these features were shared by many nearby dialects and, hence, did not define the essential identity of the dialect of Paris.) In this sense, we may regard the distinction between "dialect" and "language" as completely artificial, drawn by social consensus, and whatever features users associate with the label "French language" (an essential "clarity" or "rationality," for example), as nothing more than a stereotype transmitted through social obligation.¹³

The concept of social obligation is crucial to an understanding of not only naming but language itself. If sounds, words, and constructions are indeed replicators, and if, unlike memes, they do not replicate through imitation but through enforced repetition, then the key question becomes, How exactly are linguistic norms enforced? In what sense are they socially obligatory? The special case of standardized norms offers no difficulty since the enforcement is performed by institutions, including schools and courts and governmental offices, where the standard is used to carry out everyday activities. But what about the population of norms

that form the dialect continuum? Sociolinguists answer that, with respect to dialects, it is informal social networks that operate as *enforcement mechanisms*.¹⁴

To study the social network of a town where a particular dialect is spoken, one would compile for every inhabitant the list of his or her friends, as well as friends of friends. Certain properties of these two circles would then be analyzed: How well do the friends of an individual (and the friends of his or her friends) know one another? Do they interact with each other in multiple capacities (as neighbors, co-workers, kin) or only in specialized circumstances? How likely is it that they will remain within the network after they move up or down the socioeconomic hierarchy? Those networks where there is little social mobility and where the members depend on each other socially or economically are called “high-density” (or “closed”) networks.¹⁵

Small medieval towns and villages would likely have been populated by one or more high-density networks, and closed networks still exist in working-class and ethnic communities in modern cities. On the other hand, those towns in the Middle Ages where a middle class was forming and social mobility increasing were characterized by low-density (or “open”) networks. (Needless to say, any given town may contain both extremes and a variety of networks of intermediate density.) For our purposes here, what matters is that high-density networks act as efficient mechanisms for enforcing social obligations. An individual belonging to such a communication net depends on other members not only for symbolic exchanges but also for the exchange of goods and services. The only way to preserve one’s position in a network, and hence to enjoy these rights, is to honor one’s obligations, and the fact that everyone knows each other means that any violation of a group norm quickly becomes common knowledge. In short, density itself allows a network to impose normative consensus on its members.

High-density networks are especially important to sociolinguistics because they provide researchers with answers to the question of how local dialects are able to survive despite the pressures of an institutional standard. (How, for example, have so many dialects of French survived to this day when the mass media and the system of compulsory education relentlessly promote standard French?) The answer is that language conveys not only referential information but information about group-membership. The sounds, lexicon, and grammatical patterns characteristic of a local dialect are part of the shared values that bind the members of a dense network together and hence communicate information about solidarity and loyalty. In technical terms, the replicators that characterize

the dialect of a dense network are said to be transmitted as a highly *focused* set of norms, while the dialects of the upwardly mobile middle classes flow as more *diffuse* sets of norms. Paradoxically, the groups in the very top social stratum (where, by definition, no upward mobility is possible) form dense networks, too, and the norms of their dialects are also highly focused. The difference is, of course, that the norms of elite dialects are highly prestigious while those of local dialects are not, and may even be socially stigmatized.¹⁶ The other difference is that elites, after making their dialects the standards, have access to the institutional means to impose their norms on a much wider speech community, particularly on those with aspirations of upward mobility whose diffuse linguistic norms are prone to succumb to standardization.

The notion of an informal social network is also helpful in understanding the role that individuals (and the stylistic variations to which these individuals give rise) play in the evolution of language. As Labov notes, a given individual variant does not enter this evolutionary process until it has stabilized in a portion of a communication network—that is, until it has become *collective*. In other words, the source of linguistic change is not the idiosyncratic habits of an individual (and certainly not what goes on inside his or her head) but a variant pattern shared by a group and used to communicate with other groups.¹⁷ From this point of view, speakers are not evaluated according to their individual psychological properties but according to the properties of the linkages that bind them to one another.¹⁸ Given a network of a certain density, the higher the local prestige of an individual, or the larger the number of his or her contacts, the more likely it is that a variant originated by that individual will become collective and eventually become part of the accumulated heritage.

In summary, we may picture medieval Europe as a large population of replicating linguistic norms undergoing a variety of transformations and selection pressures: becoming more focused in some areas and more diffuse in others, retaining a meshwork of connections in some parts while elsewhere breaking down into hierarchies around prominent urban centers. Some of these accumulations became consolidated through isolation, becoming more internally homogeneous, while others retained a higher degree of heterogeneity by coexisting with other dialects in different types of *contact situations*. The study of contact between languages is important in historical linguistics because it brings to light the different forms of horizontal flow between dialects, as opposed to the vertical flow of norms through generations. In addition to the flow of linguistic materials between neighboring dialects in a continuum, language may be affected by flows of nonlinguistic materials, such as the migration of a population of

speakers who are the organic substratum of a dialect. As we saw before, current maps of the geographical distribution of languages coincide in many parts with genetic maps—not because genes determine languages, but because both travel together during migrations, as well as during colonization and conquest.

The different contact situations created by migratory movements are exemplified by the birth of the English language in the centuries leading to the second millennium. The basic linguistic materials out of which English evolved were first brought to Britain in the fifth century by Teutonic invaders (Jutes, Angles, Saxons) who displaced its original inhabitants, the Celts. Although the Celts were not exterminated (only driven westward) they were largely replaced in most areas of the island without much intermixture. In most cases, the direction of linguistic flow is from the conqueror to the conquered's language; consequently the flow of Celtic norms into the language of the invaders was minimal. In the following six centuries, on the other hand, the basic raw materials provided by the Anglo-Saxon dialects came into contact with several other languages (Latin, several Scandinavian dialects, Norman French), which influenced their evolution in a more dramatic way. Some Latin terms flowed into England from continental Europe as part of the military, economic, and social traffic between Romans and Teutons. But the real influence of Latin norms on the “soup” of Germanic replicators came at the end of the sixth century, when Pope Gregory the Great commissioned Saint Augustine “to lead a missionary band of forty monks in a peaceful invasion of Britain for the purpose of turning the warlike Teutons away from their pagan customs, heathen beliefs, and vengeful practices.”¹⁹ The Christianization of Britain (or rather, a re-Christianization, since there were already native Celtic Christians) caused not only a large flow of Latin words to Old English, but also promoted the creation of schools and a system of writing.²⁰ Conversion to Christianity was effected here, as on the Continent, not by converting each individual inhabitant but by the more efficient procedure of first bringing the ruling elites into the fold. Hence, the flow of words from Latin penetrated the language from the top and flowed downward. The next great influx of alien norms into the still mostly Germanic mesh-work of dialects, took the opposite route, penetrating Old English from the bottom up. This was due to several waves of Scandinavian invasions that took place from the eighth to the eleventh centuries. Although as turbulent militarily as those staged earlier by Teutonic tribes, in the end these invasions resulted in coexistence and intermarriage. In these centuries, Scandinavian words such as “they,” “though,” and about eight hundred others were added to the mixture.²¹

By the turn of the millennium, Old English had evolved through several types of contact: one caused the replacement of Celtic norms, another fostered coexistence between different Germanic norms, and, in between, still another facilitated a cultural penetration by Latin norms. The transformation of Old English (which is closer to German) into Early Middle English (which is recognizable as “English”) took place in yet another contact situation: the wholesale replacement of the local elite by a foreign one. In the eleventh century, as the different dialects of French were finalizing their differentiation from Latin, the French-speaking Normans staged a successful invasion of England and ruled that country for nearly a century (1066–1154). The Old English-speaking nobility virtually ceased to exist, and even the highest offices of the church fell into Norman hands. French became the language of the elites for over two centuries, while Old English became the low-prestige dialect of the peasant masses. In this way, the Norman Conquest affected Old English much the way the collapse of the Roman Empire affected Latin, as we observed earlier. As one historian puts it:

The most important single influence of the Norman Conquest upon English was the removal of the conservative pressures that tended to impede its evolution. As the tongue of a subjugated country Old English lost prestige. West Saxon was no longer the literary standard of the conquered Britons, and the Anglo-Saxon scribal tradition was suppressed. Neither church nor state had much time to give to the language of the English peasants, and the socially and intellectually elite could not be bothered with it. Under such conditions of *laissez faire*, the language benefited from a return to oral primacy: colloquial use determined usage and variant dialect forms competed for acceptance. Unhindered by rules of prescription and proscription, the English peasants... remodeled the language with tongue and palate.²²

Thus, thanks to the forceful removal of an emerging standard (West Saxon), the flow of norms through several generations of English peasants became more fluid, the amount of variation increased, and the whole continuum of dialects evolved faster. By the time the English elites rediscovered their native language in the thirteenth century, it had already changed in dramatic ways. In particular, it had been transformed from a *synthetic* language into a mostly *analytic* one. These terms refer to alternative ways in which languages express certain grammatical functions. A synthetic language expresses functions like the gender and number of nouns, or the tense of verbs, via certain linguistic particles called

inflections. Modern English retains a few of these (the *-s* for plural and the *-ed* for past tense), but most of the inflections from Old English have been dropped. Inflectioned languages are free to position words in sentences in several alternative ways (since they carry grammatical markers with them), while languages that have lost their inflections express grammatical functions through a fixed word order (e.g., subject-verb-object). Given that word order captures very economically the logic behind a sentence, these languages are called analytic.

Ethnocentric linguists in the past (particularly those studying English and French) didn't see in the transformation from synthetic to analytic a simple switch from one set of grammatical resources to another *equivalent* one, but rather a move up the ladder of progress, as if an internal drive for greater clarity (rationality) were guiding the evolution of languages. But similar grammatical simplifications occur in languages that chauvinistic speakers of English or French would never consider to be on the same level as their mother tongue. These are the so-called *trade jargons*, or *pidgins*, like the famous Sabir, or Mediterranean lingua franca, a long-lived dialect widely used in the Levant trade beginning in the Middle Ages. The study of pidgins is particularly relevant here not only for the light it throws on the distinction between analytic and synthetic, but also because it illustrates yet another type of contact situation that affects linguistic evolution: the transitory linguistic contact created by military or trade encounters between alien cultures.

The origins of Sabir are obscure. One theory postulates that it was born of the Crusades, beginning in the year 1095. If so, the Jerusalem battlefields would have been its place of birth, from whence it spread following military and merchant movements.²³ Critics of this theory point out that as late as the thirteenth century many Levant trade documents were written not in Sabir but in a changing hybrid of Italian, French, and Latin. Sabir may have emerged shortly after, and then, thanks to its simplicity, replaced those early hybrids. On the other hand, it may never have existed as a single entity but as a series of pidgins, each drawing on different Romance languages for its lexical materials.²⁴ For example, in the early Middle Ages the vocabulary of Sabir may have relied mostly on borrowings from the dialects of Genoa and Venice, since those cities dominated trade with the Levant. When later on the Portuguese found alternate routes to the luxury markets and began to break the monopoly of the Italian cities, Sabir's vocabulary changed accordingly. At any event, Sabir is rare among pidgins because of its longevity (it died only in the early twentieth century, as the Ottoman Empire collapsed). Most pidgins emerge and disappear as the short-lived contact situations that give rise

to them come to an end. But pidgins endure wherever contact between alien cultures has been institutionalized, as happened, for example, at slave trading posts and on sugar plantations.

One distinctive feature of pidgins—what differentiates them from simple mixtures—is that they greatly simplify the set of norms from which they were derived. Many redundant features of languages (such as the verb “*to be*”) are eliminated, since their main function is to make speech more self-contained or redundant (i.e., less dependent on contextual clues for correct interpretation). Without these resources, pidgins become more dependent on context, so that, in a sense, behavioral acts such as pointing to referents become part of the “grammar” of the pidgin. Yet, far from being degenerate tongues that devolved from their “master” languages, pidgins are creative adaptations of linguistic resources.²⁵ Slave pidgins, for example, were not a kind of “baby talk” created by the master to communicate with his slaves, but a creative adaptation by slaves from disparate linguistic backgrounds to communicate with one another.²⁶

Due to their stigmatization as “inferior” languages, pidgins did not become a serious subject of study until relatively recently. Today, the field is growing explosively as ethnocentric prejudice gives way to a more objective approach. Simultaneously, the emphasis has changed, and linguists are less interested in pidgins as distinct entities than in “pidginization” as a general process that may or may not create a stable entity. Before this switch in approach, the creation of stable entities was seen as a simple process consisting of two successive stages: first, a “target” language (e.g., the language of the slave master) was simplified and a pidgin was created. Then, when the slaves were set free, the first generation of children who learned the pidgin as a mother tongue re-created many of the redundant features that had been stripped away, and a new entity emerged: a *creole*. (Of course, not only children participate in this recomplexification of the pidgin; adult speakers may also contribute by borrowing items from other dialects.)²⁷ Although this process of crystallization of new creole languages via enrichment of a pidgin is still of great interest to linguists (since it represents an accelerated version of linguistic evolution, one that is compressed into one or two generations), today's emphasis is more on the processes of pidginization and creolization in general, whether they result in new stable entities or not:

A linear model of two discrete steps, as implied by the standard conception of pidgin and creole, may oversimplify the complexity of the historical cases to the point of distortion, and in itself contribute to the difficulty of inter-

preting the evidence. Within a single region there may coexist, contiguously, more than one stage of development. And there may indeed be more than two stages—a pre-pidgin continuum, a crystalized pidgin, a pidgin undergoing de-pidginization (reabsorption by its dominant source), a pidgin undergoing creolization, a creole, a creole undergoing de-creolization.²⁸

A number of linguists and philosophers of language have noted the similarity between the contact situations giving rise to these processes and those behind the emergence of the Romance languages and English. This is not to say that the Romance languages or English should be considered pidgins or creoles, but they may also have undergone simplifications and recomplexifications. For instance, the loss of inflection and the fixing of word order which distinguish analytic languages such as French and English can also be observed in the evolution of many pidgins. The removal of a dominant norm (West Saxon in the case of Old English, Roman Latin in the case of Old French), which increases variation and hence the speed of divergent evolution, is also a constant factor in the development of pidginized languages. On the other hand, the expanding vocabulary and multiplying uses of language (in education, law, etc.) that characterize creoles are also part of the birth process of dominant languages (as when Parisian French replaced Latin or when London's English replaced Norman French).²⁹ Thus, the population of linguistic replicators that inhabited Europe in the Middle Ages may be seen as having undergone processes not only of focusing and diffusion (in social networks) and hierarchization (in urban centers) but also of pidginization and creolization.

Such is, in so many words, the linguistic viewpoint adopted by Gilles Deleuze and Félix Guattari, who call those languages that have risen to the top of a hierarchy “major” languages and those forming a meshwork of dialects “minor” languages. Yet they do not use these terms to refer primarily to stable entities (some more homogeneous, some more heterogeneous) but rather to the processes (becoming major, becoming minor) that affect the population of norms as a whole:

Should we identify major and minor languages on the basis of regional situations of bilingualism or multilingualism including at least one dominant language and one dominated language...? At least two things prevent us from adopting this point of view.... When [modern] French lost its worldwide major function it lost nothing of its constancy and homogeneity. Conversely, Afrikaans attained homogeneity when it was a locally minor language struggling against [modern] English.... It is difficult to see how the upholders of a minor language can operate if not by giving it (if only by

writing in it) a constancy and homogeneity making it a locally major language capable of forcing official recognition.... But the opposite argument seems more compelling: the more a language has or acquires the characteristics of a major language, the more it is affected by continuous variations that transpose it into a “minor” language.... For if a language such as British English or American English is major on a world scale, it is necessarily worked upon by all the minorities of the world, using very diverse procedures of variation. Take the way Gaelic and Irish English set English in variation. Or the way Black English and any number of “ghetto languages” set American English in variation, to the point that New York is virtually a city without a language.³⁰

To return to the Middle Ages, the accelerated urbanization that produced regional hierarchies of towns created several high-prestige vernaculars for each portion of the continuum of Latinate dialects. Each regional capital witnessed the rise of its own variant to the status of a locally “major” language, which had its own writing system and accumulated prestige at the expense of a number of “minor” variants spoken in low-rank small towns and rural supply areas. Thus, the continuum of French dialects was divided into two regions struggling for supremacy: a family of southern dialects called langue d'oc and another family spoken in the north and center, known as langue d'oïl, which included the Parisian vernacular (Francien) as well as the variant that the Normans had imposed on Britain. Nothing intrinsically linguistic was to determine the outcome of this struggle between langue d'oc and langue d'oïl. On the contrary, the ascendant prestige of langue d'oïl was the result of a variety of nonlinguistic events. The successful colonization of the British Isles by the Normans was one such event, as was the Albigensian Crusade, which benefited Francien at the expense of Occitan, a member of the langue d'oc family. A rather precocious political centralization around Paris added to the momentum, as did extensions in the usage of vernacular, such as the translation of the Bible (into Francien) in the year 1250 by scholars at the University of Paris.³¹

Other emerging Romance languages followed similar lines. On the Iberian Peninsula, several regional variants developed, and Catalan began to diverge from the rest (known collectively as the Hispano-Romance dialects) around the ninth century. The dialect that would eventually rise to the top, Castilian, was at first a rather peripheral variant spoken in the region that later (around 1035) became the Kingdom of Castile. Castilian's potential rivals, Leonese and Aragonese, were at that time more prestigious and more in keeping with the Romance languages spoken outside

the peninsula. The rise of Castilian began with the war against Islam, which had colonized the southern regions of the peninsula for eight centuries. The Kingdom of Castile played the most important role in the war of reconquest, beginning with the capture of Toledo in 1085. Through the prestige won during the war, as well as the migration of Castilians to settle the reconquered territories, the cultural and territorial influence of Castilian grew at the expense of other Hispano-Romance dialects, most of which, forced to the defensive, eventually withered away.³² After the reconquest, Toledo's new Castilian-speaking elites, together with those from Seville, furnished the materials from which the Spanish language eventually evolved.

Unlike France and Spain, where political centralization came relatively early, Italy and Germany would remain fragmented for centuries because of the opposition to central rule by their independent city-states. This fragmentation, or rather resistance to homogenization, acted as a linguistic centripetal force. Certain urban vernaculars rose to prominence, but their triumph was less clear-cut and linguistic dominance often shifted between regions. For instance, the dialect of the city of Lübeck became the standard of the powerful Hanseatic League; but when the commercial success of the league waned, other German variants became dominant.³³ In Italy, the Tuscan dialect had enjoyed a privileged status since the fourteenth century; it had been adopted not only by the papal court but by a number of literary writers, which greatly increased its prestige. However, each Italian city-state retained its own local variant for centuries (that is, the variant used by its elites), and linguistic unification was not attempted until the nineteenth century.³⁴

Besides these local movements in which a few variants were “becoming major” relative to the rest of the continuum, there was a global struggle between the local major languages and the undisputed global major: written Latin. This struggle, which took place between the thirteenth and eighteenth centuries, is known as the “rise of the vernaculars.” Latin, which in the early years of the Roman Empire had been a minor language in comparison to Greek, began the new millennium greatly strengthened, for several reasons. Its role as the official language of the church had been codified in the year 526 with the Benedictine Rule, which gave it a central place in monastic literacy and manuscript production, a status reinforced by the Carolingian reforms. The centralization of religious power and consolidation of ecclesiastical hierarchies between the years 1049 and 1216 allowed the institutionalization of Latin as the obligatory medium for the conduct of mass, while the vernaculars were forbidden from playing this role.³⁵ Finally, the linguistic heterogeneity prevailing in

Europe created the need for a lingua franca for international communication, and Latin easily eclipsed Sabir and the other low-status pidgins (such as Mozarabic) that may have performed this role.

But the agricultural and commercial intensifications that began complexifying urban life from the eleventh century on soon altered Latin’s status. The uses for writing greatly diversified, and the demand for literate individuals greatly increased in administration, law, and commerce. The establishment of cathedral schools and urban universities shifted the center of education toward the new towns and away from rural monasteries. (In Italy there were even some lay schools where the instruction was conducted in the vernacular.) Lay officials gained increasing importance at the expense of the clergy, at least within the world of secular administration. Finally, there were processes affecting not the institutional but the organic substratum of Latin, such as the Black Plague of the fourteenth century. As William McNeill suggests, “The rise of vernacular tongues as a medium for serious writing and the decay of Latin as a *lingua franca* among the educated men of Western Europe was hastened by the die-off of clerics and teachers who knew enough Latin to keep that ancient tongue alive.”³⁶

The battle between the dominant urban vernaculars and Latin was not a struggle to dominate the tongues of the masses, but rather a struggle to dominate the language of public institutions. The dialects of the lower strata of medieval society were tightly bound up with their speakers and migrated with them and their genes. A dialect’s highly focused set of norms is more easily killed (by replacing one population of speakers with another) than absorbed by alien languages. For this reason, while prestige determines the relative position of a dialect in a hierarchy, and hence its short-term destiny, *the sheer weight of numbers* decides its ultimate fate. Norman French, for example, however prestigious it may have been as the official language of the English aristocracy, never had a chance to take over as the language of the English masses.³⁷

Similarly, written Latin was in no position to compete with the vernaculars. During the period of rapid urbanization that began in the eleventh century, the population of Europe doubled, and with it the number of vernacular speakers. But the French of the Parisian elites, for example, was never in competition with Latin as a popular language for France but as the official language in French courts, government offices, and places of higher learning. Francien, too, began competing with Latin as the language of international diplomacy. In this case, raw numbers counted less than accumulated prestige: “French’s long period of predominance as the major international language of culture and diplomacy long antedates

its general use as spoken language in France: by the end of the seventeenth century, French had in effect replaced Latin in the former role... at a time when Francien was the native tongue of perhaps a quarter of the population of France."³⁸

Francien had achieved the status of a "norm to aim for" by the thirteenth century, in terms of unofficial writing and cultivated speech, but it did not overtake Latin until a series of fifteenth- and sixteenth-century edicts, such as the Edict of Villers-Cotterêts of 1539, made its use obligatory in official writing.³⁹ In England, too, we find that certain institutional interventions changed the status of the English language through a series of official acts, such as the Statute of Pleading enacted by Parliament in 1362, which made English the official language of the British courts. Court records, however, were still kept in Latin, and the statute itself was written in French. Yet, by 1489, "Henry VII put an absolute end to the use of French in the statutes of England. With that act the language that had gone underground in 1066 emerged completely triumphant over foreign domination."⁴⁰ These official acts, which transformed the status of English, French, and Latin more or less "instantaneously," are special cases of what the "ordinary language" philosopher J. L. Austin called "speech acts": social actions performed by the very utterance of a string of words. Commands, such as the order to use English or French in certain official contexts, are one type of speech act. The making of promises or bets, the issuance of warnings, verdicts, or judicial sentences, the baptizing of an object or a person, and many other verbal actions that carry with them social obligations and consequences are also examples of speech acts.

According to Austin, speech acts involve a conventional procedure that has a certain conventional effect, and the procedure itself must be executed correctly, completely, and by the correct persons under the right circumstances.⁴¹ The declaration of English as the official language of government, for instance, had to be made by a person with the authority to issue such declarations and in the right institutional setting. Not just any utterance of the words "I declare you the official language" carries the illocutionary force of a command. This simply emphasizes the fact that we are not dealing here with a purely linguistic process but with a complex situation involving hierarchies, chains of command, and the means to enforce obedience. Austin distinguishes those speech acts performed in judicial courts (and other institutional settings), where the procedure is so routinized that what counts as "correct" is clear to everyone, from those speech acts used in everyday life, where the procedures are not rigid or formal and where, therefore, there is more room for am-

biguity. Nevertheless, as we saw above, communication networks may act as enforcement mechanisms for promises or orders even in the absence of explicit criteria for the correct performance of a speech act.

We may compare the instantaneous transformations in status which a command, guilty verdict, or death sentence effect with the phase transitions that materials undergo at certain critical points. Much as liquid water suddenly switches from one stable state to another and begins to become solid ice when the temperature or pressure reaches a particular threshold, so a guilty verdict may abruptly change the social status of a person, who will be switched from a state of free motion to one of confinement. However fruitful this comparison may be, at the very least it calls attention to the fact that much as genetic replicators impinge on the world as catalysts for chemical phase transitions, so linguistic replicators affect reality by catalyzing certain "social phase transitions."⁴²

In addition to the official speech acts that abruptly changed their status, the dominant vernaculars of each region needed to enrich their reservoirs of expressive resources in order to effectively challenge the international standard. No official declaration could have made French or English the official medium in which to conduct government business if their vocabularies had not contained all the technical words required in judicial, legislative, diplomatic, military, and administrative communications. One means of increasing vocabulary was to use these languages' word-forming resources to generate the needed lexical items. Literature played a key role in this respect, enriching the expressive resources of the ascendant dialects while increasing their cultural prestige.

The ascendant dialects also expanded their lexicons by borrowing words from other languages and then adapting the borrowings to local usage. These linguistic flows from one population of norms to another display some interesting patterns that illuminate a number of the internal features of language. For instance, although the individual words of a language are free to replicate from one culture to another as memes (that is, by imitation or borrowing), a language's sounds and grammatical patterns, particularly those that are central to a language's (historical) identity, tend to move together with its speakers. Furthermore, words related to questions of everyday survival, unlike technical or literary words, do not diffuse well among different languages.

Modern English, for instance, still contains an archaic residue of Old English words, surrounded by the vast cosmopolitan vocabulary that it accumulated slowly, via diffusion (i.e., via various flows of memes). The words "father," "mother," "child," "brother," "meat," and "drink," as well as those that express basic activities such as "to eat," "to sleep," "to

love," and "to fight," derive directly from the Germanic vocabulary of Old English. On the other hand, most of the technical vocabulary for ecclesiastical matters flowed into English from Latin during the period of Christianization. (About 450 Latin words were introduced into English during this period.) Military, legal, governmental, and medical terms (as well as some culinary and fashion vocabulary) entered the English reservoir in large numbers (about ten thousand French words) during the Norman occupation. Soon after the occupation ended and English military victories made the French seem less of a threat, large quantities of Parisian French words began to flow into Britain, peaking in intensity between the years 1350 and 1400.⁴³ The direction of this flow of memes ran from the language that had accumulated more prestige and lexical complexity to the less prestigious and complex one. This is, of course, a relative distinction: while French was for a long time more culturally prestigious than English, during the fifteenth and sixteenth centuries it was "inferior" to Spanish and Italian and many Spanish and Italian words flowed into France from those two countries.⁴⁴

The many hundreds of French words that flowed into Middle English suffered different fates. Some of them were simply taken as they were, but many were assimilated into local dialects. Borrowed French and Latin words often coexisted with their English synonyms, instead of displacing one another or hybridizing. In the fifteenth century English developed a trilevel system of synonyms with different levels of prestige: commonplace English ("rise," "ask"), literary French ("mount," "question"), and learned Latin ("ascend," "interrogate"). As one historian puts it, this accumulation of synonyms allowed "for a greater differentiation of styles—in both formal and informal usage.... Thus the native English vocabulary is more emotional and informal, whereas the imported French synonyms are more intellectual and formal. The warmth and force of the former contrasts with the coolness and clarity of the latter. If a speaker can be intimate, blunt, and direct in basic English, he can also be discreet, polite, and courteously elegant in the diction of borrowed French."⁴⁵

This hierarchy of synonyms is a special case of what sociolinguists call "stylistic stratification," that is, the ranking of a language's different registers, which are reserved for use in particular situations: a casual register, to be used with friends and family; a formal register, which is used, for example, in institutional situations or simply when talking to strangers or superiors; and a technical register, used at work or when communicating with other professionals. Of course, the vocabularies of these registers need not come from different languages. The distinction is drawn more in terms of the amount of care that one puts into the creation of

sentences during a linguistic exchange (or, in the case of technical registers, by the use of special vocabularies or technical jargon).⁴⁶

English speakers in the Middle Ages and Renaissance presumably engaged in register switching according to the degree of formality of a situation. Outside of London, they likely also engaged in a related process called code switching. Due to geographic isolation, the flow of linguistic replicators that made up Old English had generated five different "species" of Middle English (Southern, Kentish, East Midland, West Midland, and Northumbrian). While the dialect of London had by the fifteenth century become the most prestigious form of English, it did not replace the other dialects but, rather, was added to the population as a *superimposed norm*. This meant, for instance, that a speaker of Kentish who also knew the London dialect would indeed switch codes when talking to different people, using a local code in talking to a neighbor and an interregional code in addressing someone from the capital. Other countries, such as Italy and Germany, where political unification came late, remained much more linguistically fragmented; consequently, their inhabitants practiced code switching on an even more extensive basis.⁴⁷

Code and register switching are further examples of contact between different dialects, a kind of "internal contact" that tends to make them less internally homogeneous. Indeed, when one compares any actual language's internal variety—keeping an eye on its coexisting registers and codes—with "language" as imagined by structural linguists and semioticians, the most striking difference is the high degree of homogeneity that linguistic theorists take for granted. The semiotician seems to always have in mind a simple communication between a speaker and a listener, wherein both speak precisely the same language with identical skill. This oversimplification becomes all the more obvious when one studies countries where stable bilingualism is the norm, such as Belgium or Canada, not to mention India, which today recognizes fourteen official languages. In the Middle Ages and the Renaissance it was not uncommon for people to be multilingual: Christopher Columbus, for example, spoke Genoese as his mother tongue, wrote some Latin, and later learned Portuguese and Spanish.⁴⁸ As Labov stresses, command of a real language, unlike the simplistic characterization of linguistic competence made by the structuralist school, involves the ability to deal with great amounts of heterogeneity.

Hence, behind any uniform set of linguistic norms there must be a definite historical process that created that uniformity. The processes of homogenization that were at work on the Indo-European dialects that became the Romance and English languages may be said to have come

in two great waves. The first wave took place as part of the general process of urbanization: the ascendancy of the London and Paris (and other) dialects to the top of the linguistic hierarchy, leading to their adoption as official languages of government communication and lower education. This first wave involved both unplanned processes (including positive feedback; for instance, the more literature appeared in a given dialect, the more viable a literary medium that dialect seemed to other writers) and institutional speech acts that triggered sharp transitions in the status of certain vernaculars. Other than the effort to create writing systems for the elite dialects, the first wave did not involve great amounts of linguistic “self-awareness,” that is, conscious analysis of the internal resources of a language and deliberate policies to extend or fix those resources. The sixteenth and seventeenth centuries, however, witnessed the emergence of the first efforts at what we would today call “linguistic engineering.” The second wave of homogenization involved institutional policies aimed at the deliberate “slowing down or complete stoppage of linguistic change,” or, in other words, “the fixation forever of a uniform norm.”⁴⁹ That this goal has turned out to be unattainable in practice (to this day minority languages thrive alongside the standards) does not mean that the institutional enterprises that Spain, Italy, and France embarked upon during this period did not have great historical consequences.

The second wave may be said to have begun in Spain, when for the first time the grammar of a Romance dialect (Castilian) was systematically set forth. Unlike written Latin, which as a “dead” language had to be transmitted in schools by means of *explicit rules*, the various regional dialects of Spain were learned at home as one’s mother tongue. The grammarians of the Renaissance did not discover the “real” rules of language (not even Chomskyans today have achieved this), and they did not claim to have done so. Elio Antonio de Nebrija, who published the first grammar of Castilian fifteen days after Columbus had sailed to “discover” America, was quite conscious that his invention was an artifact (“artificial Castilian” he called it⁵⁰), but one that had great potential as an instrument of homogenization. As the sociolinguist Elmar Haugen writes, “The close connection of grammar and politics is shown in the fact that the first Spanish grammar appeared in 1492 and was dedicated to Queen Isabella; it was intended to be a companion of the Empire, the author wrote, and should spread Spanish [i.e., the Castilian dialect] along with the rule of the Spaniards.”⁵¹

According to Ivan Illich, both Columbus and Nebrija came to the queen to propose complementary projects: one to extend royal power into new

lands, the other to increase the inner cohesiveness of the sovereign body via a homogeneous language. Unlike classical Latin, which had been “engineered” so that the speech patterns of Roman senators and scribes could be regulated, the target of Nebrija’s proposed reforms was not the language of the Spanish elites but the unbound and ungoverned language of the masses. Moreover, to the extent that the multiplicity of dialects learned informally at home were superseded by an artificial (“Castilian”) language taught formally, like Latin, as a set of rules, Nebrija’s grammar was the first step toward what centuries later would become a compulsory education system based on a standardized language. In a way, as Illich remarks, this meant replacing the autonomous linguistic resources of dialect speakers with a reservoir controlled by institutions and given to the masses as a gift from above.⁵² In the end, Nebrija’s project failed to gain institutional support from the royal court, but the same concern with creating artificial languages that would be “pure” and “long lasting” would reappear elsewhere in different forms.

In Italy, for example, the Tuscan (i.e., Florentine) dialect had come to play the same dominant role as the Castilian, Parisian, and London dialects. Tuscan had been “creolized” (enriched) by several writers (Dante, Boccaccio, Petrarch) who not only enlarged its reservoir of expressive resources but also increased its prestige relative to the dialects of other important cities (Venice, Genoa, Milan). In 1582, the first institution specifically designed to act as a brake on linguistic change was born in Florence: the Academy of Language, an organization dedicated to the creation and dissemination of artificial Tuscan through the publication of grammars, dictionaries, orthographies, and other formal codifications of language.⁵³ This project, like Nebrija’s, proved hard to achieve in practice, particularly because the political strength of the city-states retarded national unification until the nineteenth century.

Still, the Florentine Academy of Language had a more concrete influence, inspiring the creation of similar institutions in nascent nation-states such as France, where an organization modeled on the Italian paradigm was born in 1637 as part of Richelieu’s plan to unify the country. The French Academy had as its explicit mandate the purification and perpetuation of the French language, or as one of its members put it, to “fix language somehow and render it durable.”⁵⁴ By 1705 the academy could boast that if only the words included in its official dictionary were used, French would remain fixed for all time.

This second wave of homogenization, like the first one, did not produce master languages that completely replaced the dialect continua of their

respective countries. The academies simply added one more set of norms to the existing population, a new set with a hierarchical structure superimposed on the meshwork of dialects. As the French linguist Antoine Meillet said, standard French "has never been the language of any but a few people and is today not the spoken language of anyone."⁵⁵ The new artificial rules of grammar and spelling, the pyramidal vocabularies contained in dictionaries, and the other devices of "linguistic engineering" (such as books on rhetoric and poetics) affected most of all the formal register of the languages in question, leaving the casual register mostly untouched. (The technical register of French would not be affected until the eighteenth century, when Lavoisier and others helped fix the way in which suffixes and prefixes should be used to coin new scientific terms.) However, it was precisely the formal register that needed to be standardized if the vernaculars were to triumph over Latin. Hence, in the general process of the rise of the vernaculars, standardization did have a lasting impact. The other decisive element in this linguistic war was provided by technology: the printing press.

Although the concept of movable type may not have originated with Johannes Gutenberg (there are Chinese, Korean, and even Dutch antecedents), he was certainly the first to implement a practical way of automating writing. Several technical problems were solved during the 1440s (adjustable molds for casting durable type and a special ink suitable for metal type were developed), which enabled Gutenberg to create a machine that, when meshed with the burgeoning paper industry, brought down the cost of reproducing texts considerably and allowed the true mass dissemination of the written word. Of the twenty-four thousand non-Greek works printed in Europe before 1500, about 77 percent were in Latin, the rest in vernacular. But the number of works printed in the vernaculars increased over the years and the vernaculars predominated by the end of the seventeenth century.⁵⁶ The Protestant Reformation, by championing the translation of the Bible into vernaculars, dealt a powerful blow to Latin's domination of ecclesiastical rituals and, more importantly, education. Thus, in one sense, the printing press aided some minor languages in their struggle against a major language. And yet, given that the major-minor distinction is entirely relative, the printing press simultaneously aided locally major languages (the rising standards) in their struggles against potential local rivals.

Moreover, since the very existence of a writing system exerts a homogenizing influence on a language and acts as a brake on linguistic change, the mechanical reproduction of texts amplified in several ways this conservative trend. In England, where William Caxton introduced the printing

press in 1476, the printed word promoted the written standard of the elite London dialect as a brake on linguistic variation. As the historian John Nist has written, "Along with extending literacy and expanding popular education, the printing press became a powerful cultural force that put back into the language what had been lost with the Norman Conquest — the conservative pressures of self-awareness and social snobbery."⁵⁷ English printers, on the other hand, locked into type certain spelling rules that did not entirely correspond to the phonemes of English, sounds that were, at any rate, changing as these norms were being frozen. And yet, as Nist puts it:

More important than either the orthographic conservatism or the phonological inconsistency wrought by the printing press was the mistaken notion that English is primarily the written word. The grapheme and the visual morpheme began to dominate the literary imagination, and the raw power of the oral tradition gradually gave way to the elegant refinement of the silent literary. In time, the divorce between the spoken and the written was legalized by the authoritarian grammarians of the eighteenth century and their heirs.⁵⁸

I would like to conclude this section with a brief description of those processes affecting linguistic evolution which are *internal* to language. For example, at the very same time that printers and grammarians were attempting to freeze set correspondences between sounds and written signs into a spelling standard, the English language was undergoing a dramatic change in its sound system. This transition, which involved several generations of speakers, goes by the name of the Great Vowel Shift:

When Chaucer died in 1400, people still pronounced the e on the end of words. One hundred years later not only had it become silent, but scholars were evidently unaware that it ever *had* been pronounced.... [Thus] in a relatively short period the long vowel sounds of English... changed their values in a fundamental and seemingly systematic way, each of them moving forward and upward in the mouth. There was evidently a chain reaction in which each shifting vowel pushed the next one forward: The "o" sound of *spot* became the "a" sound of *spat*, while *spat* became *speet*, *speet* became *spate*, and so on. The "aw" sound of *law* became the "oh" sound of *close*, which in turn became the "oo" sound of *food*. Chaucer's *lyf*, pronounced "leef," became Shakespeare's *life*, pronounced "lafe," became our "life." Not all vowels were affected. The short e of *bed* and the short i of *sit*, for instance, were unmoved, so that

we pronounce those words today just as the Venerable Bede said them twelve hundred years ago.⁵⁹

No one is exactly sure what started this “chain reaction” of shifting vowels. It could have been an articulatory shortcut, in which the “least effort” principle favored the stabilization of a new sound in a given speech community; it could have also been a mere mistake in pronunciation which spread by imitation; or, finally, it could have been a new variant sound introduced into a community through one of the many different kinds of contact situation. In a way, the trigger for the Great Vowel Shift is its least important aspect compared with the dynamical changes unleashed by the catalyst. Given that there is no intrinsic connection between the sounds that make up a word and the meaning (or obligatory semantic information) carried by the word, the usefulness of a given set of sounds is guaranteed by the more or less systematic contrasts that they have with one another. If one of the sounds moves toward another, thereby reducing the contrastive power of both, the second sound must move as well. This “push-chain” dynamic then continues until a whole series of sounds has acquired a new position that preserves the original contrasts. Simultaneously, the “empty space” left behind by the very first movement may now trigger another series of motions by an unrelated series of sounds to “fill” that empty slot. Linguists call this secondary reaction “drag chain” dynamics.⁶⁰

The fact that these internal rearrangements occurred largely unconsciously over several generations could mislead us into thinking that they were the product of an internal drive in language. Although completely circular shifts like this one may be considered “homeostatic mechanisms” (and may be said to endow the system of sounds with a certain degree of autonomy from grammar, vocabulary, and social pressures), they can be explained using the same mechanism that explains other (less autonomous) changes in language: an interplay of variable linguistic replicators and the sorting device constituted by selection pressures (in this case, the need to preserve the functionality of language in everyday communication tasks).⁶¹ Moreover, push- and drag-chain dynamics and, more generally, slow switches from one stable state to another may occur not only in the sonic substance of the spoken chain, but also in the realms of vocabulary and syntax.

For example, certain words (such as the verbs “to get” or “to do”) may become slowly emptied of their lexical meaning and become “grammaticalized,” that is, selected to become relatively “meaningless” particles used to express grammatical functions. The desemantization of words as

a means of recruiting new grammatical devices is a slow and unconscious process and provides us with yet one more source of heterogeneity. This is, in fact, the type of heterogeneity that Labov stresses the most: the existence in a language of *variable rules*.⁶² A good example is provided by the grammaticalization of the verb “to do,” which was recruited as a device to express negative and interrogative clauses. Its desemantization occurred slowly, beginning in the thirteenth century, but it remained only a peripheral grammatical device until the end of the fifteenth. Then, during the years 1535–1625 it was pressed into service to perform an increasing number of syntactical functions, later on decreasing in range until settling into the role it plays today. The important point here is that, despite its growing range of functions, “it was by no means obligatory in them at the end of the sixteenth century (e.g. *goest thou, he goeth not* were still common), while in affirmative clauses it was . . . in free variation with the simple verb forms for the expression of tense.”⁶³

Today, of course, the use of “to do” is obligatory to express some grammatical functions in English, which means that over a period of several centuries the grammatical rules for the use of this desemantized particle transmuted from optional and variable to categorical. According to Labov, linguistic competence should be defined in such a way as to include the ability to handle these variable rules, at different states of their evolution. Moreover, he attacks the tradition (among Saussureans and Chomskyans) of concentrating on a study of standard languages precisely because their artificial homogeneity obscures the existence of nonuniform, changing grammatical devices. (Labov, for instance, finds a variety of variable rules in his study of Black English—rules that do not exist at all in standard American English.⁶⁴) When we add this internal, systematic source of variation to all the other sources that we have examined so far, the picture of language that emerges is one of a heterogeneous mixture of norms in constant change, very different from the traditional view of a timeless, universal structure isolated in its “synchronic” heaven from all the turmoil around it. As Deleuze and Guattari put it: “You will never find a homogenous system that is not already affected by a regulated, continuous, immanent process of variation (why does Chomsky pretend not to understand this?).”⁶⁵

Furthermore, this variable soup of linguistic (replicating and catalyzing) materials was constantly intermingling with all the other material and energetic flows that we have examined in this book. Cities, particularly large cities, were the places where the strangest mixtures of food and genes, money and words, were concocted. The intensity of trade, which contributed to social mobility (and the creation of a middle class), de-

tached some people from their original communication networks (and from dependence on relatives and neighbors for their livelihood), decreasing the conservative pressures that group loyalty put on linguistic change, and allowing the downward penetration of the standard. Also, middle-class speakers, in their anxious usage of the high-prestige variant in their now more impersonal and fragmented social networks, tended to “hyper-correct” their dialectal speech, adding an additional source of variation and heterogeneity.⁶⁶ On the other hand, the constant flow of rural immigrants which kept cities alive and growing also brought in linguistic materials that contributed much to the formation of ghetto dialects.⁶⁷ Large cities, therefore, contributed not only to a defocusing of the norms (by prying open social networks via upward mobility) but also to the creation of new closed networks and, hence, new focused ethnic variants:

Large cities bring together the critical mass of similar people needed to found communities. While the Irish in small Leicestershire villages were forced to blend in with the native English, those in Glasgow began Catholic churches and clubs, building communities around their ethnic loyalties.... Large cities... produce strongly articulated value systems rather than isolated individuals. They are not melting pots, but mosaics of disparate groups, each of which fights to maintain its own identity. At first glance, this view of cities is puzzling, for how can a place be both impersonal and culturally intense? How can an individual be both anonymous and closely involved in a specific subculture? The answer is that cities contain both large-scale and small-scale environments. Although in public places—the stores, offices, streets, and large institutions—contacts are relatively brief and anonymous, there is a separate, private social life to be found on the level of family, neighborhood, club, and ethnic group that operates with different rules.⁶⁸

Urban centers, by housing dynamical mixtures of energy, matter, and catalytic replicators of different kinds (genes, memes, norms, routines), greatly influenced linguistic evolution before the seventeenth century. After that they would continue to play important roles, but now as part of larger sociopolitical entities: as the capitals of the emerging nation-states. While before the French Revolution arguments in favor of developing and extending the power of standard French were made in the name of “rationality,” during and after that great turning point the standard began to be defended in terms of “nationalism”: one national language, one homogeneous identity for all citizens, one set of linguistic resources to allow central governments to tap into the reservoirs constituted by

their growing populations. I will return to these “nationalist” waves of homogenization which, in the latter part of the millennium, began to affect the linguistic “stuff” that had accumulated not only in Europe, but in many places outside of it.

Arguments and Operators

I have argued that structures as different as sedimentary rock, animal species, and social classes may be viewed as historical products of the same structure-generating processes. (Or more accurately, of different concrete processes embodying the same abstract machine or engineering diagram.) Does language embody an abstract machine

too? The accumulations of linguistic materials that are sorted into homogeneous sets and cemented together through isolation are examples of stratified systems, and, hence, language can be said to embody this (double-articulation) abstract machine. Similarly, insofar as the sounds, words, and constructions of a language are viewed as replicators, languages also embody an abstract probe head, or searching device. But the question we must address now is this: Is there an abstract machine that is specific to language? In other words, do the processes responsible for the generation of phrases and sentences embody an engineering diagram that distinguishes the structure of language from the structure of rocks, plants, and animals?

Chomsky believes that this diagram defines an *abstract robot* embodied in our brains, an automaton capable of producing every valid sentence in a given language. In 1959, Chomsky postulated the existence of four different types of abstract automata which differ in their degree of complexity: finite-state automata are the simplest type, followed by context-sensitive robots, context-free robots, and finally Turing machines.⁶⁹

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Chomsky argued that a language could be seen as made up of two components, a dictionary (or reservoir of words) and a set of rules determining how those words may be combined to make legal sequences (well-formed sentences). Thus, given a set of sentences, the robot (a context-free automaton) could tell whether they belonged to a given language simply by applying the rules. To the robot, a sentence was no more than a *string of inscriptions* (whether the inscriptions were on clay, paper, or air was immaterial to it), and the rules were recipes to test these strings for membership in the set of valid strings. This model was supposed to capture the grammatical intuition that allows speakers of English to tell the difference between “Colorless green ideas sleep furiously” and “Sleep green colorless furiously ideas” (one a grammatically valid string, the other invalid), even though both strings are semantically meaningless.

When it came time to produce new strings (as opposed to checking them for validity), the rules were divided into two types: one set generated the basic logical skeleton of a sentence (its deep structure), while several other

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sets transformed this naked sentence, fleshing it out with the materials of a real language. (These two components of a grammar are called “generative” and “transformational,” respectively.) The generative component of the automaton was assumed to be inborn and to capture all that is universal about language (that is, all that remains constant across different languages and is unaffected by their particular histories). Could we consider this robot the abstract machine of language? Deleuze and Guattari, among others, answer this question negatively:

Our criticism of these linguistic models is not that they are too abstract but, on the contrary, that they are not abstract enough, that they do not reach the *abstract machine* that connects language to the semantic and pragmatic contents of statements, to collective assemblages of enunciation, to a whole micropolitics of the social field.... [T]here is no language in itself, nor are there any linguistic universals, only a throng of dialects, patois, slangs, and specialized languages. There is no ideal speaker-listener, any more than there is a homogeneous linguistic community. Language is, in Weinreich's words, “an essentially heterogeneous reality.” There is no mother tongue, only a power takeover by a dominant language within a political multiplicity.⁷⁰

In essence, what Deleuze and Guattari oppose is the postulation of a “universal core” (or synchronic dimension) of language, since this relegates social processes (such as pidginization, creolization, or standardization) to a secondary role, affecting at most the transformational component of the grammar. What they propose instead is to give historical processes a more fundamental role by modeling the abstract machine of language not as an automatic mechanism embodied in individual brains but as a diagram governing the dynamics of collective human interaction. The main problem to be solved if we are to implement their proposal lies in finding a valid means of transferring the *combinatorial productivity* of the automaton, its ability to produce an infinite number of sentences out of a finite stock of words and combination rules, to the patterns of behavior generated by different social dynamics. One possible solution may be to assume that the postulated grammatical rules do not exist in our brains but are instead embodied in social institutions. The problem with this solution is that, as is well known, human beings do not learn their mother tongue as a set of rules. Indeed, it was the well-documented ability of children to learn language by being exposed to adult conversation (that is, without being explicitly told what the rules are) that motivated the postulation of an inborn automaton in the first place. But if a set of

rules is not the source of the combinatorial productivity of language, then what is?

One possible answer is that words carry with them, as part of their meaning, “combinatorial constraints” that allow them to restrict the kinds of words with which they may be combined. That is, in this view individual words carry information about their frequency of co-occurrence with other words, so that, as a given word is added to a sentence, this information exerts demands on the word or kind of word that may occur next. (For example, after adding a definite article to a string, the following position is constrained to be occupied by a noun.) Combinatorial productivity would not result from a centralized body of rules, but from a decentralized process in which each word *locally* restricts the speaker's choices at each point in the construction. One version of this alternative way of handling the production of sentences was proposed long ago by the linguist George K. Zipf, who was perhaps the first to study language as “stuff,” that is, as a large body of material inscriptions exhibiting certain statistical regularities. Zipf called the tendency of words to occur next to each other their degree of crystallization: “To illustrate the comparative degrees of dependence of words in sentence-structure, let us perform an imaginary experiment. We may take as material a vast number of English sentences, just as they are spoken, say a million of them. Figuratively speaking we shall now dash these sentences on the floor with such force that they will break, and pieces of them will scatter. Of course, some of the words, being more crystallized in arrangement than others, will cohere. Definite and indefinite articles will adhere to their nouns, auxiliaries to their verbs, prepositions to following objects.”⁷¹

The linguist Zellig Harris, who introduced the notion of “transformation” into linguistics in the early 1950s (and so is no stranger to the Chomskyan paradigm), has developed a way to take metaphorical descriptions like this and transform them into a mathematical theory of language that comes very close to the abstract machine we are looking for. According to his theory, the constraints or demands that words place on one another are transmitted as socially obligatory information. (“Information” is being used here in the sense of “physical information,” the kind measured in bits, not the semantic information used in dictionary definitions.) Harris explicitly develops his model of the social transmission of combinatorial constraints in evolutionary terms, with different constraints (or rather, the sentences constructed with their help) competing for the same “informational niches.”⁷² He rejects the concept of an unchanging, homogeneous core of language, and therefore his theory allows us to approach the question of dialectal variation (and the essen-

tial heterogeneity of language) directly: not only is language in constant change, with the strength of the constraints varying along a continuum from optional to obligatory, but the rates of change themselves may be different from dialect to dialect. His view of language is completely historical; the source of the constraints themselves is the gradual standardization (or conventionalization) of customary usage. Thus, despite the fact that changes in syntax may occur much more slowly than changes in other aspects of language, the syntactical element is not isolated from semantics and pragmatics.⁷³

Harris classifies three main types of combinatorial constraints. The simplest one is what he calls "likelihood constraints," information carried by words about the words with which they tend to combine *more frequently* as a matter of actual usage. That is, a word like "tiger" carries information to the effect that it typically co-occurs with other words (such as "fierce" or "hunting") but not others ("polite" or "dancing"). Not that there is a specific rule barring these combinations; rather, as a matter of *statistical fact*, in a given speech community these words occur in certain combinations much more frequently than in others. (The phrase "dancing tigers" does occur in children's books, but compared with the overall usage of those two words in actual speech, this combination is rare.) For a given word, the set of its most frequently co-occurring words (a fuzzy set since it is in constant change, contracting and expanding) is called its "selection," and in Harris's model it is this selection set that forms the "core meaning" of the word. (Hence, the meaning of words would be determined by their combinability, not their identity. Formal dictionary definitions and informal stereotypes emerge from conventionalization of likelihood constraints.)⁷⁴

A second type of constraint, the most fundamental to the structure of language, according to Harris, is the operator-argument constraint, which models the action that verbs, adverbs, adjectives, prepositions, and other linguistic modifiers have on their objects. Unlike the likelihood constraint, the operator-argument constraint binds together not individual words but classes of words. A given operator, once included in a sentence, demands an argument of a certain class. This constraint, too, adds information to the sentence: the more unfamiliar the argument supplied for a given operator, the more informative it will be. Of all the different linguistic functions that this constraint may be used to model, Harris stresses the operation that verbs perform on the nouns that serve as their subjects and objects, since this operation yields the basic structure of sentences. As is well known, sentences afford their users the means to perform two different functions: to *identify* for an audience the objects or

events to which the speaker is referring and to say something *about* those objects or events. The operator-argument constraint, when used to link verbs and nouns, adds to a sentence the meaning of "aboutness," the ability to refer not only to individual objects and events but also to complex situations.⁷⁵

Finally, Harris postulates a third type of constraint, which he calls "reduction." Whenever the likelihood that two words will co-occur becomes very high, the amount of physical information their co-occurrence adds to a sentence is correspondingly low; that is, it adds very little information that cannot be supplied by the speaker or listener. In those conditions, one of the two words may be reduced in form (becoming a suffix or prefix attached to the other word) or even eliminated altogether. However, even when a word has been "zeroed," the little information it used to carry is still there (or may be reconstructed by the speaker or listener), so that after successive reductions the resultant simpler forms may carry (in a very compressed way) a rather complex meaning. Harris uses this third kind of constraint to explain the origin of some classes of words (such as adverbs, pronouns, and some conjunctions) as well as of the different affixes.⁷⁶ In other words, the reduction constraint allows Harris to give a historical account of the origin of the main word classes, classes which are taken as given (as unexplained primitives) in the Chomskyan theory.⁷⁷

This is one of the reasons why Deleuze and Guattari view the Chomskyan automaton as "not abstract enough." The robot is capable of explaining the production of one set of forms (those of sentences) but only by assuming another set of forms (those of rules and primitive word classes). In Harris's model, on the other hand, language is a thoroughly historical product (the cumulative result of restrictions in the occurrence of words relative to one another), and combinatorial constraints are truly morphogenetic: as new constraints emerge from conventionalization of customary usage, changing the probabilities that words will co-occur, language structure self-organizes as a process involving *successive departures from equiprobability* (i.e., randomness) in the combinations formed by replicating norms.⁷⁸

This scenario meshes well with some of the ideas we developed earlier. In particular, the emergence of language may now be seen as the result of a double articulation: an accumulation formed by a sorting device consolidated through an act (or succession of acts) of conventionalization or institutionalization. However, this diagram may be too simple even to account for sedimentary rocks, which also grow and develop through *accretion*, that is, the amassing of further materials and the proliferation of existing structure. Language, too, in Harris's view, is an accretionary

structure.⁷⁹ In particular, once certain high frequency co-occurrences have become obligatory constraints, speakers begin to construct new patterns by analogy to previously institutionalized ones. Prior structures could also proliferate by *recursion*: operator-argument pairs, for example, themselves could be made the argument of a higher-level operator. Hence, positive-feedback loops develop where structure (consolidated accumulations) favors accretions, which in turn generate further structure. Moreover, the creation of new patterns by analogy to previously accumulated ones (or by recursive application of existing constraints) is what generates a system that, in retrospect, may appear to consist of a set of rules.⁸⁰ (Of course, some languages, such as standard English or French, are sets of rules, and they are taught to grammar school children as such. The question is whether the language that those children learn at home in an untutored way is also a set of rules or rather a set of normative combinatorial constraints.)

Another feature of Harris's theory may help us meet Deleuze and Guattari's demand that the abstract diagram be "abstract enough." Ideally, the abstract machine postulated to account for the generation of linguistic forms should not be the abstract machine of *language* (in which case it would be hard to distinguish it from an "essence" of language), much as the abstract probe head we discussed before is not the abstract machine of *life* (since it may be "incarnated" in any population of replicators, not only genes). Similarly, an "abstract enough" diagram that explains the generation of strings of linguistic inscriptions should ideally explain the morphogenesis of other (nonlinguistic) strings. In other words, language may not be the only structure that can be viewed as a system of demands or of required repetitions. While the structure of language is unique, the constraints that generate it are not. (Being the subject of a verb is uniquely linguistic; having the occurrence of certain things depend on the occurrence of other classes of things, is not.)

Harris shows how by making the combinatorial constraints more rigid we can generate strings of inscriptions like those belonging to systems of logic or mathematics, while by making them more flexible we can produce musical strings. For example, weak conversational (or discursive) demands constrain the successive order of sentences in ordinary language. If we strengthen those demands, so that sentences must now follow one another in a prescribed manner (and if we further demand that the sequence begin with self-evident truths and conclude with a sentence as true as the previous ones), the result is a logical or mathematical proof structure. If we change the operator-argument hierarchical constraint and demand that only the operator carry constraint-based information, we

thereby transform the argument into a *variable* and the operator into a *function*. (That arguments in mathematics exercise no constraints is what makes it a science of relations, that is, of operators.)⁸¹ On the other hand, if instead of fixing the operator-argument relation we make it variable, so that "many varied relations exist between a longer musical line and its subsegments," we can generate structures like those exhibited in musical compositions.⁸² This is not to deny that explicit rules exist in mathematical or musical systems, much as they do in standardized languages. The question is whether mathematics or music could have originally developed as a decentralized system of constraints that only later was formalized as a centralized body of rules.

In addition to providing us with an "abstract enough" diagram of language, Harris's theory also meets the other requirement we found lacking in Chomsky's robot: that the abstract machine be directly connected to a social dynamics. Specifically, the core of Harris's model involves a process through which statistical regularities in usage are gradually transformed through standardization into required constraints. But these institutional requirements would have no reality if there was no mechanism through which social obligations could be enforced. It may be argued that to be complete Harris's theory demands some kind of norm-enforcement mechanism, such as that provided by social networks. We saw before that, in sociolinguistics, the degree of density of a network (roughly, the degree to which, for every member of a community, the friends of his or her friends know each other) and its degree of multiplexity (the degree to which his or her life-support activities depend on those friends and friends of friends) are viewed as the parameters that define its efficacy as a norm-enforcement device. In a sense, these parameters define the *intensity* of our attachment to a given community or group, and the norms enforced within a network draw the boundaries that define the identity of that community or group. Thus, a view of language in terms of constraints on word combination directly involves questions of the effects that group-membership has on individuals, and, in that sense, it meets Deleuze and Guattari's requirement that "collective assemblages of enunciation" be made an intrinsic component of the abstract machine of language.

Is it possible to extend (or complement) Harris's model so that a similar abstract diagram explains not only the form and function of individual sentences but also the historical origin of larger linguistic structures, such as discourses? Or more specifically, is there an abstract machine that can explain in sociodynamical terms the emergence of discourses expressing worldviews (coherent sets of values and beliefs)? A model created by the anthropologist Mary Douglas comes close to defining such an abstract

machine, and it may be linked with Harris's theory of language since in Douglas's model the intensity with which individuals are attached to a group also defines an important feature of "collective assemblages." Another equally important trait of group dynamics defines not whom we interact with, but *how* we interact; it does not bestow group-membership but controls behavior in the wider social context within which the group functions. Douglas, who calls these two aspects of social dynamics "group" and "grid," one measuring the intensity of group allegiance, the other the intensity of centralized regulation, has created a theory of the self-organization of worldviews, in which the kind of cosmologies that emerge in different communities depend directly on the values of the "group" and "grid" parameters. When applied to specific social groups (Douglas's model does not apply to entire societies), these two parameters define an abstract diagram with four possible stable states that act as "attractors" for beliefs and values as they organize into a coherent set. Or rather (since she models not the dynamics of beliefs but the dynamics of *groups of believers*), the two parameters define a lifestyle (more or less hierarchical, more or less group-dependent) and people coerce *one another* to fully develop the implications of that lifestyle. The resultant worldviews act as attractors in the sense that "the four extreme grid/group positions on the diagram are liable to be stable states, steadily recruiting members to their way of life, which is at the same time inevitably a way of thought."⁸³

When both the group and grid parameters have high values, the community in question not only has a strong sense of self-identity (the group may spend much energy policing boundaries and elaborating rules of admission) but it is also well integrated into larger social groups. Life within a government military institution such as the army or navy would serve as a good example of this lifestyle, but so would the culture of any hierarchical bureaucracy. Keeping the value of group allegiance high but lowering the value of regulation (and integration into a larger whole) results in sectarian lifestyles with strong group identity but a weak sense of responsibility to conform to any norms that hold outside the group. If both parameters are set at a low intensity, group members refrain from drawing strong boundaries around them (they rather engage in networking; given the loose group demands, everything seems open for negotiation), and they tend to participate in those areas of public life that are less centralized and hierarchical. (A small-business entrepreneur would be a good example here, but not the manager of a large corporation, particularly if he or she participates in the corporate culture.) Finally, there are those who do not belong to closed groups but nevertheless have little room to maneuver around regulations and are, indeed, burdened by them:

As I see it, three corners exert a magnetic pull away from the middle; individualists extolling a culture of individualism tend to become more and more uncommitted to each other and more committed to the exciting gamble for big prizes. Egalitarian idealists committed to a sectarian culture strongly walled against the exterior, become more and more enraged against the outside society and more jealous of each other. The supportive framework and intellectual coherence of a hierarchical and compartmentalized society nurses the mind in cogent metaphysical speculations vulnerable to disorder and independence.... The fourth corner, the fully regulated individuals unaffiliated to any group, is plentifully inhabited in any complex society, but not necessarily by people who have chosen to be there. The groups [bureaucracies or sects] expel and downgrade dissenters; the competition of individualists... pushes those who are weak into the more regulated areas where their options are restricted and they end by doing what they are told.⁸⁴

Although Douglas's model may have to be enriched in several ways, even in this simple form (with two parameters generating four possible states) it meshes well with the ideas we have explored in this book. First of all, it attempts to capture some of the features of group dynamics behind the *genesis of form* at the level of coherent discourse. That this morphogenetic process may turn out to be more complex does not deprive her hypothetical model of validity as a first approximation, particularly if the model is given a nonlinear dynamic formulation so that the first three corners of the diagram become true attractors. (A catastrophe theory version of Douglas's model does exist and points in the direction that this reformulation would have to take.⁸⁵) Additionally, the model is intended to be used in a bottom-up way, to be applied to the study of specific communities, where the constraints that the holders of a worldview exert on one another can be fully specified. In other words, the scheme is not supposed to apply to societies as a whole but only to smaller subsets thereof, with cities or nation-states modeled as complex mixtures of several types of worldview.⁸⁶ On the other hand, Douglas's model has limitations: it only captures processes that take place *within* organizations or collectivities, and hence cannot account for the effects of the transmission of ideas and routines between the members of an ecology of institutions or, indeed, for any effect on the form of discourses which the interactions between institutions may have (e.g., the interactions between hospitals, schools, prisons, and factories).

Returning to the question of the abstract machine of language, both Harris and Douglas have contributed crucial insights into the essentially

collective character of this machine. In both linguistic evolution and world-view development there are, no doubt, many contributions and innovations by individuals. But in many cases it is the position of an individual in a communication network that determines the fate of his or her contribution. Consequently, the accumulation and consolidation of languages and worldviews is a collective enterprise, not the result of individual self-expression. Moreover, to the extent that the resulting linguistic and discursive forms are transmitted to new generations (or new members) through enforced repetition, these forms are replicators; hence we need to use “population thinking” to describe their evolutionary dynamics. This, too, forces on us the need to approach the subject in terms of collectivities rather than individuals. On the other hand, the collective dynamics may be such (low group/low grid) that individuals may play significant roles in the fate of these accumulations. But even so, it may be argued that this extra room to maneuver is afforded to individuals by the stable state governing the collective dynamics, and in any case those individuals owe their surplus freedom to the fact that they are connected to decentralized structures (such as markets), which are every bit as collective as the most routinized hierarchy.⁸⁷

We may now picture the structure-generating processes behind individual sentences as embodying an abstract machine operating on the basis of combinatorial constraints transmitted as replicators. The process of transmission itself involves collective mechanisms of enforcement, which are also part of the abstract machine of language and which may be used to account for the emergence of coherent structures made out of many sentences (discourses embodying specific worldviews). Now we must return to the historical development of both these components of the abstract machine and examine the history of their multiple and complex interactions.

Linguistic History: 1700–2000 A.D.

The eighteenth century witnessed two dramatic developments that were to affect profoundly the fate of the linguistic mixtures of Europe: the rise of nationalism and the growth and spread of disciplinary institutions. On one hand, the project of nation building was an integrative movement, forging bonds that went beyond the primordial

ties of family and locality, linking urban and rural populations under a new social contract. On the other hand, complementing this process of *unification*, there was the less conscious project of *uniformation*, of submitting the new population of free citizens to intense and continuous training, testing, and observation to yield a more or less uniform mass of obedient individuals. This was not to be, however, an undifferentiated mass, but one whose components were sufficiently individualized to then be sorted out into the ranks of the new meritocracies, where achieved status replaced ascribed status as the criterion for establishing rank. Although unification and uniformation did not always go together (and, indeed, their requirements sometimes clashed⁸⁸), certain countries underwent both processes simultaneously. As Foucault writes:

Historians of ideas usually attribute the dream of a perfect society to the philosophers and jurists of the eighteenth century; but there was also a military dream of society; its fundamental reference was not to the state of nature, but to the meticulously subordinated cogs of a

machine, not to the primal social contract, but to permanent coercions, not to fundamental rights, but to indefinitely progressive forms of training, not to the general will but to automatic docility.... The Napoleonic régime was not far off and with it the form of state that was to survive it and, we must not forget, the foundations of which were laid not only by jurists, but also by soldiers, not only councillors of state, but also junior officers, not only the men of the courts, but also the men of the camps. The Roman reference that accompanied this formation certainly bears with it this double index: citizens and legionaries, law and manoeuvres. While jurists or philosophers were seeking in the pact a primal model for the construction or reconstruction of the social body, the soldiers and with them the technicians of discipline were elaborating procedures for the individual and collective coercion of bodies.⁸⁸

In France, not only did unification and uniformation coexist, but they reached a higher peak of intensity during the Revolution of 1789 than in other European nations. In par-

ticular, the revolutionary armies, later to become the core of the Napoleonic war machine, were the perfect embodiment of both projects. These were citizen armies, unlike the mostly mercenary armies that had heretofore dominated European warfare, and therefore larger and stronger in morale. They were a manifestation of the fact that the new social pact had transformed the growing population of France into a vast reservoir of manpower, to be tapped not only for political participation in the new democratic institutions, but also as a massive source of new recruits. In order to function as part of a larger machine, however, these masses would need to be “processed” by means of novel methods of drill and exercise and continuous observation and examination, which alone could transform these human raw materials already possessed of nationalistic fervor into efficient components of a new combinatorial calculus in the battlefield (e.g., the tactical system of Jacques-Antoine de Guibert).⁹⁰

Both the meshwork of dialects and the superimposed hierarchical standard languages were affected in a variety of ways by these two social projects. Around 1760 (in France as well as in other countries), dialectal variation came to be seen not as a question of inferior rationality relative to the standards, but as a problem of the state: an obstacle to unification and national consolidation, a potential source of local resistance to integration into the larger social body. During the French Revolution, this new attitude toward language led to intolerance, not only toward aristocratic Latin, but also toward the dialects and patois (dialects without a writing system) that the majority of French citizens spoke, but which now represented provincialism and backwardness to the Parisian elites. This linguistic chauvinism was expressed thus by a revolutionary in 1794: “Federalism and superstition speak Breton; emigration and hatred of the Republic speak German; the counterrevolution speaks Italian, and fanaticism speaks Basque.”⁹¹ During these turbulent years, speaking French came to be seen as a political act, an expression of patriotism. Revolutionaries were divided as to what counted as “politically correct” French (the sansculottes wanted it “brutal and vulgar,” while the leaders of the French national assembly preferred it “free, bold and manly”), but they were united in their common distrust of the dialects, which they believed the enemy might use to fragment and marginalize the masses.⁹²

The study of Greek and Latin in school was viewed by revolutionaries as a transmission of dead knowledge through dead languages and was eventually forbidden. (Napoleon, a classicist himself, would reinstate the instruction of Latin in schools later on.) The counterrevolution, on the other hand, defended Latin on the grounds that it allowed the dead to speak to the living, thus providing continuity with the classical past, a

continuity threatened by the rising vernaculars. Behind this struggle over the relative merits of major languages (both sides despised minor languages), there was a philosophical attitude toward language in general that found expression in these years and laid the foundation of the dispute. The idea that the structure of language determines the structure of perception may have originated with Diderot and Condillac, and it first acquired political overtones during the French Revolution. Both sides took this idea very seriously. The revolutionaries found covert, oppressive meanings hiding behind old words (especially behind aristocratic titles and names) and added to their political agenda the “relanguaging” of everything, from the French calendar to place-names. The counter-revolution, on its side, saw its enemies as “drunk on syllables; rioting in an orgy of words, issuing from suffocating rivers of speeches, books and pamphlets.”⁹³ A fundamental misunderstanding of the meaning of certain words (e.g., *égalité*, *volonté*), the royalists believed, had shaped the revolutionaries’ thought processes and distorted their perception of things.

Whatever the merits of this view of the nature of language and perception, a national language was felt necessary because only through linguistic unity could the emerging elites mobilize the masses for peace and for war. A uniform means of communication was needed to transmit the new political ideals to the people and allow their participation in a national political process. It was also necessary as a means of exhortation (to tap into the human reservoir by manipulating nationalistic feelings) and as an instrument of command in the army. This latter task became even more important as Napoleon transformed warfare from the dynastic duels typical of the eighteenth century to the kind of “total war” with which we are familiar today, a form of warfare involving the complete mobilization of a nation’s resources. In this regard, one of the most important “innovations” of the Revolution was the creation of a recruitment system that amounted to universal conscription or compulsory military service.⁹⁴ The transformation of the French population into a human reservoir to be mobilized for total war was initiated by an institutional speech act, a decree issued by the National Convention in August 1793:

... all Frenchmen are permanently requisitioned for service into the armies. Young men will go forth to battle; married men will forge weapons and transport munitions; women will make tents and clothing and serve in hospitals; children will make lint from old linen; and old men will be brought to the public squares to arouse the courage of the soldiers, while preaching the unity of the Republic and hatred against kings.⁹⁵

Of course, as with all speech acts, this decree's power to catalyze a major social change depended on many nonlinguistic factors, such as the existence of a growing urban population without clear economic prospects and an administrative apparatus capable of handling the bureaucratic tasks demanded by such a massive mobilization.⁹⁶ The efficacy of the decree also depended on an intensification of the uses of discipline, supervision, and examination. A similar remark can be made about the institutional speech acts that abolished the use of Latin and non-Parisian dialects during the Revolution. In particular, the "Frenchification" of the provinces was not a project that could be realistically carried out at the end of the eighteenth century, because there was yet an insufficient number of teachers. (This process would have to wait about a hundred years, until 1881–1884, when primary education in standard French was made compulsory.⁹⁷) Additionally, schools had to be transformed into disciplinary institutions, a slow process that had begun before the Revolution. Throughout the eighteenth and nineteenth centuries, schools evolved within a complex institutional ecology (that included hospitals and barracks, prisons and factories), increasing their use of writing to record individual differences, of repetitive exercises for both training and punishment, and of a system of command based on signals that triggered instant obedience. As Foucault observes, "The training of school-children was to be carried out in the same way [as in the army]: few words, no explanation, a total silence interrupted only by signals—bells, clapping of hands, gestures, a mere glance from the teacher."⁹⁸

One should be careful, however, about extrapolating Foucault's findings to other countries, because eighteenth-century France was a pioneer in this regard. Her arsenals and armories were at this time developing one of the key elements of mass production; her language academy was the world's leading standardizing institution; and, finally, most other nations implemented democratic institutions and replaced their aristocracies with meritocracies without painful revolutions and over much longer periods of time. England (where these changes were effected only after seven decades of social reform, 1832–1902) is illustrative here precisely because it involved such different conditions. In particular, a key element of the process of nation building—one that France was late in implementing—was the creation of a nationwide market. As we observed in the first chapter, unlike local and even regional markets, national markets were not self-organized meshworks but involved a good deal of command elements emanating from the capital city. If Paris played the role of intellectual hot house, where the ideas and energy behind the Revolution accumulated and synthesized, London played the role of a huge economic machine

animating trade flows throughout England. Both capitals were ultimately parasitic, and yet they were also essential to the process of forging a unified, hierarchical national entity out of a meshwork of provinces and regions:

These towns... represented enormous expenditure. Their economy was only balanced by outside resources; others had to pay for their luxury. What use were they therefore, in the West, where they sprang up and asserted themselves so powerfully? The answer is that they produced the modern states, an enormous task requiring an enormous effort. They produced the national markets, without which the modern state would be a pure fiction. For, in fact, the British market was not born solely of the political union of England with Scotland (1707), or the Act of Union with Ireland (1801), or because of the abolition of so many tolls... or because of the speeding up of transport.... It was primarily the result of the ebb and flow of merchandise to and from London, an enormous demanding central nervous system which caused everything to move to its own rhythm, overturned everything and quelled everything.⁹⁹

Here, too, we find the same combination of institutional speech acts instantly creating political unions or destroying economic obstacles (tolls), and an energetic and material process (intensified trade flows) sustaining the efficiency of those linguistic catalysts. The most important form of merchandise flowing from London in the eighteenth century, in terms of its effect on linguistic materials, were the "linguistic engineering" devices constituted by authoritative (and authoritarian) dictionaries, grammars, and guides to proper pronunciation. Unlike in France, these would not be the product of government institutions (academies) but of individuals taking advantage of the emerging national market, which amplified their efforts as much, or more, than any nationwide organization could. These devices, perhaps best illustrated by Samuel Johnson's dictionary of 1755, had a long-lasting effect on the English soup of linguistic replicators, increasing its homogenization and the subordination of all other dialects to the written standard of London. The social dynamic of London and other large towns, where the middle class was growing in number and importance, greatly facilitated the penetration of these devices, since, as we observed earlier, it is in socially mobile classes that the pressures from social networks to preserve local linguistic patterns as badges of identity are at their weakest.

When Dr. Johnson published the first edition of his dictionary, London had already experienced a whole century of authoritarian attitudes

toward language, mostly inspired by writers such as John Dryden, Daniel Defoe, and Jonathan Swift. These writers publicly decried the “corruption” of the English language by spontaneous linguistic change and lamented the lack of an academy on the French model to protect the “purity” of the language by fixing it in its pure state for all time. (Defoe, for instance, wanted to make the coining of new words as criminal as coining money.)¹⁰⁰ But nothing came of these calls for linguistic reform until Dr. Johnson’s dictionary codified the lexical features of English, that is, recorded “reputable” vocabulary and exhibited “correct” pronunciation patterns:

So strong was the social influence of Dr. Johnson that his work became synonymous with the word *dictionary* itself, and *the dictionary* dominated English letters for over a century and remained in use until 1900. One measure of the dictatorial power of “the Dictionary” is the fact that a Bill was thrown out of Parliament in 1880 simply because one of its words had not been recorded by Dr. Johnson. This mystical power soon extended to other dictionaries in the latter half of the eighteenth century, especially with regard to proper pronunciation. Speakers of middle-class dialect, eagerly engaged in social climbing, wanted authoritative keys to the articulations of polite society. As a result of this ready-made market, pronunciation dictionaries thrived during the last three decades of the eighteenth century.¹⁰¹

A few years after Dr. Johnson’s dictionary was unleashed on the population of linguistic replicators, decreasing the intensity of their variation, a series of normative and prescriptive grammars began to be published with the aim of reducing the syntactic habits of London’s upper classes to a set of codified principles. Although by today’s standards their efforts were not scientific (they used synthetic Latin grammar as a kind of “universal grammar” to codify English, which had already become an analytic language), the early grammars had a great impact in their time and many of their prescriptions and proscriptions (e.g., discouraging the ending of sentences with prepositions and the splitting of infinitives) are still with us today.¹⁰² Together with dictionaries, these mechanically reproduced sets of norms furthered the London standard’s domination of other dialects. However, much as standard French would need to wait for compulsory primary school to become a true homogenizing force, so would standard English remain a coexisting (if more prestigious) norm until 1870, when primary schooling was declared “universal” and children began to learn English twice: once as a living language at home and again as a set of codified rules at school.

Thus, in the eighteenth and nineteenth centuries, standard French and English continued to widen their power base at home. They also began, via colonialism and conquest, to spread around the world. At this point, despite the growing size and power of the British Empire, English was still inferior to French (and even to Italian and Spanish) in terms of international prestige. But this would soon change, and during the following century the number of English speakers in the world would rise sharply (almost tripling between 1868 and 1912), as would its rank in the global pyramid of colonialist standards.¹⁰³ Eventually (in our own century), English would challenge French for the role of “world standard.” But even before the twentieth century, the colonial competition among the European powers—and the concomitant spread of their languages throughout the world—was already an important element of a process that would eventually lead to global confrontation.

Western colonialism was reproducing, on a worldwide scale, the conditions in which Europe found itself at the turn of the millennium. Instead of one imperial standard (written Latin) immersed in a complex mixture of vernaculars, now a variety of standards (first Spanish, Portuguese, and Dutch and later on English and French) coexisted and interacted with an even more varied combination of local languages. The situation was not, of course, exactly analogous since the soup of linguistic materials surrounding written Latin was largely made up of divergent forms of spoken Latin, while in the centuries between 1500 and 1900 European languages came into contact with populations of norms which had been shaped and sculpted by distinct and diverse historical forces. Furthermore, the number of different contact situations that were created during these centuries exceeded those that existed when the Romance languages were forming. Thus, while commercial contacts in both periods produced trade pidgins (Mediterranean Sabir and Chinese pidgin English, respectively), only the second period produced situations where new stable languages could crystallize. Indeed, as Dell Hymes has said of modern pidgins and creoles:

Their very existence is largely due to the processes—discovery, exploration, trade, conquest, slavery, migration, colonialism, nationalism—that have brought the peoples of Europe and the peoples of the rest of the world to share a common destiny. More than any variety of language, they have been part of these activities and transformations.... And while these languages have come into being and existed largely at the margins of historical consciousness—on trading ships, on plantations, in mines and colonial armies, often under the most limiting or harshest of conditions—their very

origin and development under such conditions attests to fundamental characteristics of language and human nature.¹⁰⁴

Slave plantations are perhaps unique among the different contact situations generated by the expansion of Europe. Plantations became veritable “linguistic laboratories” where brand-new languages were produced out of elements of African dialects and a streamlined version of a major European language. As we argued above, far from being “corruptions” of the master’s language, pidgins must be viewed as creative adaptations developed by the slaves themselves in order to communicate with each other. As one linguist points out, “All the early accounts (dating from the eighteenth century in Jamaica, for example) report that the white planters and their families were learning the creole from the slaves, not vice versa.”¹⁰⁵ Slaves needed to invent their own lingua franca because plantation owners deliberately purchased Africans with different linguistic backgrounds to prevent them from communicating with one another, hence reducing the risk of insurrection.

So far I have been using the term *pidginization* to refer to any process of reduction or simplification of linguistic resources, including the conversion of a synthetic into an analytic language. Although there are linguists who use the term in this sense (e.g., William Samarin¹⁰⁶), Hymes has objected that simplification alone cannot account for the birth of (more or less) stable entities, such as the precursors of Jamaican English and Haitian French. Hymes adds the requirements that the new, simplified pidgin be used by several groups (each with its own mother tongue distinct from the pidgin) and that there be an admixture of linguistic materials from different sources. To this it should be added that the language being pidginized—in the case of plantations, the master’s language—must be absent both as a source of stigmatization and as a reference model. That is, the crystallization of a pidgin involves a barrier (geographical or social) that distances the emerging entity from the conservative tendencies of the prestigious target language. Only under these conditions can a pidgin achieve autonomy from the dominant norm, and it is this autonomy that defines it as a separate entity.¹⁰⁷

Another difference between the pidgins generated by European colonialism and those that emerged (before and after) as trade jargons is that the plantation pidgins, after their slave speakers became free, soon evolved into more durable entities called “creoles.” One way in which pidgins avoid extinction is precisely by reenriching themselves with many of the redundant features eliminated during the simplification process and by diversifying in the number and type of uses they can be put to. Accord-

ing to one important theory of creolization, recognizing that many plantation creoles are a one-generation process, children play a crucial role in a creole’s recomplexification. Children’s ability to do this may be explained as deriving from internal linguistic structures (i.e., Chomsky’s robot) that are universal to all languages and expressed most fully in the critical years of childhood when language acquisition is easier. (This is the current explanation for the creolization of Hawaiian pidgin, for example.)¹⁰⁸

On the other hand, the role of children in the creolization of plantation pidgins may be explained in terms of sociolinguistic constraints. Given that adults who have just undergone the transition from slavery to freedom cannot be expected to feel a great deal of loyalty to their pidgin (which was not a badge of local identity), they do not behave toward it as a traditional norm to be preserved. Therefore, as they transmit these norms to their offspring they exert very little effort to suppress novel utterances, so that many nonstandard words or phrases survive and are eventually used to reenrich the pidgin.¹⁰⁹ As usual, we may expect complex and varying mixtures of these and other factors to be responsible for specific creoles around the world. More importantly, varying mixtures of factors will be active in different regions of the same country, as in the separate plantations of Jamaica. When one speaks of the crystallization of a creole (or a pidgin) as a separate entity, one must also keep in mind that these novel entities are still part of a continuum of dialects, much as nonstandard English or French are in their home countries. Therefore, to speak of Jamaican or Haitian creole is to refer to that segment of a continuum of variation which exhibits the maximum divergence from the standard but which is still connected to other portions of the meshwork.¹¹⁰

Today, the majority of creole speakers live in the Caribbean Islands (about six million), although there are also smaller populations in western and southern Africa and southern and southeast Asia. The Caribbean is numerically dominated by French-based creoles, but a million and a half Jamaican creole speakers speak an English-based dialect. The absence of Spanish and Portuguese creoles in this region is puzzling, given that they are widely spoken in Asia and that Spain and Portugal’s presence in the Caribbean antedates by more than a century the arrival of the French and British. (Papiamento is the only example of a Spanish-Portuguese creole, but it incorporates so many Dutch and English elements that it is almost a creolized Esperanto.)¹¹¹

The historian Sidney W. Mintz offers one explanation for this apparent anomaly in terms of the demographic and social conditions that sustained the special contact situation outlined above. As he says, plantations were not real communities but socially artificial collocations of

slaves and masters the political basis of which was raw physical force. In the Caribbean, plantations were part of a repopling of “population vacuums” created by European weapons and diseases. All plantations in America had this in common. But there were differences as well: “Generally speaking, the Hispano-Caribbean colonies were never dominated demographically by inhabitants of African origin; moreover, in those colonies movement from the social category of ‘slaves’ to that of ‘freemen’ was almost always *relatively* rapid and *relatively* continuous.”¹¹² By the time the number of African slaves increased significantly in Spain’s colonies (late-eighteenth-century Cuba and Puerto Rico), the islands had already ceased to be population vacuums and were now peopled by speakers of Spanish.

These differences (demographic composition and degree of social mobility) directly affected the conditions under which stable entities arose. The more numerous the slave population relative to the masters and the slower the “phase transition” from slavery to freedom, the more distant and inaccessible the dominant linguistic norm would be for the slaves, a circumstance that promoted the autonomy of the pidgins and creoles. Other circumstances were also “barriers” to the norm, such as the attitude of the white colonists toward their homeland. “Whereas the Spanish settlers in Cuba and Puerto Rico soon came to view themselves as Cubans or Puerto Ricans, the French and British colonists apparently tended to see themselves as Europeans in temporary exile.”¹¹³ One factor affecting this attitude was the rigidity of administrative control exercised by the capitals and metropolises of Europe: the more rigid and uncompromising the colonial policy, the easier for the colonists to establish a local identity. This in turn may have affected other factors, such as the growth of an intermediate mulatto class, which depended on the readiness of the colonists to mix racially (highest among the Spanish, lowest among the British, with the French in an intermediate position). These intermediate classes (and their limited but real social mobility) affected the sociolinguistic situation, decreasing the focus of the transmission of linguistic replicators and hence the ease with which the emergent norms could become autonomous.

In summary, while the dialects of Paris and London were being artificially frozen through standardization in their home countries, elsewhere their constitutive norms were being operated on by those under Europe’s colonial rule, producing the opposite result. That is, while academies (or the combination of national markets and linguistic engineering devices) were consolidating a pyramid of dialects in Europe, the major European languages at the top of those hierarchies were being resculpted and

adapted for different purposes by minorities around the world, resulting in a continuum of variation of which the crystallized creoles represented only one (maximally divergent) segment. As we move on into the nineteenth century, other contact situations created mixtures of factors and interactions between local and European languages which resulted in different appropriations of English and French. During the nineteenth century, the continent that underwent the most intense form of colonialism was Africa, which was carved up between Britain, France, Germany, and other European powers. These countries assumed control of different regions, most of which were linguistically heterogeneous, enclosed them within arbitrary borders (that is, frontiers cutting across preexisting ethnic and tribal boundaries), and imposed their language as the official tongue of colonial administration.

Much as differing attitudes toward administrative policy resulted in different linguistic outcomes in the case of plantation creoles, so, too, in the conquest of Africa: England (and Germany) followed a policy of “indirect rule,” according to which existing institutions were allowed to survive and were used to govern the colony; France, on the other hand, was more inclined to export her own institutions into her colonies. These different attitudes were also reflected in the (explicit or implicit) linguistic policies of the conquering powers. The French projected their language (which they believed to embody universal values of clarity and rationality) with missionary zeal, while the Germans were contemptuous that “lesser breeds” would express themselves in German and therefore did not export their language to the colonies. England was intermediate between the two, not actively promoting English but willing to bestow it on the elites of the regions under her rule. For the same reasons, the French emphasized assimilation and hence were much less tolerant of local languages (and culture), while the British and Germans stressed social distance and allowed their languages to coexist with local varieties.¹¹⁴

The main difference between the linguistic contact situations that arose in nineteenth-century Africa and those that occurred earlier on Caribbean slave plantations is that the former did not occur in a populational (and therefore linguistic) vacuum, but rather involved a coexistence of different peoples and languages. In particular, the conquering linguistic norms from Europe faced three strong rivals in Africa: Arabic (mostly in the north), Hausa (the prestigious language associated with the pomp and splendor of the ruling elite in northern Nigeria), and finally Swahili (a language of creole origins which had by then become a lingua franca on so linguistically heterogeneous a continent). Written Arabic had, at this point, the solidity of a standard language, given the tendency of its users

to imitate the language of the Koran, whose every word was supposed to have come directly from the mouth of God. Hausa and Swahili were also “Islamized” to a certain extent, and yet Swahili, due to its role as a lingua franca (and hence the tendency of its constitutive norms to replicate across ethnic and tribal frontiers), was more ecumenical than Hausa or Arabic.¹¹⁵

From the perspective of the conquering powers there were two reasons to get involved in linguistic matters. On one hand, government institutions were interested in tapping into the reservoir of African peoples for menial clerical positions. (Later on, during the two world wars, their interests would shift to converting this reservoir into a source of recruits for Western armies.) The colonial governments needed, therefore, a language of administration as well as a language of command. On the other hand, Africa underwent the most intense Christianization of any continent after 1800, a process that involved ecclesiastical institutions (or their missionary representatives) not only in the effort to diffuse their spiritual values among the subject population, but also to spread a Western-style educational system. Here the need was twofold: a common language of instruction (typically a Western one) was necessary, but so too was the elaboration of local languages in order to transform them into vehicles for spiritual communication. (Missionaries, for example, devised orthographies, grammars, and dictionaries for many African vernaculars in order to translate the Bible into them and preach to the locals in their mother tongue.) These two different forms of cultural assimilation often came into conflict: the British and German policy of using existing institutions to govern meant that, wherever those institutions were Islamic, the regions under their control were off-limits to the Christianizers.¹¹⁶

Both Britain and Germany picked Swahili (in addition to English or German) as their language of administration and command. Unlike Hausa, which was strongly identified with a specific tribal elite, Swahili was a more ethnically neutral dialect. It was likely the Germans in Tanganyika who gave Swahili the greatest impetus. German missionaries helped codify some of its features and extend its uses. By 1888, newspapers were being published in Swahili. The British, on the other hand, adopted Swahili in a more subordinate role (for instance, for use in the lower courts, while English still dominated the higher courts).¹¹⁷ The sociolinguistic situation of the different African territories also influenced government policy on language. In Tanganyika, where there was more linguistic fragmentation (there were no large kingdoms around which linguistic loyalties might have coalesced), Swahili seemed to be the only choice. In Kenya, the population was much more concentrated into lin-

guistically homogeneous blocks in the well-watered highlands (each block separated by land ecologically unreceptive to European settlement), so the dominant local dialect, whatever it happened to be, was as good a choice as Swahili as the language of administration. (This ambiguous role would later on have consequences for Swahili. After independence, Tanganyika, now rebaptized as Tanzania, adopted it as a national language. Kenya did not.)¹¹⁸

Regardless of these local variations, Swahili was always subordinate to English. Even in postindependence Tanzania (where street signs, coinage, public notices, and town meetings use Swahili), this creole is used only for primary education, while English remains the vehicle for higher education and international communication (hence, it is the language associated with social mobility). Although only a few elites (e.g., in Liberia) speak English as their first language, it has become the most important second language in two-thirds of Africa. Under these circumstances, it has become important for Anglophone Africans to appropriate English for themselves and set it in variation so that it can evolve into a creole uniquely suited to their linguistic needs.¹¹⁹

In the linguistic conquest of Africa, English did better than French, which became the second language of only one-third of African speakers. But as important as Africa was in the contest between these two languages, the decisive battles in this rivalry would be fought on other continents. In particular, English became the language of four out of five neo-Europees (though it shared the fourth, Canada, with French). Because of the extreme fertility of these temperate zones, English speakers multiplied at a significantly faster rate than French speakers. As in other colonies, settlers in the United States, Australia, and New Zealand reinserted their colonial language with heterogeneity, as they entered into a number of different contact situations through which linguistic items from foreign tongues penetrated English. Settlers adopted a number of terms, particularly names of places and unfamiliar plants and animals, from Native Americans and Australian Aborigines. Yet, as happened to Celtic in relationship to Old English, the norms borrowed from the subjugated peoples had a very high death rate (e.g., of the 130 terms American English borrowed from the Algonquian family of Indian languages, only a fourth have survived to the present day).¹²⁰ Contact with colonists from other countries (France, Spain, and Holland, in the case of the United States) also produced a flow of linguistic loans of varying durability, as did the languages swept in by several waves of immigration. (German seems to have been the first immigrant language to have had a marked influence on American English.)

However, by the mid nineteenth century, technological developments were working against these heterogenizing forces. In particular, the intensification in the speed of local and global communications brought about by steam power (in locomotives and transoceanic ships) and electricity (telegraphs) meant that one indispensable element in the creation of new languages, isolation after contact, was now harder than ever to achieve. As we have observed, the entities that form out of a flow of replicators (whether genes, memes, or norms) that has been sorted by selection pressures need to be isolated from other replicative flows in order to consolidate into a new entity. The barriers that create these isolated pockets of replicators can be of different types. To distance and geographic inaccessibility, we must add the emotional barrier constituted by loyalty to a local variant (in dense social networks), the mechanical barrier of different articulatory systems (hard-to-pronounce foreign words), and even conceptual barriers (words are not readily transferred to or from a language that has no “words” in the Indo-European sense). The linguist Keith Whinnom argues that these four types of obstacles to linguistic diffusion have close counterparts in the case of genetic replicators (ecological, behavioral, mechanical, and genetic barriers).¹²¹

In the case of American and Commonwealth English, only the first two barriers (distance and loyalty) could have played a role in the generation of new entities, much as they did centuries before when Middle English developed into five distinct dialects. But as ships, trains, and telegraphs began to “shorten” geographical distances, only loyalty to local variants remained as a defense against homogenization. Under these circumstances, American English did not develop its own strongly individuated dialects, but only weakly differentiated “regionalisms.”¹²² On a more global level, the intensified speed of communications meant that British, American, and Commonwealth English (at least in their standard versions) would from now on tend to converge rather than diverge. In a sense, steam transformed English into a single “norm pool” much as it helped microorganisms form a single disease pool. Alongside this long-term process, however, there were shorter-term processes that reinjected heterogeneity into the different pools of linguistic replicators, taking advantage of the one barrier that had not collapsed under the weight of industrialization: emotional attachment to variants that served as local identity badges.

In the United States there were different versions of this emotional attachment, ranging from the nationalism of Noah Webster, who between 1783 and 1828 published grammars and spellers and the local equivalent of Dr. Johnson’s authoritative dictionary, to the emergence of black ver-

nacular English, perhaps through creolization of a plantation pidgin. To this already complex mixture of replicators, the nineteenth century would add yet another element, which had both homogenizing and heterogenizing effects: the first mass medium, the large-circulation newspaper.

Although the one-penny newspaper was born in England in 1816, the tendency of the British government to control the press through taxes made it hard for this new medium to spread in London as fast as it did in New York City, where numerous cheap newspapers began to appear in the 1830s. (Freedom of the press, a principle first codified in the United States Constitution, was partly a response to efforts by the British colonial administration to tax prerevolutionary American newspapers.)¹²³ In one-penny papers such as the *New York Sun* (1833) or the *New York Herald* (1835), “crime and scandal” journalism first found expression. Given the popular appeal of these themes and of the personalized, sensationalistic style of presentation, these papers were the first to bring *massification* of opinion and commercial advertising together. The principle of freedom of the press was conceived to encourage an older type of newspaper, serving as “the means of communication between the government and important groups in society, or between members of the same groups challenging for political power,”¹²⁴ and yet in the end it was the commercial type that came to prevail. (Hence, the principle did not lead to a “free marketplace” of ideas, but to a general contraction of opinion.)

The very idea of massified advertising meant that large-circulation newspapers were *not* in the business of selling information to people, but rather of selling *the attention of their readers* to commercial concerns. I have already mentioned several ways in which language was used in the nineteenth century to tap into the reservoir of resources constituted by the growing urban populations in order to mobilize them for political participation or military service. Mass advertising added yet another way of exploiting this reservoir, by mobilizing their attention. At first, both markets and antimarkets used this new resource, but our experience in the twentieth century clearly indicates that big business was soon to be the main beneficiary of this novel way to tap populational reservoirs.

The new mass medium itself would soon join the ranks of the antimarket. Indeed the only clear tendency that one can discern in its two-hundred-year history is precisely a tendency toward increased concentration of ownership and increased scale of production (both of which threaten the freedom of the press).¹²⁵ These tendencies were already discernible in the nineteenth century. On one hand, the production of large-circulation papers depended on access to expensive technology, such as the rotary press (capable of printing twenty thousand papers in one

hour), new paper-production techniques (wood pulp replaced rags as the principal raw material by the 1880s), and even page composition via keyboards (the Linotype of the 1890s). This meant that as a business, newspaper publishing became heavily capitalized, which acted as an entry barrier for new entrepreneurs. Also, the first casualties of circulation wars, such as the one fought by Pulitzer and Hearst in the 1890s, were often small newspapers.¹²⁶

Furthermore, some segments of the industry began to engage overtly in anticompetitive practices, such as the formation of a cartel by six New York papers, which resulted in the formation of the Associated Press in the 1860s, a news agency that monopolized access to two of the largest European news agencies, the French Havas and the British Reuters. These two agencies in turn had signed an agreement in 1859 (together with the German news agency Wolff) to carve up the world into spheres of influence, with each agency having a virtual monopoly to sell international news services to these captive markets. Reuters got the British Empire plus China and Japan. Havas acquired control over the French empire and Spain, Italy, and Latin America, while Wolff monopolized access to Germany, Russia, and Scandinavia.¹²⁷ Although the profits that these agencies generated were never great (as compared with other anti-market institutions at the time), the agencies nevertheless accumulated a great deal of power, which they exercised, for example, by protecting their turf from the numerous national news agencies that were developing at the time.

The overall effect of mass newspapers and news agencies was homogenizing. Newspapers aimed their presentation to the lowest common denominator, while news agencies attempted to create a product that would be acceptable to all their subscribers (i.e., newspapers with vastly different editorial policies), which meant that rather than aiming for objectivity they aimed for widely acceptable neutrality. "The agencies assume that a uniform editorial approach is not only possible but also desirable. A government crisis is covered in the same way whether it happens in Nigeria or Holland. Similar standards are applied whether the story is being sent to Pakistan or Argentina. A single, objectively verifiable account of each event [which in most cases means quoting a reliable official source] is the bedrock of agency reporting."¹²⁸ It is this homogenization of point of view, amplified by the news agencies' global reach, that is the real problem with the agencies today, not some overt conspiracy to diffuse "capitalist ideology" through the Third World. In linguistic terms, by spreading standard English and French (and, to a lesser degree, German, Spanish, and Arabic), news agencies also intensified the

replicative power of the norms that make up those languages. Today, for example, the linguistic flow from the Associated Press is about seventeen million words a day, most in English but some in Spanish. Reuters emits six million words a day, the majority in English but some in French and Arabic, while Agence France Presse (the successor of Havas) puts out about three million French words a day.¹²⁹

On the other hand, large circulation newspapers (as well as advertising agencies and to a lesser extent the "telegraphic style" of the news agencies) also injected heterogeneity into the standard languages. This is only an apparent paradox, since the standards that the popular press tend to "subvert" have always been upper-class dialects, and, in their search for widened appeal, newspapers tend to use words and syntax that are not necessarily accepted as correct by that class. "Large-circulation journalism provided the means not only of renewing the language but also of sanctioning its colloquial usage and of elevating the spoken standard to the written. Journalists... keep close to the accents of the human voice and an oral tradition constantly informs their writing."¹³⁰ The dynamics of this heterogenization revolve around the fact that even the standard language has different registers (the formal, the colloquial, the technical), and when they meet "internal contact situations" arise. The colloquial register of the standard, for instance, is in close contact with nonstandard segments of language, such as slangs and jargons. Due to these "contact surfaces," linguistic materials elaborated as slang can flow upward through the informal register into the formal. One linguist predicts, for example, that as a result of the mass media "slang will rapidly rise to the level of the colloquial and the colloquial to the level of the standard. As a consequence of the speed-up of acceptability... a modern cavalier attitude towards new word formations, syntactical idioms, and specialist jargons will also intensify."¹³¹

Here we should bring the separate lines of our argument together. Colonialism, on one hand, and technology, on the other, greatly intensified the replicative power of the standard norms. Many regions that had formerly housed their own complex mixtures of linguistic materials were now homogenized to a certain extent by the invasion of powerful standard replicators. For the same reason, however, the standard replicators came into contact with others that, despite their low prestige, were capable of injecting them with a degree of heterogeneity. Whether the contact situations were external or internal, the effect was the same: a portion of the frozen standard was set into variation again. Further kinds of contact would soon appear as nineteenth-century technology began to affect the social structure of Europe. In particular, the growth of industrial

conurbations in England (and elsewhere) and the migratory movements from the rural areas that provided coal-driven towns with workers created novel mixtures of dialects as well as a new social stratum: the industrial proletariat. The limited social mobility of these workers and their need to develop a local identity inevitably affected their transmission of linguistic norms, creating new varieties of spoken English.

In the last decades of the nineteenth century, these industrial masses came to be seen as a dangerous class, the barbarians at the gate, “creatures with strange antics and manners [who] drifted through the streets hoarsely cheering, breaking into fatuous irritating laughter, singing quaint militant songs.”¹³² The language of these “barbarians” was perceived by standard speakers as a nonlanguage, noisy and disarticulated, with a superabundance of negatives and a simplified grammar and vocabulary. (In short, the same traits that could be used to identify any creole around the world.) Yet, these same masses would come to be perceived as potential allies (and would eventually be granted the right to vote) when World War I transformed the new conurbations (as well as the older urban centers) into reservoirs of recruits to be conscripted.

Two education acts (one in 1870, the other in 1918) made schooling in the standard obligatory (and were correctly perceived by defenders of local dialects as an exterminating force, along with the press, railroads, tourism, and later radio). Both acts were institutional responses to the need to assimilate the masses into society, to make them “articulate,” so they might better participate in democratic institutions and understand the language of command in the armed forces. The disciplinary measures envisaged by reformers included systematic training in standard sounds (leading to uniform pronunciation), lexical training (to secure clarity and correctness), and training in reading aloud (to secure proper intonation). Slang and jargon were viewed as dangerous, a “means of concealing secrets or as intentionally undignified substitutes.”¹³³ However, the effect of compulsory education was not to erase linguistic class differences: rather than learning the “classless” standard as their exclusive new language, students of working-class background simply learned to switch codes; that is, they learned to deploy the standard in certain situations, while switching back to their native variety in their own homes and neighborhoods.¹³⁴

Thus, universal schooling, colonialism, and early mass media, while extending the reach of the standard, also brought it into contact with other languages, codes, or registers, ensuring that it would be reinjected with heterogeneous elements and set into variation again. Given that non-standard speakers show a greater creativity in the coining of new words

and syntactical constructions, the contact between standard and non-standard speakers prevented standard languages from becoming “dead tongues,” like written Latin, and connected them to fresh reservoirs of linguistic resources. However, the mere fact that a variety of linguistic replicators existed did not mean that the existing selection pressures would allow these novel variants to reenter the standard. In particular, stigmatization by speakers of the prestigious standard (and by the institutions they controlled) often kept even badly needed repairs from being selected in:

Social influences on grammatical form may lead to situations similar to those arising from taboo in lexis... [with the difference that] the forms are rejected only in the standard language, and less in dialects. Since the standard language is thus automatically cut off from its normal sources of replenishment, its grammatical system may be left incomplete. The best-known example is the pronoun of the second person: the familiar and less polite form *thou* was replaced by the originally plural *you*, and the grammatical system has, ever since, lacked the means of distinguishing singular and plural in the second person. The reason for this is not the lack of slot-fillers, since new forms like *youse*, *youse 'uns*, *you all*, *y'all* have arisen to complete the system in dialect. But these forms are rejected as vulgar, and in polite English the lack has therefore to be remedied by various lexical means according to context and register, e.g. *you people*, *my friends*, *you chaps*, *those present*.¹³⁵

Despite these shortcomings, it is obvious that the standardization of a language does offer “economies of scale.” One economist argues, for example, that in an institutional setting bilingualism and its need for translation can be highly inefficient, involving duplication of personnel and printed material. This is particularly true of countries with a complex division of labor (with its multiplication of technical registers) and a high degree of industrialization.¹³⁶ Standardization allows a more efficient accumulation of technical vocabulary and a faster dissemination of new lexical items across the economy. Politically, a standard language also offers an efficient medium for the unification of a country and the tapping of its human resources. As the sociologist of language Joshua Fishman puts it, a standard language offers nation builders the promise of *rapid integrative returns on a large scale*.¹³⁷ It is because of these economies of scale that linguistic standardization became a central issue among nations late in achieving political unification, whether in the nineteenth century (e.g., Italy and Germany) or in the twentieth, when the

colonial world broke down and the search for national unification became international.

Fishman distinguishes several roads to nationhood. On one hand, there is the road that France, England, and Spain followed, which he calls the "State-to-Nation" strategy.¹³⁸ This is the strategy followed by territories where a number of centralized (and centralizing) institutions happened to accumulate over the centuries (a royal house, centralized government traditions, educational systems, certain commercial and industrial patterns, a strong urban capital to synthesize centuries of shared experiences into a "grand tradition"). These are the countries that called themselves "historic nations," a claim to legitimacy used to justify the digestion of their minorities: Welsh, Scots, and Irish in England; Bretons, Normans, Gascons, and Occitans in France; Galicians, Catalans, and Basques in Spain. On the other hand, there are those territories that accumulated institutions, but in a decentralized pattern (Italy and Germany, and also Greece, Hungary, and Poland). These countries followed what Fishman calls the "Nation-to-State" strategy. Here, rather than a shared institutional past, ethnic uniqueness and coherence was emphasized as a form of legitimization. The people of these territories already thought of themselves as a nation (ethnically) in the process of building centralized institutions.

While those who followed the first road tended to emphasize logic and rationality as their criteria for linguistic standardization, those who followed the second route spoke of "actual usage" and "authenticity" as the only legitimate measuring rod for a national linguistic standard.¹³⁹ With the coming of the twentieth century nation building ceased to be a Western phenomenon and became the goal of every colony that had achieved its independence, of territorial entities that had never been colonized (e.g., Turkey after World War I), and even of those minorities within a state whom centralization had not managed to suppress (Irish, Bretons). In all cases, the "question of language" played a crucial role, and local languages (Turkish), lingua franca (Swahili, Malay), and even pidgins (New Guinea Pidgin, now known as neo-Melanesian) became targets for linguistic engineering and standardization.

According to Fishman, which mixture of strategies prevailed depended on whether the new countries had a single unifying tradition to use for the legitimization of their elite's projects or whether they had several or no traditions to rely on. Those who could appeal to a single grand tradition (Turkey, Israel, Thailand, Somalia, Ethiopia)¹⁴⁰ emphasized authenticity; those with no tradition (the Philippines, Indonesia, Tanzania, Cameroon),¹⁴¹ rationality and instrumentality; while those with several competing traditions (India, Malaysia), some compromise between the two.¹⁴² In all these

cases, the process of standardization (first, "codification," or the minimization of variation, then "elaboration," the diversification of the institutional uses of the standard), which had taken centuries to achieve in England and France, was compressed into a few decades.¹⁴³

Regardless of their different situations, these countries faced a similar challenge as they engaged in nation building: how to transform their populations into a reservoir that could be tapped for political, military, and economic mobilization. In the process of integrating their masses into a unified nation, they needed the "economies of scale" offered by standard languages. They also needed to catch up with the West as far as enriching their vocabularies to confront the complexities of new technologies and organizational strategies (especially in the military, but also in corporations), and this they could do either by borrowing words (as English did centuries earlier, when it was a minor language) or by developing the indigenous word-forming resources of their own standards.

While the old colonies were trying to achieve the same efficiencies of standardization as their ex-colonial masters, the languages of the two "linguistic superpowers" (French and English) were competing to become the first global superstandard. Before World War II, French was without question the international standard, having already become the language of many elites around the world and hence the most prestigious medium for diplomatic and cultural communication. Although certain setbacks in the late nineteenth century had diminished French prestige (such as the defeat to Prussia in 1870–1871), France had again emerged after World War I as the cultural center of the world. Because of its long-standing linguistic preeminence, France had not felt the need to create special institutions to disseminate its standard around the world, with the possible exception of the Alliance Française, which was established in the 1890s. Yet, after their armies were shattered by the Nazis and their country was isolated from the outside world for several years, French speakers emerged in 1945 to confront a different linguistic situation: English was now the language of science and technology, and it was beginning to challenge French as the chosen language of the world's elites. (Russian, too, began to replace French among the Eastern European elites who had been pulled into the Soviet sphere of influence.)¹⁴⁴

France's loss of its former colonies (Lebanon and Syria by 1946, Indochina by 1954, Tunisia and Morocco by 1956, Algeria by 1962) was an added blow to the global prestige of its language, although English was also suffering similar setbacks around the world. Americanisms, which had begun to infiltrate British English after World War I, were now invading France at what seemed to the French an alarming rate. "Areas of

greatest infection were sports, the world of beauty parlors (magazines such as *Elle*), toy stores and dancing.”¹⁴⁵ French grammar itself was being penetrated: *k* and *y* entered some spellings, the form of the plural became somewhat inconsistent, and affixes such as “-rama,” “super-,” and “auto-” enjoyed great diffusion among the French population of replicating norms. By the early 1950s, over 20 percent of all books were published in English (less than 10 percent in French), and 50 percent of the world’s newspapers and 60 percent of the world’s broadcasts were in English.¹⁴⁶

In response to these circumstances, when Charles de Gaulle returned to power, “France began to embark upon a positive and aggressive policy in regard to the radiation of French.”¹⁴⁷ In 1966 a public organization was formed specifically to promote the diffusion of French (Haut Comité pour la Défense de la Langue Française), a year after Lyndon Johnson inaugurated an official campaign to teach American English abroad. Documents from these years articulate the official stance toward linguistic radiation in the same terms in which the French language had been viewed since Louis XIV: a language embodying “eternal values” (such as clarity and lack of ambiguity) and “universality” (referring to a human condition beyond time and space). Hence, imposing French on other peoples was not a form of linguistic imperialism but part of the civilizing mission of France, a liberation of those peoples from their backward provincialism.¹⁴⁸ Of course, given that French is a hybrid (of Mediterranean and Germanic materials) and that the Parisian dialect won its place through power, this legitimizing narrative was a fabrication by the elites. Nevertheless, the policy paid off: in 1967, thanks to the votes of France’s former African colonies, French was accepted on the same level as English in the United Nations. (In 1945, to the great embarrassment and shock of French speakers, their language had been acknowledged by the U.N. as *one among many*, by a margin of only one vote.)¹⁴⁹

We have already discussed the different colonialist attitudes toward local languages, and noted that the French generally assumed a more aggressive stance than the British or Germans. Robert Phillipson’s analysis of linguistic imperialism accepts this to be true in the case of Africa but warns against oversimplifying the question. (For example, if one compares French Indochina to British India, the roles seemed to be reversed, with the French displaying more tolerance of indigenous languages than the British.)¹⁵⁰ Phillipson also argues that, even though the two linguistic superpowers have ceased to dominate their former colonies politically, they still have homogenizing effects on their cultures through the educational systems both superpowers are spreading throughout the developing nations with funds from their governments. “Just as schools were the

principal instrument for alienating indigenous minorities from their languages and traditional cultures (as in the case of the Welsh, the American native peoples, and the Australian Aborigines), it is schools in Africa which are stifling local languages and imposing alien tongues and values.”¹⁵¹ Although Phillipson admits that, unlike French, no “master plan” for the spread of English was ever articulated in British or American institutions, the growth of English teaching as a profession, “monolingual and anglocentric, and [tending] to ignore the wider context of its operations,” produced homogenizing effects in which English tended to replace or displace other languages.¹⁵²

In addition to the educational push, big business fostered the spread of English and French, bolstering their status as international standards. I have already mentioned the international news agencies, the “big four” wholesalers of linguistic materials: Reuters, AP, UPI, and the French AFP. (These corporations also manage large flows of images, but textual news continues to be their core business.) To grasp the intensity of the linguistic flow they handle one need only learn that a subscriber to all four news services would receive on average 300,000 words a day. And technology is further intensifying this flow: while the old Teletype delivered 60 words per minute, today’s computers and satellites allow 1,200 words per minute to cross continents in a format that can be fed directly into a newspaper’s computerized typesetter.¹⁵³

Since the nineteenth century, news agencies have divided the world among themselves: at present, francophone Africa belongs to AFP; anglophone Africa to Reuters; Latin America to AP and UPI. Elsewhere they engage in fierce rivalry, but of course this is oligopolistic competition, not real market competition. The news agencies have come to embody a true antimarket structure, that is, one dominated by managerial hierarchies and not by owners or their representatives.¹⁵⁴ Although they are not engaged in a conspiracy to promote “capitalist values” around the world, they do have a strong homogenizing effect, arising from the routinization and standardization of point of view (with the concomitant distorting simplification) and, ultimately, from the very *form of the flow*, that is, a flow emanating from very few places to a large number of subscribers. This type of flow (a “one-to-many” flow) guarantees that there will be a small number of producers of this type of “linguistic product” and a large number of consumers. The one-to-many structure of news delivery was eventually built directly into the technological infrastructure used to manage the flow. In the 1950s, for example, Reuters’ financial services division began to build its own (Teletype-based) communications network for the delivery of its product (commodity and stock market news). By 1963, the

International Financial Printer began operations, but the real takeoff did not occur until the slow, bulky, and noisy teleprinters were replaced by video terminals in the 1970s. (By 1982, Reuters alone had over thirty thousand terminals in eighty-one countries.)¹⁵⁵

However, by the time this one-to-many network matured, other networks began offering the possibility of a radically different paradigm: the many-to-many delivery system made possible by the Internet, the largely self-organized international meshwork of computers which formed over the past two decades. Although the Internet (or rather its precursor, the Arpanet) was of military origin (and its decentralized design a way to make it resistant to nuclear attack), the growth of its many-to-many structure was not something commanded into existence from above but an appropriation of an idea whose momentum sprang from a decentralized, largely grassroots movement. Howard Rheingold, in his history of the Internet, has brought to light the way in which geographically dispersed communities emerged as computerized communications, originally intended for technical (scientific or military) communication, were transformed into a medium supporting a variety of different forms of *conversation*. One example is the so-called Usenet, a discussion system originally designed for technical support but quickly adapted by its users for many other purposes:

Usenet is a place for conversation or publication, like a giant coffeehouse with a thousand rooms; it is also a worldwide digital version of the Speaker's Corner in London's Hyde Park, an unedited collection of letters to the editor, a floating flea market, a huge vanity publisher, and a coalition of every odd special-interest group in the world. It is a mass medium because any piece of information put onto the Net has a potential worldwide reach of millions. But it differs from conventional mass media in several respects. Every individual who has the ability to read a Usenet posting has the ability to reply or to create a new posting. In television, newspapers, magazines, films, and radio, a small number of people have the power to determine which information should be made available to the mass audience. In Usenet, every member of the audience is also potentially a publisher. Students at universities in Taiwan who had Usenet access and telephone links to relatives in China became a network of correspondents during the 1989 Tiananmen Square incident.... Usenet is an enormous volunteer effort. The people who created it did so voluntarily and put the software in the public domain. The growing megabytes of content are contributed by volunteers.¹⁵⁶

The main effect of the Internet's many-to-many structure, in terms of the fate of linguistic replicators, may be its potential for a demassification of the population, that is, its potential to create small, geographically diverse communities linked by common interests and informal conversations. Had the traffic in computer networks been dominated by the exchange of military or scientific information, we would expect to see a much higher degree of formality in the norms circulating through computers. But because the network was transformed into a conversational medium by its own users (not only English speakers but French speakers too, who transformed a one-to-many data delivery service, Minitel, into a many-to-many chat system¹⁵⁷), we may speculate that the colloquial register will be strengthened by the new medium, and this despite the fact that the Internet transports mostly written text. (For instance, on one real-time chat system, the IRC, correcting misspellings as one writes is considered bad form; hence the enforcement of standard spelling, and even grammar, is weak or nonexistent.)

While the vast amounts of linguistic replicators that circulate through the Internet are therefore bound to be colloquial English, they are nevertheless *English*, which raises a number of questions. On one hand, there is nothing surprising about this since English long ago (since at least World War II) became the international lingua franca of high technology. As one author puts it, "When a Russian pilot seeks to land at an air field in Athens, Cairo or New Delhi, he talks to the control tower in English."¹⁵⁸ Similarly, for reasons having very little to do with its linguistic properties, English became the language of computers, both in the sense that formal computer languages that use standard words as mnemonic devices (such as Pascal or Fortran) use English as a source and in the sense that technical discussions about computers tend to be conducted in English (again, not surprisingly, since Britain and the United States played key roles in the development of the technology). On the other hand, countering the linguistic homogenization that this implies, due to its role as a lingua franca, English is being changed and adapted by foreign users in many different ways, particularly when it is taken as a source of loan words. The Japanese are famous for the way they miniaturize what they borrow from English: "modern girl" becomes "moga," "word processor" is shortened to "wa-pro," and "mass communications" to "masu-komi."¹⁵⁹

The international communities that today flourish on the Internet may one day create another English, one where Japanese miniaturizations are welcomed (and so everyone engages in *masu-koming* instead of mass-communicating), where pride of the standard is seen as a foreign emotion, where a continuum of neo-Englishes flourishes, protected from the

hierarchical weight of “received pronunciations” and official criteria of correctness. This would, of course, depend on how many other countries embrace the Internet as a means to build nonnational (and nonnationalistic) communities.¹⁶⁰ But it will also depend on what kind of internationalism becomes predominant on the Internet itself. As we observed in the first chapter, as antimarket institutions became international they launched an attack on national governments. The central state, a cherished partner of antimarkets for so long, suddenly became a rival and an obstacle to international expansion. Although antimarket institutions had an early presence in the computer meshwork, today they are set to invade the Internet with unprecedented force.¹⁶¹ It is possible that the meshworks that have already accumulated within the Internet will prove resilient enough to survive the attack and continue to flourish. It is also possible in the next decades that hierarchies will instead accumulate, perhaps even changing the network back into a one-to-many system of information delivery. The outcome of this struggle has certainly not been settled.

Perhaps the most important lesson to be learned from the Internet experience may be that the possibilities of demassification which it has opened up have, in a sense, very little to do with futuristic technology. Although many see this computer meshwork principally as a valuable reservoir of information, its main contribution may one day be seen as a catalyst for the formation of communities (and hence as a reservoir of emotional, technical, and other types of support). Since communities bound by common interests existed long before computers, it is not as if we have now entered the next stage in the evolution of society (the “information age”). Rather, computer meshworks have created a bridge to a stable state of social life which existed before massification and continues to coexist alongside it. The effects of one-to-many mass media made this adjacent stable state hard to reach, but they did not leave it behind as a “primitive” form of organization. Humanity has never been moving “vertically” up a ladder of progress, but simply exploring “horizontally” a space of possibilities prestructured by stable states.

No doubt, the different dynamical processes that have shaped human history are changing this space as we move, new stable states appearing while others disappear or lose stability. The stable state defining a community of mutually supporting members obviously had not disappeared, rather we had drifted away from it, and computer networks may now bridge that gap. On the other hand, if the value of computer networks is this (nonfuturistic) catalytic role, their future worth will depend entirely on the quality of the communities that develop within them. Moreover,

these communal meshworks will embrace people with diverse political inclinations (including fascistic communities), so that the mere existence of “virtual communities” will not guarantee social change in the direction of a fairer, less oppressive society. To paraphrase Deleuze and Guattari, never believe that a meshwork will suffice to save us.¹⁶²