IS A METAPHOR MERELY A METAPHOR?[1]

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"Education is not the filling of a pail,
but the lighting of a fire." – W. B. Yeats

Abstract: Any given language is replete with metaphors through which speakers of that language experience and interpret the world in which they live. Consequently, every language contains a more-or-less unique set of metaphors; speakers of each language see the world slightly differently, in part at least because they perceived their world through unique set of metaphors. This article is an exploration of some of those unique interpretations of the world by speakers of English, historically as well as by way of various contemporary uses of language.

Keywords: modernity, frontier, linguistic minorities, linguistic imperialism, globalization, intercultural communication

1 Introduction

In a talk entitled "I never metaphor I didn't like" (Kaplan, 2014), I tried to convince language teachers that they needed to know something about metaphors because metaphors are not merely rhetorical embellishments; rather, they animate a particular vision of the world as well as promote the way that vision should be interpreted. That is to say, metaphors are not merely tricks of language – they are, actually, incentives for people to act on the world in particular ways and to develop certain understandings rather than others. Any given language is replete with metaphors through which speakers of that language experience and interpret the world in which they live. Consequently, every language contains a more-or-less unique set of metaphors; speakers of each language see the world slightly differently from speakers of other languages, in part at least because they perceived their world through different set of metaphors. But let's talk about English.

Leah Ceccarelli, a faculty member in the Department of Communication at the University of Washington, recently published a book entitled *On the Frontier of Science: An American Rhetoric of Exploration and Explication* (2013). She explores the metaphorical relationship, in North American English, stemming from the generalized relationship emerging from the association of the idea of science with the idea of a *frontier.*

As Ceccarelli notes, every president of the United States since Calvin Coolidge[1], has envisioned a special relationship between Americans and science – a relationship that had already emerged at the end of the 19th century, at the time when the restless westward expansion of the

[1] Given the large number of explanatory notes, this article uses endnotes.

United States had essentially come to an end[2], thus giving rise to a new relationship that was then being metaphorically converted to exploit the significance of the frontier in the national character of the American people[3]. Vannevar Bush, Head of the U.S. Office of Scientific Research[4], and science advisor to President Franklin Delano Roosevelt (and subsequently to President Harry Truman), in his 1945 report entitled *Science, The Endless Frontier*, called for an expansion of government support for science, and urged the creation of the National Science Foundation[5]. And so the modified metaphor, linking science with the notion of the frontier, was conceived.

In the United States, the metaphor of science, Ceccarelli explains, appears to represent limitless opportunities for economic development, promising potential benefits deriving from the courage of audacious explorers engaging in research probing science. The picture of the scientist as a frontiersman echoes the concept of the western hero created through the Hollywood motion picture[6] – a courageous loner, a bold man alone, living the Manifest Destiny – *Lebensraum*[7] – to advance science, to excavate the undiscovered, and consequently to claim its abundance before anyone else could do so.

While the notion is appealing, regrettably the epoch of the lone scientist working in his individual laboratory has long ago passed away. Leading-edge science is now conventionally a team activity conducted in a university-based or industry-based laboratory positioned among and supported by a community of related scientists and laboratories. The contemporary teams that undertake state-of-the-art research are no longer entirely composed of male researchers; there are now more women than men working in scientific research. To a large extent, major research activities are not limited to one laboratory or to one country; rather, scientific activity currently involves issues transcending political borders. Substantial numbers of research issues are global in their implications, and transnational cooperation is routine.

In the past, the intrepid loner in science was entitled to protect the rights to his discoveries through such legal devices as copyrights; however, contemporary science implicates areas of such vast amplitude that no single instrument can entirely secure an area. In the frontier metaphor, there is no limit; indeed, the "frontier of science" metaphor led President Obama to declare, "There are no limits."[8] In reality, however, there ARE limits – limits to funding, limits to physical space, limits to scientists' time and energy as well as to the expectations of those who support science and who anticipate answers. In short, the metaphor, while heady and exhilarating, is, regrettably, untenable.

Nevertheless, the metaphor has done its work; the public believes that science is indeed a limitless frontier and that the scientist is the western hero incarnate, dressed in a white lab-coat rather than a leather jacket and armed with the ordnance of science rather than with a Colt pistol. The public has been led astray by the prevalence and persistence of the metaphor. This metaphor creates behavioral standards that are no longer appropriate and establishes constraints that are largely fictional; lone scientists in isolated laboratories do not unearth great ideas, appropriate them, and reap the rewards derived from them. If Henry Ford, Thomas Edison or Samuel Colt[9] can be considered "scientists" (as well as industrialists and inventors), they do in fact exemplify the metaphoric model, but essentially a 19th century version of the model.

The evolution of the relative meaning of various metaphors is characteristic of modernity. The foundations of modernity are, however, under unprecedented stress at the present time.[10] Modernity – as distinct from modernism – constitutes the interpretation of the present by means of

the reinterpretation of the past.[11] The term *modern* appears originally in the writings of the 5th century Christian church, favoring the Christian past and rejecting the pagan past. But the idea of the modern did not take hold until the 17th century French "Quarrel of the Ancients and the Moderns." However, it was Baudelaire in 1854 who wrote: "By *modernity* I mean the transitory, the fugitive, the contingent" (Baudelaire, 1964, p. 13, stress added) suggesting a drift in contemporary society to capture the sense of sophistication and revitalization inherent in modern life. As the notion of modernity was assimilated into mainstream sociology, it came to be seen as characterized by snapshots and "momentary images," caused, on the one hand, by a fragmentation of society, and on the other hand by such new technologies as the camera and motion pictures leading increasingly to the sense that nothing is perpetual and immutable. The notion is in constant reinterpretation; for Koselleck (1985) it may be characterized by constantly changing interpretations of the present by attribution to the past as well as to an unlimited and unconstrained future. As Seligman (2003, pp. 32-33) pointed out, modernity invested completely in the individual as opposed to the historical sacred; whether the individual can be said to have emerged supreme remains in question, given the re-emergence of the sacred. Nevertheless, the distinction offers one way of understanding modernity in terms of the tension that lies at the core of its consciousness. In the final analysis, reflexive modernity appears to lie in the ways in which the movement of modernity acts upon itself – thus modernity can be conceived as working around a tension putting risk at the core of modernity.

Such an approach to the notion of modernity has been responsible for seeing modernity as a response to globalization – a process that intensifies the connections among the many parts of the world, a perception that constitutes the primary mechanism of 21st century modernity. Modernity does not refer to a historical era. Rather, the term refers to aspects that are capable of coming to completely objective conclusions, assuming that scientific method is applied; thus it is a particular kind of time consciousness that defines the present in relation to a past that is continuously recreated because historical time cannot be usefully divided into named blocks. The problem becomes the ability to determine how to reconcile the diversity of societal forms with a conception of modernity that acknowledges the consequences of globalization. On the one side, modernity is indeed global, but on the other there is a multiplicity of approaches to modernity. The problem thus becomes one of how to reconcile the diversity of societal forms with a conception of modernity that acknowledges the consequences of globalization. In this context, the term *multiple modernities,* a concept that has grown out of the debate on globalization, comparative civilizational analysis, and the postcolonial concern with *alternative modernities,* needs to be considered. Consequently, modernity must be conceived as a plural condition (Gaonkar, 2001).

A problem developed in the identification of modernity as exclusively denoting Western European culture, but there has been a general broadening of the definition in the direction of cultural relativity. As Delanty put it: "Modernity is not Westernization, and its key processes and dynamics can be found in all societies" (2007). Global modernity, of course, requires a means of communication among all participants. It is essential to understand the scope of the issue. *Ethnologue: Languages of the World* (Lewis, Simons, & Fenning, 2013) is a comprehensive reference work cataloging all of the world's known living languages (7,106 as of the 17th edition, 2013). Translation is the communication of the meaning of a source-language text by means of an equivalent target-language text. Whereas interpreting undoubtedly antedates writing, translation began only after the appearance of written literature; partial translations of the Sumerian Epic of Gilgamesh (ca. 2000 BCE) into Southwest Asian languages of the second millennium BCE do

exist. Translators always risk inappropriate spillover of source-language idiom and usage into the target-language translation. But in any case, translation is exorbitantly expensive (see, e.g., Baker, 1998; Bassnett, 2007; Nicholson, 2010; Roberts & Nicholson, 2003[12]). These figures are of course, impressive, but the larger problem involves the question of how one chooses to define a language depending on the purposes one has in identifying one language as being distinct from another. Some definition may be based on purely linguistic grounds, focusing on lexical and grammatical differences. Other definitions employ social, cultural, or political factors as being primary. Furthermore, individual speakers may have their own perspectives on what makes a particular language uniquely theirs, perspectives that may be related to issues of heritage and identity much more than to the actual linguistic features. In addition, it is important to recognize that not all languages are oral. Sign languages, for example, constitute an important class of linguistic varieties. Due to the nature of language and to the various perspectives brought to its study, it is not surprising that a number of issues are controversial. Scholars recognize that languages may not always be easily treated as discrete, identifiable, and countable units with clearly defined boundaries between them (Makoni & Pennycook, 2007). Rather, a language may best be described as comprised of continua of features extending across time, geography, and social space. In the recent past, growing attention has been given to the roles or functions that language varieties play within the linguistic ecology of a region or of a speech community. While it may be possible to distinguish discrete linguistic varieties, it is important to recognize that those varieties exist in a complex set of relationships to each other. Languages can be viewed simultaneously as discrete units amenable to being listed and counted, or as continua of features across time and space best studied in terms of variational tendencies as examples of "change in progress" (Weinreich, Labov, & Herzog, 1968), or as parts of a larger ecological matrix where functional roles and usage of the linguistic codes for a wide range of purposes may be more central. However, varieties that share similar features may diverge from one another to varying degrees. Some divergent varieties may be referred to as dialects, and some dialects may be distinct enough that they may be considered to be separate languages, but it is equally possible that varieties may be sufficiently similar to be considered merely characteristic of a particular geographic region, social grouping, or historical era. Among some populations the term *dialect* is pejorative, labeling their speakers as being in some way deficient or inadequate.

Given the enormous complexity of language, there have been periodic attempts to identify (or develop) one variety that might serve the global community, thus bypassing the complexity of thousands of discrete languages. At various points in time, Arabic, French, Greek and Latin have been adapted to serve that purpose; to some extent, through colonial expansion and sectorial planning, some vestiges survive into the present time. However, in the most recent period, the ascendancy of English in science and technology has resulted from a series of coinciding accidents occurring roughly over the past seventy years, though the roots of those accidents reach back historically for hundreds of years. Those roots lay initially:

- in the spread of the British colonial empire over much of the world in the 17th, 18th, and 19th centuries (and subsequently in the influence of the United States in the latter half of the 20th century, continuing into the early years of the 21st century), and
- in the inception of the Royal Society of London in 1660 and of its *Philosophical Transactions* initiated in 1675, and of the 'code of the gentleman' that characterized both.

The present reality lies in a series of coincidences that have occurred since the end of World War II -- the co-occurrence of the arrangement of the post-war world, the birth of the United Nations

(and its various appendages), the formation of the European Union, the inception of the computer age, as well as the nature of contemporary science. All of these more recent activities have to some extent been shaped by co-occurrence of a series of socio-economic and political phenomena, encouraged by the collusion of scientists and science editors across the multilingual West. At the moment, more people in the world speak English as a first or second language than spoke any other single language in the history of the world (Crystal, 1997a, 1997b). There are a number of identifiable factors that contributed to the emergence of English as a global language.

2 English language teaching globally and the U.S. balance of trade

In 1996, the United States agricultural sector was a key contributor to international trade; it contributed something on the order of US$60 billion in exports (Klintberg, 1997). In the 1998 budget year, the federal government spent about US$1 billion on international education. In the same year, nearly half a million international students studying largely in the tertiary sector in the United States contributed something like US$7.5 billion to the U.S. economy and supported something like 100,000 jobs (Levinson & McCarthy, 1998). In other words, international students account for roughly one tenth of the value of agricultural exports. When taken together with overseas student numbers in Australia, Canada, New Zealand, the United Kingdom and other English-speaking countries, international education and education through English has become an impressive business. However, the trade in English education is only part of the story; no calculation has ever been undertaken to estimate the contribution to the United States balance of trade that derives from teaching English abroad. Such is the demand for English language instruction that there are literally thousands of citizens of the United States teaching English to speakers of most of the world's other languages. They serve part of the worldwide demand for English; for example, in such places as Eastern Europe (e.g., Medgyes & Miklósy, 2005) and Asia (see, e.g., Poon, 2011). Their presence is supplemented and modified by the Peace Corps and by a very large number of teachers in programs developed and maintained by the United States Agency for International Development [USAID] and the United States Information Agency [USIA, in other countries United States Information Service, USIS], by a smaller consort of Fulbright scholars, and by the hundreds of additional teachers in programs mounted overseas by U. S. academic institutions and other organizations. As with the market in overseas students, the English-language teaching market is not the exclusive preserve of the United States; all the other members of the English-speaking world – Australia, Canada, New Zealand, and the United Kingdom – are out there, too. All of these English-speaking nations have competed through their agencies for international development[13] by investing to varying degrees in projects in less developed nations around the world; such development initiatives almost always carry a component in teaching English as a foreign language – much of it primarily concerned with the language of science and technology (see, e.g., Ablin, 1991; Crooks & Crewes, 1995; Kenny & Savage, 1997). Finally, the tertiary academic institutions in the English-speaking nations were also recruiting international students. Not only were academic institutions recruiting students directly to their campuses in the English-speaking world, they were also mounting programs designed to be delivered abroad in conjunction with academic institutions and other agencies in the developing nations.

In addition, this vast cohort of teachers requires teaching materials, and the publishing industry gladly produces a plethora of dictionaries, grammars, spellers, course books, readers,

audio tapes, computer assisted language learning programs, and a multitude of other resources to meet these need – the scope being increased by virtue of the fact that there is no single standard variety of English, rather, each variety is centered in a different geographic locale. In the contemporary electronic world, such resources require electronic equipment – e.g., tape recorders, cameras, slide projectors, copying machines, videotape players, projectors, CD-ROM players, entire language laboratories, in some instances, even entire computer laboratories equipped to access e-mail and the world-wide web. In sum, all of this activity generates money, and the teaching of English around the world has become seriously big business. The thought expressed by Samuel Daniel in his poem *Musophitis* in 1599 has remained unchanged in the cognition of English speakers over the past four hundred years.[14]

3 Developments over historical time and in the more recent periods

3.1 A comparatively longer historical note

Over the past four and a half million or so years, the human species has undergone a long series of biological modifications, among them the modifications that made speech possible. But since the emergence of language, the species has undergone three major post-biological modifications:

- the invention of writing,
- the invention of printing, and
- the invention of electronic word processing and the World-Wide Web.

The distinction between biological and post-biological modifications is critical; biological changes constitute a part of the human genetic baggage, while post-biological changes seem not to include any genetic change. All human offspring within the normative ranges have the capacity to speak and to understand speech. However, it is not the case that all human children are born with a biologically conditioned predisposition to acquire the skills of reading and writing; on the contrary, reading and writing must be learned anew in each new generation.[15]

From the emergence of language to the emergence of writing, human populations had access to information primarily as it was held in human memory. Retrieval from memory depends at least on the presence of the owner of memory, on the mental condition of the holder of the memory, on the audience for whom retrieval is undertaken, on the form in which the information is stored, and on the circumstances in which retrieval occurs.

Once it became possible to write things down – the first post-biological modification – the nature of information changed, since it became possible to retrieve information across long time and great space. Whereas memory probably necessitated the use of memory-enhancing stylistic devices, written text requires a different stylistic and rhetorical structure. As the holder of information no longer needs to be present, the mental condition of the holder and the form in which the text is stored become essentially irrelevant. Text could be more widely distributed. Initially the process of manual copying was slow and subject to error, making the production of large numbers of copies unlikely. Indeed, limited production gave rise to texts being perceived as quite expensive works of art, limiting acquisition to the elite.

While the invention of printing (see, e.g., invention of the Printing Press in 1440 by Johannes Gutenberg [1398-1468] in Mainz) constituted the second post-biological modification, the invention of printing permitted much more rapid production of texts and, gradually, over the next several hundred years, significantly reduced the cost of possessing texts (see, e.g., the diaries [23 February 1633 – 26 May 1703] of Samuel Pepys). The library as a repository became feasible; the earliest great library at Alexandria possessed some 400,000 to 700,000 parchment scrolls.[16] Gradual improvements in print technology increased the speed of production and the number of copies available, consequently increasing the reading public.

Electronic word-processing constitutes the third post-biological modification. Electronic document production and distribution increases speed of production, serves to change the role of the middle man (i.e., the library) in text distribution, and exponentially increases the amount of material available not merely to the scholar but to anyone with the technical facilities to access the World-Wide Web.

Each of these post-biological changes decreased the effort and the cost required to produce, store, and distribute information, and each has, in its turn, caused an information explosion. Increased availability of printed information is reciprocal with increased desire for literacy; when there is little or nothing to read, literacy is a superfluous skill. Each leap in the availability of information complicates the verification of information, making the veracity of information harder and harder to determine. Each leap in the availability of information seems to be associated with the dawn of a fundamentally new form of human society; the invention of language and its accompanying genetic changes mark the beginning of what can be designated as 'human.' The post-biological changes are, respectively, associated with the dawn of civilization, with the beginning of modern civilization, and with a new orientation not yet possible to describe or define (or perhaps even imagine). Each has accompanied an invention that caused an information explosion. In sum, a limit on the production of information impeded progress in the time preceding each information explosion. As Robertson (1998, p. 9) suggests, civilization **is** information, and civilizations may be limited more by lack of information than by lack of physical resources. Information limitations are probably quantitative as well as qualitative; limitations on information restrict the number of things a society knows how to do. Unfortunately, these phenomena have not yet been well studied, in part at least because the notion of information as quantifiable is very new – first articulated by Claude Shannon (the father of information theory) in the 1940s. The French historian Henri Berr, in 1934, writing well ahead of his time and before the invention of the computer, suggested that these post-biological inventions had epochal significance.

Following the invention of the printing press, books became suddenly available in quantities beyond the conception of earlier societies[17]; this proliferation of books carried ideas to a wider audience than ever before. The explosive spread of information (some of it misinformation) offers an explanation for the stunning achievements of the Renaissance[18]. The development of *scientific method* in the 16th and 17th centuries is really a response to the need to verify information reported elsewhere and to the need to find patterns in large quantities of information[19]. The existence and distribution of the *Philosophical Transactions* of the Royal Society of London helps to explain the explosion in scientific activity in the 18th century; the *Transactions* were published and distributed largely (but certainly not exclusively) *in English*[20].

3.2 A comparatively shorter time

Foreign languages have, of course, been taught for as long as there are any records of human societies; Jean Auel, in her 6-book series collectively called *Earth's Children* (1980-2011), provides a fanciful notion of multilingualism among the earliest humans. The Greeks taught Greek to the people they subdued, and the Romans taught Latin. During the great expansion of Islam, Arabic was carried to the furthest corners of the known world. In more recent times, Europeans taught French, German, Spanish, Portuguese, and Russian throughout the European world and even further afield in their spheres of colonial influence in Africa, Asia, and South and Central America. (see, e.g., Paulston, 1998, pp. 2-3.) English has now been taught to populations of speakers of other languages for quite a long time – probably since the British Empire was at its greatest expansion[21]. While English (and other languages) have been taught in many places, the teaching has not always been based on the best possible motivation. It was necessary for British colonial administrators to teach English throughout their widespread areas of responsibility because they needed people in distant places to speak English so that soldiers could understand their British officers and so that a civil service could be developed to maintain civil order under the leadership of British administrators. Indeed,

> …[i]t was considered self-evident that the civilizing influence of Britain was a desirable goal, anywhere in the world, and that the English language was an essential means of achieving this end… (Crystal, 1997b, 70).

As the British Empire began to contract, the influence of English expanded. When the Second World War ended, the United States, an English-speaking country, was the only major Western power whose educational and scientific infrastructure remained completely intact (i.e., unaffected by the devastations of war). With its allies, the United States participated in dictating the conditions under which the post-war world would be organized. The United Nations, created in the aftermath of the war, chose only five official languages – Chinese, English, French, Russian, and Spanish – essentially the languages of the member countries of the Security Council, that is, the World War II allies. Indeed, the phenomenon had begun after the First World War[22], but the critical difference in October 1945, when the UN was established, was the important technological change; i.e., the availability of the computer, since the creation of the United Nations accidentally coincided with the birth of the computer age. Early computer programs were written in English-like languages (e.g., Basic, FORTRAN) and their output was also English, or English-like. (Because so much scientific material had been written in German, the German language had to be added to the list as a documentary language.) Unfortunately, the earliest computers could not deal with Chinese characters; consequently very little was stored in standard written Chinese. By the mid-1970s, the languages of the United Nations were Arabic (added in 1974), Chinese, English, French, Russian, Spanish – German was also widely used. But the advent of the cold war resulted in heavy political restrictions on the use of Russian – imposed by both sides[23]; i.e., the reluctance of the Soviet Union to share scientific information, and the equal reluctance (and inability) of the western states to access material written in Russian.

Because the scientific, technical, and educational structure of the United States had remained intact in the years immediately following the end of the Second World War, students from developing countries flocked to academic institutions in the United States. United States science and technology flowered during the post war years and subsequently. It is a "law" of

science that those doing the greatest amounts of research both require the greatest quantities of information from the information banks and contribute the greatest quantities of new information to the information banks. Vast numbers of scientists were trained in English, and vast quantities of information were written, abstracted, stored, and disseminated in English.

4 The special status of English

4.1 English in Europe

When Britain and Ireland were admitted (1973) into the European Union [EU][24], English became one of the nine official languages (increased to 11 in 1995) of the EU (Danish, Dutch, English, French, German, Greek, Italian, Portuguese, and Spanish). Against this complex linguistic, cultural, and political background, English has developed a special status within the EU; i.e., English and French are the sole "official" languages of the European Council, while the other languages are designated "working" languages. According to Ammon (1996):

- English has constantly made gains as a language of science over the past fifty years;
- English is the sole working language of the European Science Foundation (which coordinates research projects in EU countries and elsewhere);
- The leading European scientific journals now tend to prefer English as their language of publication; and, in addition,
- English is the most widely taught language in the member countries of the EU;
- There has been a clear shift toward using more English in business-oriented communication among the political bodies of the EU and in the economic domain within EU countries.

4.2 English in science and technology

Another coincidental development is related to the vast increase in scientific and technical research. While modern science was a child of the first industrial revolution[25], the heavy dependence on science and technology during the war years resulted in a significant growth in scientific activity. The United States, by virtue of the fact that its scientific infrastructure was undamaged by the war, assumed leadership in science and technology. Progress in science depends on the accumulation of written records of all previous science; that is, science requires vast information storage and retrieval systems. The invention of the computer made those information storage and retrieval systems geometrically larger and more accessible. In addition, as previously noted, those who do the greatest amount of research *require* the greatest amount of information from those information networks, and they naturally also *contribute* the greatest amount of new information to those networks. Since much of the science and technology research in the 1950s and 1960s was conducted in English, most of the information in the great information storage networks was written in English. The International Federation on Documentation (FID), a world body that monitors information distribution, reports that nearly 85% of all the scientific and technological information in the world today is written and/or abstracted in English. (Indeed, FID urges that an article written in another language be accompanied by an abstract in English, German, or Russian.) Scientific and technological journals in countries like Sweden and Hungary publish more material

in English than they do in their national languages (Baldauf, 1986; Baldauf & Jernudd, 1983a, 1983b, 1986, 1987; Medgyes & Kaplan, 1992).

Not only is English the undisputed language of science, but because of the importance of the computer in the internationalization of English, the English-speaking nations may hold a virtual monopoly on scientific information (operated like a cartel) because the international information systems are organized according to an English-based sociology of knowledge. Even research and development (R&D) functions in non-English-speaking states are impacted, since it is necessary to be able to search scientific literature in English and according to an English-based sociology of knowledge. The emergence of a whole new cadre of information managers is inevitable both in terms of science-trained balanced bilingual translators at the input end, and in terms of comparably trained skilled science readers at the output end. R&D functions in developing nations (largely along the North-South axis) cannot survive without such development. The emergence of such a new function places another level of intervention between the scientist and the information[26].

Thus, the Second World War settlements, together with the birth of the United Nations, the invention of the computer, and the geometric growth of science and technology, all accidentally co-occurring at the same time, created the conditions which made English not just an important language but the predominant language of science and technology – and subsequently of international business.

5 English for other purposes

As the result of a range of later events, including:

- conflicts in the Asian region and elsewhere (e.g., Wright, 2002),
- the geopolitics of the cold war,
- globalization (e.g., Sheng, 2009),
- the emerging world economic system (e.g., Brutt-Griffler, 2002), and
- easier access to mass media and the internet (e.g., Kress & Van Leeuwen, 2002),

English has become the de facto dominant foreign (second) language in many polities, the international language of science and technology (e.g., Kaplan, 2001) and the world's lingua franca as widely perceived in Asia and elsewhere (e.g., Alisjahbana, 1971; Choi & Spolsky, 2007; Crystal, 2003; Gonzalez, 1989; Graddol, 1997; Qi, 2009).

Because of the broad, global distribution of English, and because it has been, and is being, taught in so many places, English is no longer the property of English speakers. New varieties of English have developed, e.g., ESL varieties: Indian English, Nigerian English, Philippine English, as well as EFL varieties: Japanese English, Hong Kong English. These Englishes are not like British or American English; each one is unique, drawing on the local substrate languages. The growth of additional Englishes is assured because, in many localities, English is frequently taught to children by individuals who are not themselves native speakers of English and who may not have had extensive exposure to native English speakers. At present, in polities like India, Nigeria, Samoa, and Singapore, there are native speakers of the national varieties, i.e., the local variety of English is the first language of some number of speakers; these individuals may also be able to speak a more international variety of English (e.g., American or British English) as well.

5.1 The notion of a standard

The great dispersion and diversity of languages makes a mockery of the notion that there can be a standard variety[27] (or a number of standard varieties) of English – or of any other language for that matter. But the reality of most linguistic communities is marked by the normative use of a wide range of varieties in day to day communication, i.e., the use of slang, of jargon, of non-standard forms, of special codes, even of different languages[28]. Consequently, the notion of a 'standard' language constitutes a purely ideological construct. That construct creates the impression that linguistic unity exists, when reality reflects linguistic diversity. The existence and dispersion of a 'standard' variety through a community suggests that linguistic unity is a societal norm; it also suggests a level of socioeconomic and sociopolitical unity contrary to the reality of linguistic diversity. The legal obligation to use a codified standard may cause frustration among minority-language speakers, since the standardized language is for them a non-dominant variety (see e.g., Slovakia – Kaplan & Baldauf, 2001); minority-language speakers probably use a contact variety, at considerable variance from the 'standard' variety. If the use of a contact variety occurs within a linguistic community, how much greater is the variation that occurs across linguistic communities[29].

Science promotes the use of a standard language because it employs a common set of methods and measurement-standards and is both cumulative and self-referential. New research constantly becomes available, but it builds on prior research; thus, there is a need to access both the new and the previous research efficiently if one is to participate in scientific research. Increasingly, as *special-purposes* language in science and technology has been studied, it has become evident that the special registers of science and technology are more important than was initially assumed. Translation and technical dictionaries are not sufficient to access science research; in addition, an understanding of discourse styles and rhetorical structures is also necessary (Burrough-Boenisch, 1998; Ventola & Mauranen, 1991). Recognition of this issue has led to increasing internationalization and standardization in science writing (Baldauf, 1998). Authority and 'gate-keeping' in science is held in the hands of journal editors, referees of papers, and a cadre of self-appointed guardians of appropriacy in writing. As a consequence, researchers whose written English-language skills are not adequate find that publication is difficult; indeed, such texts may be excluded from participation in the exchange of science information. As Mühlhäusler asserts (1996, pp. 207-208), language-planning efforts, including the worldwide dissemination of English, reflect the cultural views of the West – known as the *plumbing* or *conduit* or *telegraphic* conception of communication. This perception requires the identification a single, *standard* code that is optimally regular, simple, and modern, and assurance that there are optimal channels (postal services, road networks, telegraphs, newspapers, journals, television, etc.) along which the signal can flow. The problem is that this metaphor is not a reliable description of how human beings communicate (see, e.g., Wurm, Mühlhäusler, & Tryon, 1997.)

5.2 The extinction of languages

While a number of new varieties of English have come into existence, a greater number of other – usually smaller – languages are threatened with extinction. Mühlhäusler writes: "Of more than 6,000 languages currently spoken more than 95% are on the endangered list, and the overall rate of language extinction is far greater than that of any biological species" (1996, pp. 206-207; see also Robins & Uhlenbeck, 1991). And Crystal reiterates the point:

> No one knows how many languages have died since humans became able to speak, but it must be thousands. In many of these cases, the death has been caused by an ethnic group coming to be assimilated within a more dominant society, and adopting its language. The situation continues today, though the matter is being discussed with increasing urgency because of the unprecedented rate at which indigenous languages are being lost, especially in North America, Brazil, Australia, Indonesia, and parts of Africa. Some estimates suggest that perhaps 80 per cent of the world's 6,000 or so living languages will die out within the next century (1997b, p. 17).

Languages become extinct either because of the decimation of the population of speakers or as the result of a period of bilingualism during which a second language is adopted for an increasing number of purposes by a growing number of people.

Kaplan & Baldauf suggest that languages become extinct for several complex reasons:

1. The introduction of a non-indigenous language that, for whatever reasons, takes over some – or all – social functions;
2. The forceful introduction of a non-indigenous language so that certain functions *must* be conducted in the imposed language (1997, 272-273; see also Robins & Uhlenbeck, 1991.)

In sum, other than in the case of the total destruction of a language community, languages die because:

1. Parents are reluctant or unable to pass on a language inter-generationally to their children;
2. The language ceases to serve key communicative functions in the community;
3. The community of speakers is not stable and/or expanding, but rather is unstable and/or contracting.

Where English has been introduced, either as a colonial language or as a commercial language, some or all of these conditions are often met (e.g., Phillipson, 1992). In science and technology, English has captured the key registers.

It would be unreasonable to assert that the spread of English is exclusively responsible for widespread language death[30]; other factors are involved, among them:

1. Population dislocation and redistribution as a result of (at least) war, revolution, religious persecution, economic development, or urbanization;
2. The spread of world languages other than English – e.g., Arabic, Chinese, French, Japanese, Portuguese, Russian, Spanish (Ammon, 1996);
3. The development of supralinguistic functions – e.g., worldwide aviation, tourism, banking, science and technology, etc.

At the same time, it would be equally unreasonable to claim that the English-language teaching activities of the English-speaking nations have played no role in language death. The role they have played is, however, not well understood.

6 What global English does

As English is introduced into communities where it has previously had no role (or only a very limited one), and as people perceive English-language ability to provide access to a better standard of living, English is replacing some registers normally reserved to indigenous languages – even some indigenous languages in total. While the register of sports is, perhaps, not particularly significant (though that point is arguable), sports register can serve as an apt illustration. Such phenomena as the introduction of baseball in Japan, of soccer and cricket in much of the former British Commonwealth, or – most recently – of American football in Europe have led to significant language and social change; other phenomena such as CNN news have pervaded the world wherever television is available and have brought with them language and social change. (See Kaplan & Baldauf, 1997, pp. 233-235 for a discussion of the penetration of English technical lexicon into Russian.) Political leaders who want to make a point to a worldwide CNN audience now know that it must be done in English.

Still other phenomena such as the growth in the numbers of the multinational corporations (and their accompanying R&D functions – see, e. g., Paradis, Dobrin, & Miller, 1985), offering good jobs and high wages, have brought language with them and have resulted in significant language and culture change. As noted above, an additional factor in language loss is urbanization (which requires more frequent and more effective communication across a wider range of domains); thus, urbanization is frequently marked by the expanded use of English.

In these circumstances, it is not purely language that penetrates other cultures. Consider the case of baseball; it is not merely the game that has penetrated Japan. Rather, the whole panoply of activities connected with the game has also been adopted. The big game, the big star (and the accompanying "star" salary), the live broadcast, even the ubiquitous *beeru* and *hotu dogu* have become part of the Japanese environment. By a similar process, the introduction of any new technology carries with it the language in which the technology was developed; thus, the spread of the technology itself facilitates the spread of English if (as is often the case) either the technology arose in an English-speaking polity or the technology is designed to utilize English discourse styles and rhetorical structures.

7 Conclusion

It is unlikely that there is some grand conspiracy among English-speakers to disseminate English world-wide;[31] on the contrary, the spread of English is largely accidental, based in part of the quest for an allegedly better standard of living on the part of receiving populations, and in part on the unconscious press of English on other populations. People talk about the "dominance" of English in certain registers or in certain geographic zones, but the language does not have a will of its own to become dominant, and there is nothing in the natural characteristics of English or of English speakers which would make it inevitable that English should become *the* world language. On the contrary, it is the actions of English-speakers – including journal editors, reviewers and other gatekeepers in science and technology – which underlie the spread of English. English-speaking scientists have also contributed to this phenomenon. There is nothing insidious about the actions of English speakers; it is simply a matter of more-or-less benevolent self-interest. After all,

English speakers have a distinct advantage in a world that has adopted English as its universal language. At the same time, scientists who cannot write English to meet the standards of journal editors are deprived of the opportunity to have their views and contributions disseminated through the global information networks; as a consequence, their contributions are not only lost to the scientists themselves, but more seriously are lost to science. One of the reasons for the advantage that English appears to enjoy results from the fact English is a pluri-centric language, and its speakers have never (until very recently[32] tried to enforce a rigid single standard. Thus, American English, British English, Canadian English, Irish English, South African English, and West Indian English – to name just a few varieties – are competitors in the arena of global English. Each creates its own identity and ways of speaking. These are all accepted as English – unlike French, for example, whose speakers try to maintain a single worldwide standard – *Parisian French*. The fact that English varieties flourish, without being reduced to 'substandard' dialect status, with the only condition on them being that they maintain some level of mutual intelligibility, is one of the underlying keys to the continued success of English as an international language (Baldauf, 1998). For example, one time Iraqi Foreign Minister, Tariq Aziz, might not have wanted to be perceived as speaking either American or British English, but he did speak English and did identify with a number of other varieties or even with something increasingly recognized as *International English*.

However, the developments with respect to English are not unidirectional. While the English speaking nations not only push the dissemination of English but also perhaps actively push English in the direction of a uniform 'standard' language for universal communication, the EU has quietly been moving toward multilingualism. As Baetens Beardsmore has suggested:

> A general policy goal [of the 1992 Treaty of Maastricht] is to place the highest priority on educational mobility; the objective is to enhance the level of familiarity of as many European students as possible with other European cultures and languages as an element of quality in education. Language learning remains a top priority, and to this end, member states are encouraged to promote trilingualism; they are advised to make language qualifications desirable for entry into, and compulsory for exit from, higher education; and they are requested to give particular attention to the learning of minority languages (1994, p. 94).

Here one can see the playing out of two conflicting ideologies: on the one hand the acceptance of the fundamental value of multilingualism as an amazing world resource which allows different perspectives and insights and thus encourages reaching a more profound understanding of the nature of the human mind; on the other hand, the perceived fundamental value of a common language as an equally amazing world resource which allows unprecedented possibilities for international cooperation, especially in the solution of scientific and technological problems. Global use of English serves the latter position. But to the extent that global use of English contributes to the death of small languages, the price may be too high; the extinction of small languages is even more catastrophic than the extinction of biological species, precisely because the extinction of languages is an extinction of the means to understand the world and to interact with it. Such extinction narrows the human condition. Some balance between these two views must be struck.

As Koch (1992, p. 42, cited in Norberg 1994, p. 156) has said about the destruction of Sorbian:

> I can only imagine the world with my ethnicity in place. Its disappearance signifies loss. Slowly but surely the impoverishment would be perceptible across the country's breadth. Perhaps even continentally and planetarily. One color less. Increase of grayness. One sound less, one language less. Increase of silence.

Koch's view is an emotional rather than a rational analysis of the problem. While rational approaches involving the analysis of actual language-loss environments are necessary – indeed, indispensable to an understanding of the problem and of the means of redress – one must not ignore the emotional reactions of the human populations who are being deprived of the right to their language, along with other inalienable rights.

Thus, the spread of English in the registers of science and technology is essentially a coincidence of the confluence of a number of political and economic forces during the last half of the 20th century. But that spread not only threatens the survival of small languages; it also stills the voice of science in languages other than English. While the spread of English – and to a significant extent the widespread use of English in science and technology – has the gravest consequences for the practice of science and technology in other languages – assuring the dependence of less developed nations on the scientific and technological development of a few states (Kaplan, 1983), and largely in a single language – in the end, it cannot be said that the ascendancy of English is the outcome of a conspiracy; it is merely the outcome of the coincidence of accidental forces.

However, it is not only science and technology that is influenced by English. Cohen (1997) suggests that. In ethically charged areas of international life touching on such issues as conflict resolution, human rights, religion, ethnic identity, security, and so on, English by itself proves an inadequate and biased guide. Thorough understanding of the local language and culture of one's interlocutors is essential if one is to make sense of their needs and concerns. Only unmediated access to the knowledge encapsulated in native discourse can enable negotiators and analysts to identify the congruencies and dissonances between their own assumptions and those of others. If negotiation is, by definition, an attempt to create shared meaning and understanding where contradictory readings existed before, then there is really no alternative to the attempt to break out of the habits of thought conditioned by the English Language. In many fields requiring international communication, the fact of linguistic and therefore semantic diversity receives little attention and the dominance of English is presupposed. International negotiation may be a prime case of neglect, since it is preeminently an activity that brings together individuals who speak different native languages and depict and evaluate reality in different ways, and it is in this context that an understanding of the function of metaphors is critical. While an understanding of metaphor and an understanding and awareness of the development and evolution of metaphor is necessary to any individual attempting to acquire any particular language, and certainly in attempts to acquire English as a second or alternative language. The example of a single metaphoric structure – the identification of science as a frontier – cannot by itself play a significant role in the conventional use of North American English, but, given that English contains thousands of metaphors, an awareness of the frequency of metaphoric language and an awareness of the constant diversification and transformation of all metaphors seems essential in acquiring proficient use of this ubiquitous language – at least as essential as a broad vocabulary and a reasonable control of syntactic structures. It is particularly important to understand that the metaphors widespread through English are not the metaphors one brings to English from any other language. And it is the

metaphors of English which play a critical role in the determination of English as a global language – the metaphors of English are useless in the understanding of speakers of any other language as the metaphors of any other language cannot serve as means of access to English.

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Notes

[1] The 30th President, serving from 1923 to 1929.

[2] A composition entitled "American Progress" was drawn by John Gast in 1872; it is an allegorical representation of the development of the North American west. Columbia, a personification of the United States, leads civilization westward with Caucasian settlers, stringing telegraph wire as she sweeps west; she holds a schoolbook. Different stages of the pioneers' economic activity are highlighted, especially the changing forms of transportation. Native Americans and wild animals flee from the upheaval.

[3] Frederick Jackson Turner (1861–1932), a Harvard University historian, delivered a lecture entitled "The Significance of the Frontier in American History" at a meeting of the American Historical Association in 1893. Turner's "frontier thesis," as his argument became known, shaped both popular and scholarly views of the West. Turner, exploring the settlement of the West by Caucasians, stated his thesis: "The existence of an area of free land, its continuous recession, and the advance of American settlement westward explain American development."

[4] The Office of Scientific Research and Development (OSRD) was an agency of the United States federal government created to coordinate scientific research for military purposes during World War II. Arrangements were made for its

creation during May 1941, and it was created to coordinate scientific research for military purposes during World War II (1939-1945). It was created formally by Executive Order 8807 on June 28, 1941 and was discontinued during December 1947. It superseded the work of the National Defense Research Committee (NDRC), was given almost unlimited access to funding and resources, and was directed by Vannevar Bush, who reported only to President Franklin Delano Roosevelt.

[5] An entity actually established by the *National Science Foundation Act* enacted May 10, 1950.

[6] See, e.g., *Texas*, with William Holden (1941), *The Ox-Bow Incident*, with Henry Fonda (1943), *High Noon*, with Gary Cooper (1952), *Shane*, with Alan Ladd (1953), *The Wild Bunch* with William Holden (1969), *True Grit,* with John Wayne (1969*), Jerimiah Johnson,* with Robert Redford *(1972), High Plains Drifter,* with Clint Eastwood (1973).

[7] That is, a law of nature enunciating that all superior races are destined to displace inferior races – an interpretation that constituted an important component of Nazi ideology in Germany but which can also be found in some racist concepts in the United States both historically and contemporarily. (See, for example, Dennis Lehane (2008). *The Given Day*. New York: HarperCollins Publishers.)

[8] Televised introduction by Barack Obama to the first episode of "Cosmos: A Space Odyssey" when the 1980 thirteen-part series "Cosmos: A Personal Voyage" developed by Carl Sagan, was rebroadcast in March 2014. President Obama said: "America has always been a nation of fearless explorers. We dream bigger and reach farther than others imagine. That's the spirit of discovery that Carl Sagan captured in the original 'Cosmos.' Today we're doing everything we can to bring that same sense of possibility to a new generation, because there are new frontiers to explore and we need Americans eager to explore them. There are no limits."

[9] **Henry Ford** (1863–1947), an industrialist, founded the Ford Motor Co. and sponsored the development of the assembly line technique of mass production. Although Ford did not invent either the automobile or the assembly line, he did develop and manufacture the first automobile that middle class citizens could afford, thereby converting the automobile from an expensive curiosity into a practical conveyance that profoundly impacted life in the 20th century. **Thomas Alva Edison** (1847–1931), an inventor and businessman, developed many devices that greatly influenced life around the world, including the phonograph, the motion picture camera, a long-lasting, practical electric light bulb as well as the first industrial research laboratory. **Samuel Colt** (1814–1862), an inventor and industrialist, founded Colt's Patent Fire-Arms Manufacturing Company, making the mass production of the revolver commercially viable. His firearms were prominent during the settling of the western frontier. Colt's manufacturing methods were at the forefront of the industrial revolution; using inter-changeable parts, he became among the first to exploit the assembly line. In addition, his innovative use of art, of celebrity endorsements and of corporate gifts to promote his products made him a pioneer in the fields of advertising, product placement and mass marketing.

[10] Anthony Giddens (1998, p. 94) has described modernity as "...a shorthand term for modern society, or industrial civilization. Portrayed in more detail, it is associated with: (1) a certain set of attitudes towards the world, the idea of the world as open to transformation, by human intervention; (2) a complex of economic institutions, especially industrial production, and a market economy; (3) a certain range of political institutions, including the nation-state and mass democracy. Largely as a result of these characteristics, modernity is vastly more dynamic than any previous type of social order. It is a society – more technically, a complex of institutions – which, unlike any preceding culture, lives in the future, rather than in the past.

[11] "The word *modern* comes from the Latin word *modus*, meaning *now*, but the term *modernity* has a stronger meaning, suggesting the possibility of a new beginning based on human autonomy and the consciousness of the legitimacy of the present time" (Blumenberg, 1983).

[12] The official EU languages are meant to guarantee full linguistic access of EU citizens and member states to EU institutions, in line with democratic ideals, while working languages selected from them should guarantee efficiency within the institutions. The great number of official languages requires a vast system of translation and interpretation. The EU government employs more translators and interpreters than any other political body or organization in the world. The Commission alone has around 1,500 translators. The European Parliament and the European Court of Justice, whose interpreting services are combined, employ 500 permanent and 2,700 freelance interpreters, from the latter of which 300 – 400 are engaged every day. Total translation and interpretation costs for the EU institutions rose

to over 1,123 billion Euro in the budget of 2005 -- i.e., with then still only twenty-one official EU languages (Ammon, 2012, p. 580; see also: www.ec.europa.eu/dgs/translation/whoweare/index_de.htm).

[13] For example, Britain's Overseas Development Administration [ODA], the British Council, the Australian Overseas Service Bureau [OSB], the Australian Agency for International Development [AusAID], the Canadian International Development Agency [CIDA]) and even some agencies of nations where English is not the first language (e.g., the Swedish International Development Cooperation Agency [SIDCA]).

[14] And who in time knows wither we may vent / The treasure of our tongue, to what strange shores / This gain of our best glory shall be sent / To enrich unknowing nations without store. / Which worlds in the yet unformed Occident / May come refined with the accents that are ours.

[15] Reading and writing must be acquired *de novo*; speech too must be acquired, but the acquisition of the capacity to speak is genetically conditioned -- it is socialization to the community norms of spoken language that must be taught.

[16] See, e.g., the great library at Alexandria, founded in 283 B.C.E. and continuing to function until at least the Roman conquest of Egypt in 30 B.C.E. [Later causes for the partial or complete destruction of the Library at Alexandria are attributed: (i.) to a fire set by Julius Caesar in 48 B.C.E., (ii.) to an attack by Aurelian in the C.E. 270s, and (iii.) to the decree of Coptic Pope Theophilius in C.E. 391 – but the library's actual destruction remains a mystery.

[17] Gutenberg started printing in 1454 and produced the Vulgate Bible in 1456. William Caxton (1422?–1491), the first English printer, working between 1477 and 1491 issued some eighty separate books from his press at Westminster; a stunning revolution in technology in a period of about 25 years.

[18] *Renaissance* may be a misnomer, since the society emerging from the second post-biological evolutionary change bears little or no resemblance to any preceding classical society.

[19] Tycho Brahe, for example, may have been the first person to have in hand two separate sets of computations based on two different theories; his observations may constitute a reaction to the possession of an unprecedented amount of information.

[20] German-born Henry Oldenburg was appointed Secretary of the Royal Society in 1662. He had earlier developed a large European network of correspondents among those working in the new science; from 1663 on, as scholars throughout Europe became aware of the Royal Society, the Society was bombarded with letters, arriving largely in French, German, Italian, and Latin, seeking or offering scientific information. As Secretary of the Society, Oldenberg responded, and he 'English'd' texts for publication in the *Transactions.* In this way, Oldenberg invented the scientific journal.

[21] British colonial language policy tended to follow the advice provided in Thomas Babington Macaulay's 1835 "Minute" concerning the intent of education and colonial language policy in India. Macaulay, quite uninformed about language issues and language learning, advised that the policy should strive: "…to form a class Indian in blood and colour, but English in tastes, in opinions, in morals, and in intellect; a class who could serve as interpreters between the government and the masses, and who, by refining the vernaculars, would supply the means of widespread dissemination of western knowledge". (quoted in Phillipson, 1992, p. 110)

[22] Because the delegates of the United States did not speak French, English was introduced into international diplomacy at the Treaty of Versailles (1919). Furthermore, English played a significant role in the League of Nations, whose first Secretary-General was an Englishman.

[23] The Reagan administration in the United States invented the term *technology hemorrhage* and, for the first time in recent history, serious restrictions were imposed on the free flow of scientific information, not merely in terms of "national security," but in terms of protecting patents and copyrights.

[24] The European Union, formerly the European Community [EC, 1967 - 1993], and before that the European Economic Community [EEC, 1957 - 1967]) came into existence in 1993.

[25] *Big science* had begun to develop early in the 19th century. The 1875 volume of the *Philosophical Transactions* reports on "a series of experiments carried on by a Committee appointed by the Secretary of State for War…" (Noble & Abel, pp. 49-50).

[26] The social construction of science information has been extensively researched by discipline and by function, and the implication for language policy and language-in-education policy has been explored (Bazerman 1985 – Physics; Gilbert & Mulkay 1984 – science discourse; Grabe & Kaplan 1986 – language-in-education; Latour & Woolgar 1979 – laboratory science; Maher 1987 – Medicine; Myers 1990 – Biology, Winsor 1990 – Engineering).

[27] A 'standard' language results, generally, from a complex set of historical processes intended precisely to produce standardization; indeed, a 'standard' language may be defined as a set of discursive, cultural, and historical practices – a set of widely accepted communal solutions to discourse problems. Additionally, a 'standard' language is a potent symbol of national unity. If this definition of a 'standard' language may be assumed to be viable, then the 'standard' language cannot be assumed to be anyone's 'first' language.

[28] As in code-switching/code-mixing; e.g., *Sometimes I'll start a sentence in English y termino en español* [English/Spanish]; *Usi ingrezi sikhi e te why can't they learn?* [Panjabi/English]).

[29] In a social gathering in Tokyo in 1998, I encountered a professional economist who had for many years worked for the Japanese Ministry of Economics and who had, in the course of his duties, negotiated on behalf of Japan in a wide variety of multilingual settings. He reported that such negotiation was commonly carried on in English, even though English was not the native language of either side in the negotiations. He complained that the teaching of 'standard' English to Japanese was ineffective and urged that what he designated as 'broken' English be taught, since that was the variety most commonly used in the spheres of activity in which he had been engaged.

[30] *Language extinction* (as distinction from *language death*) means that a language no longer has any speakers. People who spoke the language do not disappear; rather they shift abruptly to the dominant language, leaving the subordinate language to linguistic death.

[31] This is not to overlook or underestimate the efforts of the British Council or the United States Information Agency to spread English. These efforts appears to be a 'natural' tendency of development agencies to spread the languages in which they operate, sometimes as a matter of official foreign policy, sometimes for economic and cultural reasons. Such organizations as the *Alliance Française,* the Goethe Institute, the *Instituto Cervantes*, the Japan Foundation, the Korea Foundation, to name just a few, are engaged with equal enthusiasm in the spread of their respective languages. None of this activity can be construed as a "conspiracy"; rather, it is a natural outgrowth of economic and political competition (see, e. g., Kaplan and Baldauf, 1997, pp. 4-14). In a historical context, the efforts of language agencies are very recent – almost entirely within the past fifty years – and essentially superfluous.

[32] Language planners until very recently defined the task in terms of the 19th century European notion of one nation/one language/one culture.