As you know, six to seven thousand languages are used throughout the world, there have been tens of thousands of languages since the human race first spoke, languages have endlessly replaced each other, and the present situation will change again. This is one of history’s great lessons: linguistic circumstances evolve continuously, driven by speakers of course, but also by great social and economic movements, by imperialisms, and today by globalization, as well as by the effects of laws with an ecological character. It is these that I would like to examine now.

First, the obvious: without speakers, languages do not, cannot exist. If we are trying to grasp our world’s linguistic history, we must consider from the outset that we are confronted by two populations: a language population and a human population, and also by a problem of population dynamics. Without speakers there are no languages and in a way, languages live at the expense of human beings in a relationship of the type host/parasite. The issue of the quantitative
evolution of languages will thus need to be studied in light of humanity’s demographic evolution.

As you see, I am developing an approach based on population ecology. Now population dynamics teaches us that from an initial state, a population first undergoes an exponential (or geometric) growth until the biomass (in other words all that produces or can produce life) reaches its maximum degree. At this point growth diminishes and then stops, overpopulation causing either a reduction of the birth rate and of immigration, or an increase in mortality, or both. Population growth is no longer exponential but logistic, confronted as it is by the constraining resistance of the environment.

Regarding our two populations, the language population and the human one, we know that the human population has been in constant growth since the outset, and will continue to grow, according to long term projections, until 2150. Hence the human population is still in its geometric growth phase. The language population, on the other hand, seems to have reached its maximum biomass and to be now in its logistic growth phase. In the following diagram, the curve on the left would represent the evolution of the human population whereas the curve on the right would better depict the evolution of the linguistic population: thus the quantitative history of the world’s languages would conform to a logistic growth model.
One of the reasons for the flattening of this curve stems from the fact that the coexistence of several languages in the same ecosystem necessarily engenders *inter-language competition*: if the relationship between human population and linguistic population is of the host/parasite type, the relationship between languages, in a given eco-linguistic niche, is of the prey/predator type and the disappearance of certain languages would then be the result of natural selection as postulated by Charles Darwin. *And this explains the title of my essay:* This constant competition in the linguistic population, this *prey/predator* relationship that I have called elsewhere glottophagy or language wars, can take on different aspects. In population genetics it is considered that competition appears in two ways: *competition by exploitation*, when populations have no direct relations but utilize
common resources, and *competition by interference*, when populations have direct relations and one population denies the other or others access to the resources. This approach can be readily applied to the domain of languages, and this leads me to the subject I intend to address today, language policies. We witness, for example, competition by exploitation among the different languages offered to students in the French high school system (English, German, Spanish, Arabic, etc.), and competition by interference when, in an international body (such as a colloquium or meeting at the U.N., or UNESCO, etc.), which uses several working languages, the majority of the participants express themselves in English. In both cases the tendency is towards the disappearance of certain populations because different species exploiting resources in an identical manner cannot coexist in the same environment. This competitive exclusion is not immediate, and the length of the period of coexistence is predicated upon many factors, but linguistic circumstances undergo, and always have undergone, constant changes.

These changes, which concern the form of languages as well as the relations that they maintain with one another, thus result from different factors that appear *in vivo*. Today, however I wish to address the *in vitro* action on languages and linguistic circumstances and, as a preamble, I offer you two definitions.
We will call *language policy* the entirety of conscious choices concerning relations between language(s) and life in society, and we will call *language planning* the concrete enactment of a language policy, its implementation as it were. Any group can elaborate a language policy; we hear of “family language policies,” for instance, and we can imagine a diaspora (the hearing impaired, gypsies, Yiddish speakers...) convening a congress in order to determine a language policy. However, in an area as important as the relations between language and life in society, only the State has the power and the means to plan and implement its political choices. Of course this does not exclude the possibility of transnational language policies where several countries undertake concerted action (such is the case in the Francophone world, and I will revisit this subject) nor does it exclude the language policies of entities smaller than a country (such as those concerning regional languages, Catalonia for example, which I will also revisit), but it does exclude the possibility of language policies captained by individuals or groups without power. I will first offer you several examples of national language policies, then one example of a regional language policy, Catalonia, and finish with an example of language policy elaborated jointly by a large number of countries representing three language domains.
I. Two methods of managing multilingualism: in vivo and in vitro

When you consider the number of languages in existence throughout the world (six to seven thousand, an average of more than 30 per country), it would seem that conditions were set to prevent human beings from understanding each other. Nonetheless, despite what some consider the curse of Babel, or the multiplicity of languages, communication functions everywhere. The reason is that there are two methods of multilingual management: one results from social praxis, the other from intervention upon this praxis. The first method, *in vivo* management, concerns the way people cope when they face communication problems on a daily basis. This type of management can result in "approximate languages" (pidgins), or vehicular languages either created (such as munukutuba) or promoted (such as English).

In both cases communication is ensured by "creating" or "redesigning" a language; it owes nothing to any law or decree, but is just the result of actual practice.

This practice, by the way, does more than just solve multilingual problems. Every day, in every language throughout the world, new words appear to render things (objects and concepts) that language did not yet render. This *spontaneous neology* was particularly active in
African languages during the colonial period. Colonized societies were confronted by technologies (automobiles, trains, planes...), by organizations (administrations, hospitals...) or by occupations (officer, doctor, governor...) that were imported from the West and that needed to be named. One can thus study how a population uses its linguistic skills to go about forging new words to designate new ideas. In Mali for example, the Bambara word for ice cube is *jikuru* (literally “water stone”), for bicycle *negeso* (“iron horse”), for train *negesira* (“iron road”). This last example is identical to the French “chemin de fer,” which shows us that the same type of neology is found in French as well as in other European languages.

But there exists another approach to multilingual problems or neology, power, or *in vitro* management: in their research laboratories, linguists analyze situations and languages, describe them, advance hypotheses on their evolution, submit proposals to correct problems. Politicians then examine these hypotheses and proposals, make choices and implement them. These two methods are thus extremely different and their relations can sometimes be conflictual if the *in vitro* decisions take the opposite track from the *in vivo* management or from the speakers’ linguistic feelings. It will thus be difficult to impose upon a population a national language that it rejects, or that it perceives to be a dialect and not a language, etc... It would also make no sense to
choose a minority language for this function when a commonly used vehicular language already exists. Or again it can prove difficult to impose upon a portion of the population a dominant language that it refuses (this is the case for example of Wolof in Casamanca, Senegal, and of Bambara in Mali, both dominant vehicular languages, which are nonetheless rejected by a part of the population).

Language policy thus generates problems of democratic control ("decision-makers” cannot just be allowed to do as they please) and of interaction between the situational analysis made by governing bodies and the often intuitive analysis carried out by the people.

II. Action on language

Languages change, they change under the influence of their internal structures, of history, as well as under the influence of linguistic attitudes. But one can also make them change, one can modify their form. Action on language can have different objectives, the main ones being modernization (in its writing, in its lexicon), "cleansing," and defense.

Let me give you three examples.
1. China’s reform of its written language

We all know that the Chinese language has no alphabet and that its script uses characters. Because these characters, unlike the alphabet, are not organized according to the “double articulation” model (i.e. a limited number of phonemes enables the creation of an unlimited number of words), they are necessarily extremely numerous. It is estimated that there are:

- 6763 basic characters, of which 4000 are very usual and are needed to read or write simple, everyday texts (a BA student is required to know these characters);

- 16000 other characters, in addition to the first 6763, allow the printing of all books, ancient and modern (the total is now close to 23000);

- 34000 other characters, which are infrequently used, complete the list.

Each one of these characters is made of a certain number of strokes that must be drawn according to an immutable order and direction: this stroke before the other, from left to right and from top to bottom, etc. Here is a simple example, the character used to transcribe the word tree:
The four strokes that make up this character must be executed in the following order:

The inherent difficulty of learning and memorizing such a system is self-evident, and the Communist Government, intent on promoting easier access to writing skills for the general population, implemented a script reform in 1955: 515 characters and 54 particles were simplified, reducing them from an average of 16 strokes to an average of 8. Here is one example of this simplification:

<table>
<thead>
<tr>
<th>Traditional Character</th>
<th>Simplified Character</th>
</tr>
</thead>
<tbody>
<tr>
<td>馬 (ma)</td>
<td>马</td>
</tr>
</tbody>
</table>

ma (horse)
By reducing the number of strokes, this simplification certainly facilitates character learning and memorization, but at the same time it causes a semantic loss. In the traditional character for “horse” you can see the mane, the rump and the four legs which are lost with the simplified character.

2. Modifying a language’s lexicon

Language planning can also act upon the formation of words when a language has an inadequate vocabulary or when there is a desire to replace certain words with others.

The first case, word formation, is what we call neology. When a language changes status, when it becomes a teaching language for example, the words needed for this new function must be forged: grammatical terminology, mathematical vocabulary, a lexis for chemistry, etc. This is a common occurrence in post-colonial situations, and this *in vitro* neology can conflict with *in vivo* neology if words suggested by planners clash with words already forged by speakers in their common practice (for example in Mali, the Bambara words *jamana kuntigi*, “master of the head of the country,” were proposed as a substitute for the word *peresidan*, “president,” or the word *nyetasira*, “road to truth,” was proposed as a substitute for
“politigi, “political”). Conversely, in vitro neology can sometimes prevail as in the case of the word logiciel in France, which was able to supersede the borrowed term “software,” or more recently, the case of courriel over the borrowed term “mail.”

Turkey offers us a good example of the second case, that is, word replacement. In 1923, Mustapha Kemal, carried to the Presidency by a secular and nationalist movement, initiated “the linguistic revolution” concurrently with a whole series of economic reforms (dil devrimi). The idea was to modernize the Turkish language and rid it of all Muslim and Ottoman influences. The key decisions were the following:

- to abandon the Arabic alphabet (which did not correctly transliterate the eleven vowels found in the Turkish language) and to use instead a modified version of the Latin alphabet (the National Assembly adopted the new alphabet in 1928);
- to abolish the teaching of Arabic and Persian in schools (1929);
- to systematically replace all words borrowed from Arabic or Persian with Turkish words (in 1932 an ad hoc commission was created to carry out this task);
- to ask citizens to choose Turkish names: to set an example, Mustafa Kemal changed his name to Ataturk (father of Turkey).
3. Standardizing a language : the example of Norway

When Norway became independent after three centuries of Danish domination (1523-1814) followed by nearly a century of Swedish jurisdiction, its linguistic circumstances were complex. Literary Danish, taught in the school system, coexisted in fact with an urban standard and different dialects, and in an effort to establish a truly Norwegian language, one proposal after the other was implemented. First, Danish (Dansk) was pitted against Norwegian (Norsk), then Rigsmaal against Landsmaal, then Bokmaal against Landsmaal, and finally Bokmaal against Nynorsk. These names exemplify fluctuating realities: Rigsmaal and then Bokmaal designate the language closest to Danish, while Landsmaal and then Nynorsk designate the language undergoing attempted standardization, the starting point being the country’s different dialects.

This standardization essentially affected the written form of the language, and the Norwegian Parliament voted consecutive spelling reforms (1907, 1913, 1916, 1923, 1934, 1936, 1938, 1941, 1945...) each corresponding to different political choices: Landsmaal supporters being rather conservative and Nynorsk advocates rather liberal, the former favoring a language closer to Danish while the latter endorsed a language closer to popular usage.
These two languages coexist to this day. Schools can choose manuals using either spelling, and newspapers also elect to follow one form or the other, but an opinion poll (Gallup 1946) showed the general population favored a fusion of Landsmaal and Nynorsk: here again, linguistic feelings, “spontaneous” linguistic in vivo policy, were at odds with the in vitro choices of the planners, clearly more determined to differentiate Norwegian from Danish than were the speakers themselves in their majority. Obviously, language policy can have a strong symbolic and ideological function: in Norway its role was to erase traces of Danish domination from the language and to affirm, through linguistic unification, the existence of a Norwegian nation.

**III. Action on languages**

In multilingual situations, governments must sometimes promote a language formerly dominated, or on the contrary, deprive a language of its prior standing, in other words modify the status and social function of the existing languages. I will rapidly give two examples of this type of intervention: first, the choice of a national language, then the “revival” of a language.
1. Choosing a national language: the example of Indonesia

When Indonesia became independent in the mid 1940’s, Malay was chosen as the national language. Previously, Malay had been a vehicular language used mainly in ports and markets. At that time, the language by far most commonly spoken in the archipelago was Javanese, and there were also another two hundred different idioms organized into seventeen dialectical groups. The choice of Malay had the advantage of giving the official role to a language that belonged to no one, thus dispensing with polemics and ethnic conflicts. This policy, clearly an in vitro action on all the languages in presence, was followed by intervention on that specific language: Malay (re-baptized Bahasa Indonesia, “Indonesian language”) needed an adequate vocabulary consistent with its new role. To accomplish this, the strategy adopted was to “asianize” the lexicon: first prioritize the use of an existing word in Bahasa Indonesia, and if such a word did not exist, choose a word from another one of the archipelago languages, and if that was not possible, choose a word from one of the other Asian languages, and only as a last resort, choose a word from one of the international European languages.

Thus, in the political domain, a more indigenous word, swantantra, was chosen over autonomi, generally used by the population, and in the scientific domain, the Arabic zarrah was chosen over the
international “atom” borrowed from the Greek: in this case, neology had strong ideological connotations, just as did the written form in the Norwegian example.

2. The revival of a language: the example of Catalonia

Catalonia’s case is exemplary because it interweaves the work of linguists with language policy and just plain politics.

Charles Ferguson could have chosen Catalonia’s status under the Franco Regime to illustrate diglossia: clearly Castilian (Spanish) was the dominant language (Ferguson’s high variety) and Catalan the dominated language (Ferguson’s low variety). Catalan linguists, (especially Ll. Aracil and R. Ninyoles) first articulated a theoretical critique of the diglossia concept, a critique based on the concrete situation experienced in Catalonia. Ferguson and Fishman tended to blot out the conflicts inherent to diglossic situations and to present conditions of domination as normal. But here we must insist that the expression “dominated language” (as well as “dominant language”) are metaphors: people, not languages, are dominated (or dominant). After Franco’s death, Catalonia having received the status of autonomy, its government furthered the linguists’ work by creating a certain number of institutions empowered to modify the linguistic
situation. The Spanish Constitution of 1978 in its Article III established a distinction between the official language of the Nation and the official languages of the Autonomous Communities, but more importantly, it stated that Castilian, and not Spanish as had been the case formerly, was the official language of the Nation, thereby underscoring with this semantic variance that Castilian had originally been the language of Castile, not that of Spain. Catalonia’s Statute of Autonomy, taking its cue directly from the Spanish Constitution, declares in its Article III:

1. “Catalan is the specific language of Catalonia;
2. Catalan is the official language of Catalonia, and so is Castilian, the official language of the entire Spanish State.”

It was within this strictly defined legal framework that Catalan was to be “revived” in Catalonia. The law of “linguistic normalization” was enacted in 1983, and it stipulated for example that all schoolchildren (of Catalan and non-Catalan extraction) would learn both languages, and that Catalan would be used for business, for advertising, for sporting events, etc.

The purpose of all this planning was to establish in Catalonia a bilingualism that would not be diglossic. The planning also intervened in the linguistic environment (traffic signs, official signage) and enabled the projects of socio-linguists who multiplied their research on
bilingual circumstances. Comparing the answers to questions asked in both the 1975 and the 1986 census concerning proficiency in Catalan gives a clear picture of how the situation evolved:

<table>
<thead>
<tr>
<th></th>
<th>Do not understand Catalan</th>
<th>Understand Catalan</th>
<th>Speak Catalan</th>
<th>Write Catalan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1975</td>
<td>25.7%</td>
<td>74.3%</td>
<td>53.1%</td>
<td>14.5%</td>
</tr>
<tr>
<td>1986</td>
<td>11%</td>
<td>90.3%</td>
<td>59.8%</td>
<td>30.1%</td>
</tr>
</tbody>
</table>

There is clear evidence that Catalan progressed notably in all aspects (comprehension, speech, writing). And this example, in a way, typifies the optimized language policy because this action on language, this attempt to build a non-diglossic bilingualism, cannot, in this case, be seen as a purely linguistic intervention: Catalonia needed this language policy to lay the foundations of its autonomy, and the success or failure of this “revival” also conditions the future of the Generalitat.
IV. A language policy in support of diversity: The three linguistic domains

I would now like to examine a language policy that is not the result of a single country’s efforts, but that of a number of countries grouped in linguistic associations. In my opening statement I said there were six to seven thousand languages throughout the world. Order can be restored to this Babel-like chaos with the help of what I have called the gravitational model. We can consider that languages are de facto related to each other through bilingual speakers, and that these bilingual networks, and their different tiers, allow us to describe their interrelations in the following manner.

A dozen or so supercentral languages (French, Spanish, Arabic, Chinese, Hindi, Malay, etc.) gravitate around a hypercentral language (English) whose speakers have a strong tendency to be monolingual. When the speakers of supercentral languages become bilingual they learn either the hypercentral language or one of the other supercentral languages.

One to two hundred central languages gravitate around the supercentral languages, and in turn these central languages are the gravitational pivots for four to five thousand peripheral languages.
Thus two tendencies appear at each level of this system, one channeled towards a “horizontal” bilingualism (mastering a language of equal level to one's mother tongue), the other towards a “vertical” bilingualism (mastering a higher level language), and these two tendencies represent, as we have said, the very cement of this model.

This, for the most part, statistical organization of the world’s languages is not a language hierarchy but a structure configured around an organizing principle. The consequences of this configuration are verified almost daily. In Algeria, a bilingual Arabic/Kabyle speaker’s mother tongue is, 99% of the time, Kabyle; in Mali, a bilingual Bambara/French speaker is always a native Bambara speaker; a bilingual Alsatian/French speaker is always of Alsatian mother tongue, etc. I could go on multiplying such examples ad infinitum, but these suffice to show us that power relations cement such a gravitational organization. The examples I mentioned reveal traces of a language imposed to foster unification, traces of the Maghreb’s colonization by the Arabs, traces of the Sudan’s colonization by the French, and traces of the Jacobin blueprint that shaped France’s organization. Against this background we need to picture the actions undertaken by Francophony, Hispanophony and Lusophony, united in an alliance for the defense of linguistic diversity. Indeed, since 2001, the OIF (International Organization of Francophony) has joined forces
with similar organizations such as the OEI (Organization of Iberian-American Countries), the CPLP (Confederation of Portuguese Language Countries), and the Latin Union to develop a common language policy. In fact, these three linguistic domains, these Xphonies, face similar situations in their confrontation with English, the hyper central language. Let us just review one example, the percentage of speeches, delivered to the General Assembly of the United Nations in English, French, Spanish, and Arabic for the years 1992 and 1999:

<table>
<thead>
<tr>
<th>Language</th>
<th>1992</th>
<th>1999</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>45%</td>
<td>50%</td>
</tr>
<tr>
<td>French</td>
<td>19%</td>
<td>13.8%</td>
</tr>
<tr>
<td>Spanish</td>
<td>12%</td>
<td>10%</td>
</tr>
<tr>
<td>Arabic</td>
<td>10%</td>
<td>9.5%</td>
</tr>
</tbody>
</table>

Clearly, during those seven years, every language lost ground to English. The situation would be even more alarming if we considered the languages used to write documents, the languages spoken at informal reunions, the percentage of books written in each language
that were acquired by the U.N. library, etc. For these three linguistic domains, the starting point was a common constant, the threat of humanity's cultural impoverishment through linguistic standardization. But a common policy needed to be defined. Successfully devising a course of action acceptable to these different entities implied thinking in terms of “positive-sum games” where all the players stand to gain, and not in terms of “zero-sum games” where there is but one winner and all the others are losers.

After numerous meetings, after establishing two committees of international experts, one to advise on language policy and the other on new technologies, after these committees submitted concrete recommendations, the three linguistic domains decided to undertake a number of actions. Here are the three most salient:

- Actions bearing on the international status of the languages of the three domains and on the linguistic practices of international organizations.

- Actions bearing on the training of international officials (awareness concerning issues of language policy, inter-comprehension amongst Romance languages).

- Actions bearing on the harmonization of accreditation processes for linguistic competence (tests on linguistic achievement).
Other proposals suggested by the committees of experts were not retained, however. Notably, the committee of experts on language policy which I presided strongly maintained that the concept of diversity must be understood from two different perspectives: a horizontal diversity insofar as the supercentral languages were concerned, and a vertical diversity in regards to the central or peripheral languages gravitating around the supercentral languages. But none of our recommendations regarding the protection of peripheral languages in the three domains (e.g. African languages, Amerindian languages…) were approved, and this refusal could potentially make this international linguistic cooperation seem a sort of “linguistic Yalta” solely concerned with defending the “three major languages” against English.

Of course the fact that these three languages belong to the same family (Romance languages) facilitated the first steps of this cooperation. However, the presence of five Arabic speaking countries in the OIF, possibly six should Algeria decide to join the Francophone organization, could broaden the possibilities for action in the “language market” area (Calvet, 2002) and deal a new hand.

Since 2001, Francophony has been working in concert with Hispanophony and Lusophony to undertake common actions in international organizations where linguistic rules are seldom followed,
and it is a constant battle to have them enforced. If the Arab countries integrated this group, more than half of the U.N. member countries, representing three (Arabic, Spanish, French) of the six official languages, could act against the hegemony of English. This could also cause a domino effect and impact the language policy of numerous international organizations (remember the problems encountered during the 2004 Olympic Games in Athens), and particularly the European organizations.

In fact, the European Union’s linguistic system makes the language of each member country an official language of the E.U. The result is a very onerous and cumbersome situation with translation costs representing 40% of the operating budget. Whereas the U.N. with its 200 member countries operates with six languages, the E.U. that only had fifteen members operated until recently with eleven languages and will soon need more than twenty. Pivotal languages are often required for translation purposes, with Greek, for example, being first translated into French and then into Finnish, with the semantic losses one can readily imagine. And if written documents are speedily translated into English, German, and French, it takes much longer to translate them into Italian, and longer still into Swedish.

The situation is practically gridlocked, and successive Presidencies are just passing on the issue like a hot potato, never daring to undertake
the slightest initiative or to come up with the least proposal, as if it were urgent to do nothing...

From this perspective, international cooperation between linguistic domains could be the first step towards a broader reflection on interrelations between languages of the world and defense of diversity. This leads us to conclude with a few, more general, considerations. In itself, what does the concept of language policy and planning imply in terms of language properties and ties to society? In other words, what must a language be to make a language policy possible? I believe that sociolinguistics cannot exist coherently without rejecting the hiatus, created by structuralism, between language as “instrument of communication,” and the manner in which the language is used. I believe that the subject matter of linguistic studies is not just language or languages, but the social group from its linguistic aspect. In this view, language policy represents applied sociolinguistics, and represents in fact an intervention ON society THROUGH language. This presupposes two properties to language:

– the property to change internally; and the history of languages confirms it: all languages change over time;

– the property to change externally, in other words, to change the relationships between languages: this is also confirmed by the
Indonesian as well as the Catalan cases that we briefly examined.

However, language policy also presupposes that these changes can be the result of *in vitro* action, that human beings can consciously change language, the interrelations between languages, and thus social circumstances. When you think of how often linguistic domination indicates social domination, the stakes riding on this presupposition are tremendously high. But these stakes are not only practical, they are also theoretical inasmuch as all action on languages or on linguistic circumstances is tightly linked to prior analysis of these same languages and circumstances.

To conclude, and because I am addressing an Anglophone audience, I would like to emphasize the fact that winning what I have called the language wars is not necessarily a good thing. History shows us that the larger a language’s territory, the more it has a tendency to diversify, to morph into dialects. Thus the Roman Empire caused Latin to explode into French, Italian, Spanish, Portuguese, etc. The same thing is happening to English today. English spoken in the US differs from British English, English spoken in India differs from Nigerian English, etc. Are these the premises of a new generation of languages that might, ironically or by history’s iron law, transform a victory (a
language achieving world domination) into a defeat (the disappearance of a language by fragmentation)...