Languages are today being murdered faster than ever before in human history. Optimistic realistic
growths claim that only half of today's oral languages will exist around 2100; pessimistic but realistic
accounts say that 90% of the world's oral languages may be dead or moribund (no longer learned by
children) in a hundred years' time. The media and the educational systems are the most important direct
agents in language murder today; indirectly the culprits are the global economic and political systems.

After a short overview of the situation of the world's languages, I will discuss three types of
argument for why the world's linguistic diversity should be maintained. The first is the relationship
between linguistic diversity (LD) and biodiversity, and threats to them both. LD is disappearing
relatively much faster than biodiversity. Linguistic and cultural diversity on the one hand and
biodiversity on the other hand are correlated - where one type is high, the other one is too, and vice versa.
New research suggests mounting evidence for the hypothesis that the relationship might also be
causal: the two types of diversities seem to mutually enforce and support each other. If the long-lasting
coevolution which people have had with their environments since time immemorial is abruptly
interrupted, without nature (and people) getting enough time to adjust and adapt, we are also seriously
undermining our chances of life on earth because we are murdering the linguistic (and thereby mostly
also the cultural) diversity which is our treasury for historically developed knowledge, including
knowledge about some of the most vulnerable and most biologically diverse environments in the world
(see Terralingua's web-site http://www.terralingua.org).

The second type of argument claims that the future belongs to multilinguals even
economically. High level multilinguals do better at a group level than monolinguals on tests measuring
 certain aspects of creativity, cognitive flexibility and divergent thinking, and they have access to
 knowledges and ideas in several languages. In an information society multilingual linguistic and
cultural capital leads to creativity and innovation, and these precede investments. When half the world
has high competence in English, the laws of supply and demand predict that the price goes down:
English will be a necessary but not sufficient prerequisite for good jobs - like literacy yesterday and
computer skills today. More varied linguistic competencies are needed . and these are what Europe is
killing or not promoting via schools. Monolingual English speakers will be great losers, fit for
 pathological museums.

The third type of argument claims that oppression of the linguistic human rights (LHRs) of
indigenous peoples and minorities leads to conflicts which can then be labelled ethnic. Granting LHRs
prevents conflict. Present provisions in human rights law will then be assessed: to what extent do they
contain LHRs, especially in education, rights which are necessary to counteract the threat towards the
maintenance of LD. The result is that is that the most vital LHRs are not protected and much of the
education of minorities and indigenous peoples conforms to the UN definitions on genocide by
'forcibly transferring children of the group to another group'. Learning new languages should be
additive rather than subtractive: it should add to people's linguistic repertoires; new languages,
including lingua francas, should not be learned at the cost of the diverse mother tongues but in addition
to them. 'Killer languages' (and English as the foremost among them), when learned subtractively
rather than additively, pose serious threats towards the LD of the world.

For more detail, see Skutnabb-Kangas, Tove (1999). Linguistic genocide in
education - or worldwide diversity and human rights? Mahwah, NJ: Lawrence Erlbaum
Associates). My web-site <http://babel.ruc.dk/~tovesku/> has an outline and a list of contents.
1. Introduction: the state of the world’s languages

In my view everybody should be minimally bilingual, and preferably multilingual. This is true for both dominant group majority populations and for indigenous and minority peoples. It is a perfectly feasible goal, also for schools. We know approximately what should be done with various groups, with various prerequisites, in order to support and enable children so that they can become high level multilinguals. Still, this is not done. On the one hand, schools prevent many dominant majority group children from learning other languages really well. On the other hand, most of the education of minorities functions in glaring contradiction to what we know should be done. Schools participate in linguistic genocide vis-à-vis indigenous and linguistic minority children all over the world. Schools cannot save languages alone - families and the whole society are needed for that - but schools can kill languages more or less on their one - and they do.

The paper is structured as follows. First I sum up a few basics about the state of the world’s languages. Then I will mention three arguments for why everybody should be multilingual. I have chosen some of the less well known arguments. These have been summed up in the abstract for my paper. Finally, I say a few words about linguistic and cultural ecologies.

First some basics. The exact numbers of languages or speakers of languages are not known (lack of resources for their study) and cannot be known (the border between languages and other varieties, e.g. dialects, is political not linguistic). The most useful source on number of languages, The Ethnologue, edited by Barbara Grimes, the Summer Institute of Linguistics, a missionary organisation - see <http://www.sil.org/ethnologue/> lists almost 6.800 languages in 228 countries. But there might be even twice as many: there are deaf people in all societies, and while hearing people have developed spoken, oral languages, the Deaf have developed Sign languages, fully-fledged, complex, abstract languages (see Branson & Miller 1998, 2000, for brilliant analyses of the treatment of Sign languages and Jokinen 2000 for the (lack of) LHRs of Sign language users). Those who speak about ‘languages’ but in fact mean oral languages only, participate through invisibilising sign languages in killing half the linguistic diversity on earth.

Most of the world’s languages are spoken by relatively few people: the median number of speakers of a language is probably around 5-6,000 (Posey 1997). 95% of the world's spoken languages have fewer than 1 million native users; half of all the languages have fewer than 10,000. A quarter of the world's spoken languages and most of the Sign languages have fewer than 1,000 users. More than 80% of the world's languages are endemic: they exist in one country only (Harmon 1995).

Table 1. Basic information about languages

| **We have 6-7,000 spoken languages (see The Ethnologue, <http://www.sil.org/ethnologue/>), and maybe equally many Sign languages.** |
| **The median number of speakers of a language is probably around 5-6,000** |
| **95% of the world's spoken languages have fewer than 1 million native users** |
| **Half of all the languages have fewer than 10,000 users** |
| **A quarter of the world's spoken languages and most of the Sign languages have fewer than 1,000 users** |
| **More than 80% of the world's languages are endemic: they exist in one country only** |

Linguists are today working with the description of the world's linguistic diversity in the same way as biologists describe and list the world's biodiversity. There are Red books for threatened languages, in the same way as for threatened animals and plants and other species (Tables 2 and 3).

Table 2. Red lists for threatened animals and plants

| The web-sites for the Red Lists of Threatened Plants and Threatened Animals are <http://www.rbge.org.uk/data/wcmc/plants.by.taxon.html>; |
Table 3. Red books for threatened languages

<table>
<thead>
<tr>
<th>Region</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe</td>
<td><a href="http://www.helsinki.fi/~tasalmin/europe_index.html">http://www.helsinki.fi/~tasalmin/europe_index.html</a></td>
</tr>
<tr>
<td>Northeast Asia</td>
<td><a href="http://www.helsinki.fi/~tasalmin/nasia_index.html">http://www.helsinki.fi/~tasalmin/nasia_index.html</a></td>
</tr>
<tr>
<td>Asia and the Pacific</td>
<td><a href="http://www.tooyo.o.u-tokyo.ac.jp/redbook/asiapacific/asia-index.html">http://www.tooyo.o.u-tokyo.ac.jp/redbook/asiapacific/asia-index.html</a></td>
</tr>
<tr>
<td>Africa</td>
<td><a href="http://www.tooyo.o.u-tokyo.ac.jp/redbook/africa-index.html">http://www.tooyo.o.u-tokyo.ac.jp/redbook/africa-index.html</a></td>
</tr>
<tr>
<td>Databanks for Endangered Finno-Ugric Languages:</td>
<td><a href="http://www.helsinki.fi/~tasalmin/deful.html">http://www.helsinki.fi/~tasalmin/deful.html</a></td>
</tr>
<tr>
<td></td>
<td><a href="http://www.suri.ee">http://www.suri.ee</a></td>
</tr>
<tr>
<td>Russia</td>
<td><a href="http://www.eki.ee/books/redbook/">http://www.eki.ee/books/redbook/</a></td>
</tr>
</tbody>
</table>

There are detailed definitions of the degree of threat or endangerment. A language is threatened if it has few users and a weak political status, and, especially, if children are no longer learning it, i.e. when the language is no longer transmitted to the next generation. The present discussions and ongoing work about the disappearance/death/killing of languages, starting with the debate in Language in 1992, include quite a lot of descriptive work, books and articles, the founding of several international organisations for the promotion and protection of endangered languages, and activism for the revival and reclamation of languages. For summaries, see Maffi et al. 1999, Maffi 2000, Maffi (ed.) (in press).

Habitat destruction, for instance through logging, spread of agriculture, use of pesticides, and the poor economic and political situation of the people who live in the world's most diverse ecoregions, have been identified as some of the main causes for the disappearance of biodiversity. What most people do not know is that disappearance of languages is also a very important cause.

While new trees can be planted and habitats restored, it is much more difficult to restore languages once they have been murdered. Languages are today disappearing at a faster pace than ever before in human history. What happens is linguistic genocide on a massive scale, with formal education and media as the main concrete culprits but with the world's political, economic and military structures as the more basic causal factors.

Even the most 'optimistic realistic' linguists now estimate that half of today's oral languages may have disappeared or at least not be learned by children in 100 years' time. The 'pessimistic but realistic' (e.g. Michael Krauss from Alaska, 1992) estimate that we may only have some 10% of today's oral languages left as vital, non-threatened languages in the year 2100. 90% may be 'dead' or 'on the death row', 'moribund' (negative terms that many, including myself, object to). On the other hand languages can also be 'reborn' or 'reclaimed' - there is a handful of examples of this. Kaurna in Australia is one (see Amery 2000). Those who speak it now say that it was not dead - even if the last speaker died in the late 1920s - it was only sleeping. But so far it has happened seldom, and fairly few new languages arise.

Hearing that languages are disappearing, many people might say: so what? It might be better for world peace if we all speak a few big languages and understand each other - only romantic linguists want to preserve the small ones. Here I present only three of the many counterarguments against linguistic genocide and for support for the maintenance of linguistic diversity (hereafter LD). I will start with the one about the relationship between linguistic diversity and biodiversity, which is decisive for the future of the planet.
2. The relationship between linguistic diversity and biodiversity

Maintenance of diversities, in the plural, are one end of a continuum where ecocide and linguistic genocide are at the other end. We start with biodiversity. Monocropping, pesticides, deforestation, genetic engineering and the wrong use of fertilisers and irrigation have led to an unprecedented decrease of all kinds of biodiversity, including agrobiodiversity. People consume at least 7,000 species of plants, but 'only 150 species are commercially important and about 103 species account for 90 percent of the world's food crops. Just three crops - rice, wheat and maize - account for about 60 percent of the calories and 56 percent of the protein people derive from plants' (Thrupp 1999: 318). The remaining crop diversity (already low) is eroding at 1-2% and livestock breeds at 5% per annum (Christie &Moonie 1999: 321). 'Almost all farmers' knowledge of plants and research systems [something that has been built up during the 12,000 years of agriculture, Thrupp 1999: 318] could become extinct within one or two generations' (Christie/Moonie 1999: Table 7.5). Likewise, 'almost all local knowledge of medicinal plants and systems as well as the plants themselves could disappear within one generation' (ibid.). 'Rainforests are coming down at a rate of 0.9 percent per annum and the pace is picking up. Much of the earth's remaining diversity could be gone within one or two generations' (ibid.).

Linguistic diversity is disappearing relatively much faster than biodiversity. Table 4 presents a very simple comparison based on numbers and extinction rates (see my 2000 for details). According to

- **Optimistic realistic estimates**, 2% of biological species but 50% of languages may be dead (or moribund) in 100 years' time.
- **Pessimistic realistic estimates**, 20% of biological species but 90% of languages may be dead (or moribund) in 100 years' time.

**Table 4. Estimates for 'dead' or 'moribund' species and languages**

<table>
<thead>
<tr>
<th>Percentage estimated to be dead or moribund around the year 2100</th>
<th>ESTIMATES</th>
<th>Biological species</th>
<th>Languages</th>
</tr>
</thead>
<tbody>
<tr>
<td>'Optimistic realistic'</td>
<td>2%</td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td>'Pessimistic realistic'</td>
<td>20%</td>
<td>90%</td>
<td></td>
</tr>
</tbody>
</table>

Linguistic and cultural diversity on the one hand and biodiversity on the other hand are correlated - where one type is high, the other one is too, and vice versa. Investigating correlations between biological and linguistic diversity, conservationist David Harmon (the General Secretary of Terralingua) has compared endemism of languages and higher vertebrates (mammals, birds, reptiles and amphibians), with the top 25 countries for each type (1995: 14) (Table 5). I have **BOLDED AND CAPITALISED** those countries which are on both lists. 16 of the 25 countries are on both lists, a coincidence of 64%. According to Harmon (1995: 6) 'it is very unlikely that this would only be accidental.' Harmon gets the same results with flowering plants and languages, butterflies and languages, etc. - a high correlation between countries with biological and linguistic megadiversity (see also Harmon, forthcoming).

**Table 5. Endemism in languages and higher vertebrates: a comparison of the top 25 countries**

<table>
<thead>
<tr>
<th>Endemic languages</th>
<th>Number</th>
<th>Endemic higher vertebrates</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. PAPUA NEW GUINEA</td>
<td>847</td>
<td>1. AUSTRALIA</td>
<td>1,346</td>
</tr>
<tr>
<td>2. INDONESIA</td>
<td>655</td>
<td>2. MEXICO</td>
<td>761</td>
</tr>
<tr>
<td>3. Nigeria</td>
<td>376</td>
<td>3. BRAZIL</td>
<td>725</td>
</tr>
</tbody>
</table>
New and exciting research shows mounting evidence for the hypothesis that it might not only be a correlational relationship. It may also be causal: the two types of diversities seem to mutually enforce and support each other (see Maffi 2000). UNEP (United Nations Environmental Program) organised, together with others, the world summit on biodiversity in Rio de Janeiro in 1992. In connection with the Rio conference UNEP published a mega-volume, summarising the world's knowledge on biodiversity (Heywood, ed., 1995). A new companion volume, published in December 1999, called Cultural and Spiritual Values of Biodiversity. A Complementary Contribution to the Global Biodiversity Assessment (Posey, ed., 1999) summarises much of the evidence. Most articles in the Posey volume (1999) adduce further evidence for this assumption. The strong correlation need not indicate a direct causal relationship, in the sense that neither type of diversity should probably be seen directly as an independent variable in relation to the other. But linguistic and cultural diversity may be decisive mediating variables in sustaining biodiversity itself, and vice versa, as long as humans are on the earth. Of course there was no relationship in pre-human times, but as soon as humans came into existence, they started to influence the rest of nature. Today it is safe to say that there is no 'wild' nature left - all landscapes have been and are influenced by human action, even
those where untrained observers might not notice it immediately. All landscapes are cultural landscapes. Likewise, local nature and people's detailed knowledge about it and use of it have influenced the cultures, languages and cosmovisions of the people who have been dependent on it for their sustenance.

The article on linguistic diversity in it is written by Terralingua's President, Luisa Maffi, and myself (Maffi, Skutnabb-Kangas & Andrianarivo 1999; see also articles in Maffi, ed., in press). We suggest that if the long-lasting coevolution which people have had with their environments from time immemorial is abruptly disrupted, without nature (and people) getting enough time to adjust and adapt (see Mühlhäusler, 1996), we can expect a catastrophe. The adjustment needed takes hundreds of years, not only decades (see Mühlhäusler, 1996). Just to take one example: nuances in the knowledge about medicinal plants and their use disappear when indigenous youth in Mexico become bilingual without teaching in and through the medium of their own languages - the knowledge is not transferred to Spanish which does not have the vocabulary for these nuances (see Luisa Maffi's doctoral dissertation, 1994).

If we during the next 100 years murder 50-90% of the linguistic (and thereby mostly also the cultural) diversity which is our treasury of historically developed knowledge, and includes knowledge about how to maintain and use sustainably some of the most vulnerable and most biologically diverse environments in the world, we are also seriously undermining our chances of life on earth.

Killing linguistic diversity is then, just as the killing of biodiversity, dangerous reductionism. Monocultures are vulnerable, in agriculture, horticulture, animal husbandry, as we see in increasingly more dramatic ways, when animals, bacteria and crops which are more and more resistant (to antibiotics, to Roundups, etc), are starting to spread - and we have just seen the tip of the iceberg. With genetic manipulations the problems are mounting rapidly. In terms of the new ways of coping that we are going to need, the potential for the new lateral thinking that might save us from ourselves in time, lies in having as many and as diverse languages and cultures as possible. We do not know which ones have the right medicine. For maintaining all of them, multilingualism is necessary. In the next section I will present the second argument for the maintenance of the world's linguistic diversity, namely some of the benefits of multilingualism.

3. Monolinguals are out - (good) jobs require multilingualism

The receptive and often also productive competence of minority language speakers in other languages is often high. This is one of the benefits of being a minority language speaker: one HAS to learn other languages because one cannot get very far understanding only one's own. Multilingualism is something we share with some majority group elites, but often not with ordinary linguistic majority group members. The Nordic countries and the Benelux countries in Europe are exceptions here in the sense that in these countries many ordinary majority language speakers also know other languages well. This is not true in, for instance, Greece, Italy or Portugal (see, for instance, the latest Special Eurobarometer Survey "Europeans and Languages", 15 February 2001, at http://europa.eu.int/comm/dg10/epo/). In many of those countries where a quantitatively large language is the mother tongue of a large majority of the population, many of these majority language speakers are monolingual. Just think of Britain, the United States, Australia, New Zealand, China, Russia, Castilian Spain, large parts of Latin America. Table 6, with a Harvard Business School study (Rosen et al. 2000) about the average number of languages spoken by extremely high-level business executives, shows that in the countries where English is the only official language business elites are least multilingual while a Nordic and a Benelux country are at the top.

<table>
<thead>
<tr>
<th>Table 6. Average number of languages spoken by highest-level business executives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviews with 75 CEOs (Chief Executive Officers) from 28 countries; total yearly sales of companies US$ (725 billion); number of employees 3.5 million; number of countries with company operations 200 (Rosen et al. 2000: 27).</td>
</tr>
</tbody>
</table>
Elites have always known the benefits of multilingualism. But for maintenance of linguistic diversity we need much more knowledge for ordinary people and for politicians about the benefits of multilingualism and of knowing small languages, about the fact that it does NOT prevent one from learning additional languages, quite the opposite. I will present some arguments for making everybody multilingual.

In industrial societies, the main items produced were commodities and, in a later phase, services. In industrial societies the ones who did well were those who controlled access to raw materials and owned the other prerequisites and means of production. When we move ahead to an information society proper, firstly, concrete commodities are more light-weight and, secondly, the main 'commodities' produced are knowledge and ideas. These are mainly transmitted through language(s) (and visual images), and these travel lightly and fast. In this kind of information society, those with access to diverse knowledges, diverse information and ideas, will do well.

How is this related to multilingualism? I will mention two aspects, creativity and diversity. Multilingualism enhances creativity. High-level multilinguals as a group do better than corresponding monolinguals on tests measuring several aspects of 'intelligence', creativity, divergent thinking, cognitive flexibility, etc. Creativity precedes innovation, also in commodity production, and investment follows creativity. In an information society, those parts of the world will do well where multilingualism has been and is the norm, even among people with no or little formal education, and where there is a rich linguistic and cultural diversity, embodying diverse knowledges. This presupposes that the multilinguals there get access to exchanging and refining these knowledges - which they may, in a thoroughly wired satellite- and chip-driven global society.

The least linguistically diverse parts of the world are Europe and North America (Table 7). But instead of adding to the linguistic diversity by supporting the mother tongues of linguistic minorities, both national minorities and immigrant and refugee minorities, we are in Europe forcibly assimilating the children and killing their languages, as described in the next section of the paper.

**Table 7. Distribution of the world's languages**

<table>
<thead>
<tr>
<th>Area</th>
<th>Percentage of the world's languages</th>
<th>Approximate number of languages</th>
<th>Source</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Europe &amp; Middle East</td>
<td>4%</td>
<td>275</td>
<td>Krauss 1992</td>
<td>Europe excl. USSR: over 40; USSR over 100, Gunnemark 1991</td>
</tr>
<tr>
<td>Americas (North, Central, South)</td>
<td>15%</td>
<td>900 or over</td>
<td>Krauss 1992; Gunnemark 1991</td>
<td></td>
</tr>
</tbody>
</table>
Africa, Asia & the Pacific 81% 4,900 Krauss; Gunnemark Africa (over 1.400, Gunnemark 1991: 102 (at least 1.200, perhaps 1.500 or even more); 1,900, Krauss 1992: 5); Asia (excluding ex-USSR) about 1,600, Gunnemark 1991: 102) and the Pacific (about 1,200, ibid.); Asia and the Pacific together 3,000, Krauss 1992: 5; more in recent estimates, e.g. in the 13th edition of the Ethnologue

(The table is based on counts of oral languages only but a count based on sign languages would probably give a similar distribution).

So, Europe is already linguistically poor. But also economically, Europe and North America will probably be overtaken by others very soon. The share in the world economy of the Big Five, Brazil, China, India, Indonesia and Russia, is now 21% (Table 8) One prognosis (McRae 1997, reported in Global English Newsletter 2, item 5) predicts that it will rise to 35% already by 2020. Then they will exceed Europe and North America’s share, now 23%. Of the Big Five, only India may contribute to the growth of English.

Table 8. Share of world economy. The Big Five

<table>
<thead>
<tr>
<th>Share of world economy</th>
<th>1997</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Big Five (Brazil, China, India, Indonesia, Russia)</td>
<td>21%</td>
<td>35%</td>
</tr>
<tr>
<td>Europe and North America</td>
<td>23%</td>
<td>? under 10% ?</td>
</tr>
</tbody>
</table>

Source: McRae 1997, reported in Global English Newsletter 2, 1999, item 5

David Graddol’s engco programme (1997: 29) has produced a similar prognosis (Table 9). The ‘Big Three’, Europe, North America and Japan, now command 55% of the world’s wealth, while Asia has 21% and the rest of the world 24%. By 2050 the Big Three will have shrunk to 12% while Asia is at 60% and the rest at 28%.

Table 9. Share of the world wealth

<table>
<thead>
<tr>
<th>Share of the world’s wealth</th>
<th>1997</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>‘Asia’ (excluding Japan)</td>
<td>21%</td>
<td>60%</td>
</tr>
<tr>
<td>The Big Three (Europe, North America &amp; Japan)</td>
<td>55%</td>
<td>12%</td>
</tr>
<tr>
<td>The rest of the world</td>
<td>24%</td>
<td>28%</td>
</tr>
</tbody>
</table>

Source: Graddol 1997: 29

In Asia there is growing appreciation of the fact that there is a relationship between economic growth and supporting one’s own culture and at least not accepting gross linguistic imperialism (see Phillipson, 1992, 1998; Pennycook, 1994, 1998, for some accounts of linguistic imperialism), but also supporting one’s own languages and maybe even linguistic diversity. We can already see that the elites in the ‘Tiger Economies’ (for instance, two Singaporean Prime Ministers) are regretting that they have contributed to the subtractive spread of English; they plan to strengthen the role of Asian mother tongues in education.

High levels of proficiency in English is already something a lot of people have, and even more people will have in the future. Economist François Grin states that even if it may still pay off economically, in a few years’ time it will not. I have a prognosis for three categories of people: monolinguals, bilinguals and multilinguals.
Firstly, **monolingual English speakers** will lose out. But not only this. As I have often said, we multilinguals may in hundred years' time show **voluntarily** English-monolinguals (those who could have learned other languages but chose not to) in pathological museums.

Secondly, **bilinguals**. In Grin's study, having 'perfect' English (10-15 percent of the interviewees, depending on the dimension) gives the highest salary level for both German and French speakers. But for some bilinguals, it is already more profitable to have languages **other** than English as their second languages. Already today, having 'only' good competence (level 2) in English pays off **less** well for both German and French speakers than having good competence in **each other's** languages, French for German speakers and German for French speakers.

Thirdly, **multilinguals**. Grin also argues that those with only good English plus their mother tongue will get fewer chances (and less Return On Investment, ROI) than **high level MULTILINGUALS**. This is especially true for those whose mother tongue is **not** one of the 'big' other-than-English ones. In the new century, high levels of **multilingualism** will be a prerequisite for many high-level and/or high-salary jobs, and also for many of the interesting jobs (see García, 1995; García & Otheguy, 1994; Lang, 1993). But in this multilingualism, ROI will be higher for languages other than English, as Grin also shows in a large-scale empirical study in Switzerland (Grin, 1995a,b, 1996 - see also other references to Grin for economics of multilingualism).

Prognoses from several countries predict that English proficiency, even very high levels, is becoming more and more common (e.g. Graddol, 1997). In fairly few years' time, when Europe, USA and Canada are lesser and lesser economic players globally, as seems likely, even native-like English takes people nowhere - there will be too many people who possess that qualification. **High competence in English** will be like literacy skills today and computer skills tomorrow (see Rassool 1999; see also Rassool 1998), a self-evident, necessary basic prerequisite, but **not sufficient**.

Supply and demand theories predict that when many people possess what earlier might have been a scarce commodity, the price goes down, i.e. it will be more difficult to exchange the linguistic capital to economic capital. When a relatively high proportion of a country's or region's or the world's population have 'perfect' English skills, the value of these skills as a financial incentive decreases substantially. Therefore, we need to be multilingual and have English as only one of the languages. We multilinguals as a group thus think in a little bit more flexible and divergent ways than monolinguals as a group; we innovate more, create more new knowledges and dreams - and have much more exchangeable linguistic capital. Future belongs to multilinguals. We are an important part of the linguistic diversity which is necessary if the planet is to have a future.

**4. Killer languages create "ethnic conflict"**

If a state does not grant basic linguistic human rights (LHRs), including educational language rights, to minorities and indigenous peoples, this lack of rights is what often leads to and/or can be used to mobilisation of sentiments which can then be labelled "ethnic conflicts", especially in situations where linguistic and ethnic borders or boundaries coincide with economic boundaries or other boundaries where linguistically and ethnically defined groups differ in terms of relative political power. If legitimate demands for some kind of self-determination are not met, be it demands about cultural autonomy or about more regional economic or political autonomy, this may often lead to demands for secession. Thus granting education- and language-based rights to minorities can and should often be part of conflict prevention.

Educational LHRs, especially the right to learn one's mother tongue fully and properly, orally - when this is physiologically possible - and in writing, seem to among the most important rights that minorities and indigenous peoples want. The pressure on 'nation-states' from globalisation is manifest in the complex mosaic of 'Europe', where identities are currently being refashioned and old certainties challenged and where ethnicities and languages play an important role in negotiations about the new formations. It is equally clear in Africa and Asia, where, for instance, 'insurgents in Ethiopia have
over the years, placed the use of native languages at the centre of their demands for autonomy and self-determination.' (Prah 1995: 7). Or in Latin America, where education through the medium of the indigenous mother tongues was, together with local self-determination, one of the important demands in the two week Zapatista march from Chiapas to Mexico City in March 2001 (reported by Jens Lohmann in Information 13 March 2001).

When the OSCE (Organisation for Security and Cooperation in Europe) in 1992 created the position of a High Commissioner on National Minorities, it was precisely 'as an instrument of conflict prevention in situations of ethnic tension' (Rothenberger 1997: 3). It was especially in order to prevent "ethnic conflict" that the High Commissioner, Max van der Stoel, published authoritative guidelines in October 1996 for minority education for the 55 member states (which include Canada and the United States). The High Commissioner, whose advisors are mainly international lawyers, said to the expert group (including TSK) preparing the Guidelines, that the minorities he was negotiating with had, in most cases, two main types of demand: firstly, self-determination (sometimes but not always including some control over natural resources), and secondly, mother tongue medium (MTM) education. MTM education is one of the most important elements in the right not only to exist with a separate identity but, most importantly, to reproduce this identity. Van der Stoel (1997: 153) stated when launching The Hague Recommendations Regarding the Education Rights of National Minorities (see below) that

...in the course of my work, it had become more and more obvious to me that education is an extremely important element for the preservation and the deepening of the identity of persons belonging to a national minority. It is of course also clear that education in the language of the minority is of vital importance for such a minority.

I will come back to the Hague Recommendations in the following sections.

5. The human rights system does not prevent linguistic genocide

The education of indigenous peoples and minorities in large parts of the world is today being organised in direct contradiction of our best scientific knowledge of how it should be organised, and so is the education of both minorities and numerically large but politically dominated groups in most African and many Asian countries (see Skutnabb-Kangas 2000 for details in the claims; see Brock-Utne 1999 for Africa). Most of this education participates in committing linguistic and cultural genocide, according to Articles II (e) and (b) of the 1948 UN International Convention on the Prevention and Punishment of the Crime of Genocide:

Article II(e), 'forcibly transferring children of the group to another group'; and
Article II(b), 'causing serious bodily or mental harm to members of the group'; emphasis added).

Likewise, most minority education is guilty of linguistic genocide according to the 1948 special definition (not part of the present Convention)

Article III(1) 'Prohibiting the use of the language of the group in daily intercourse or in schools, or the printing and circulation of publications in the language of the group'.

Pirjo Janulf (1998) shows in a longitudinal study that of those Finnish immigrant minority members in Sweden who had had Swedish-medium education, not one spoke any Finnish to their own children. Even if they themselves might not have forgotten their Finnish completely, their children were certainly forcibly transferred to the majority group, at least linguistically. This is what happens to millions of speakers of threatened languages all over the world. There are no schools or classes teaching through the medium of the threatened indigenous or minority languages. The transfer to
the majority language speaking group is not voluntary: alternatives do not exist, and parents do not have enough reliable information about the long-term consequences of the various choices. 'Prohibition' can be direct or indirect. If there are no minority teachers in the pre-schools/schools and if the minority languages are not used as the main media of education, the use of these languages is indirectly prohibited in daily intercourse/in schools, i.e. it is a question of linguistic genocide.

Assimilationist submersion education where minorities are taught through the medium of dominant languages, causes mental harm and leads to the students using the dominant language with their own children later on, i.e. over a generation or two the children are linguistically and often in other ways too forcibly transferred to a dominant group. My latest book Linguistic genocide in education – or worldwide diversity and human rights? (2000) provides hundreds of examples of the prohibition, the harm it causes, and the forcible transfer (see also, e.g. Baugh 2000, Cummins 1996, 2000, Kouritzin 1999, Lowell & Devlin 1999, Williams 1998, Wong Fillmore 1991). Formal education which is subtractive, i.e. which teaches children something of a dominant language at the cost of their first language, is genocidal. By comparison, learning new languages, including the dominant languages which most children obviously see is in their best interest to learn, should happen additively, in addition to their own languages. Educational LHRs which guarantee additive language learning are also what is needed for preventing linguistic genocide and for linguistic diversity to be maintained on earth. And the knowledge about how to organise education that respects LHRs certainly exists (see, e.g., Huss 1999, Huss et al., forthcoming, May (ed.) 1999, Skutnabb-Kangas (ed.) 1995, just to mention a few).

If the Hague Recommendations about educational LHRs were to be implemented, linguistic genocide in education could be stopped (see Skutnabb-Kangas 2000).

But international and European binding Covenants, Conventions and Charters give very little support to linguistic human rights in education (e.g. Skutnabb-Kangas & Phillipson 1994). Language gets in them a much poorer treatment than other central human characteristics. Often language disappears completely in binding educational paragraphs, for instance, in the Universal Declaration of Human Rights (1948) where the paragraph on education (26) does not refer to language at all. Similarly, the International Covenant on Economic, Social and Cultural Rights (adopted in 1966 and in force since 1976), having mentioned language on a par with race, colour, sex, religion, etc. in its general Article (2.2), does explicitly refer to 'racial, ethnic or religious groups' in its educational Article (13.1). However, here it omits reference to language or linguistic groups:

... education shall enable all persons to participate effectively in a free society, promote understanding, tolerance and friendship among all nations and all racial, ethnic or religious groups ... (emphasis added)

When language IS in educational paragraphs of human rights instruments, the Articles dealing with education, especially the right to mother tongue medium education, are more vague and/or contain many more opt-outs and modifications than any other Articles (see, e.g., Kontra et al., eds, 1999; Phillipson & Skutnabb-Kangas, 1994, 1995, 1996; Skutnabb-Kangas, 1996a, b, 1999a, b, 2000; Skutnabb-Kangas & Phillipson, 1994, 1997, 1998). I will show you just two examples of how language in education gets a different treatment from everything else. One is international, the other one European.

In the UN Declaration on the Rights of Persons Belonging to National or Ethnic, Religious and Linguistic Minorities from 1992 (adopted by the General Assembly in December 1992), most of the Articles use the obligating formulation 'shall' and have few let-out modifications or alternatives - except where linguistic rights in education are concerned. Compare the unconditional formulation in Article 1 about identity, with the education Article 4.3:

1.1. States shall protect the existence and the national or ethnic, cultural, religious and linguistic identity of minorities within their respective territories, and shall encourage conditions for the promotion of that identity.
1.2. States shall adopt appropriate legislative and other measures to achieve those ends.

4.3. States should take appropriate measures so that, wherever possible, persons belonging to minorities have adequate opportunities to learn their mother tongue or to have instruction in their mother tongue. (emphases added, 'obligating' in italics, 'opt-outs' in bold).

Clearly the formulation in Art. 4.3 raises many questions. What constitutes 'appropriate measures', or 'adequate opportunities', and who is to decide what is 'possible'? The Council of Europe Framework Convention for the Protection of National Minorities is from 1994 and Norway has ratified it. We again find that the Article covering medium of education is so heavily qualified that the minority is completely at the mercy of the state:

In areas inhabited by persons belonging to national minorities traditionally or in substantial numbers, if there is sufficient demand, the parties shall endeavour to ensure, as far as possible and within the framework of their education systems, that persons belonging to those minorities have adequate opportunities for being taught in the minority language or for receiving instruction in this language (emphases added).

The Framework Convention has been criticised by both politicians and even international lawyers who are normally very careful in their comments, like Patrick Thornberry, Professor of Law at Keele University. His final general assessment of the provisions, after a careful comment on details, is:

Despite the presumed good intentions, the provision represents a low point in drafting a minority right; there is just enough substance in the formulation to prevent it becoming completely vacuous (Thornberry 1997: 356-357).

We can see a similar pattern of vague formulations, modifications and alternatives in the European Charter. A state can choose which paragraphs or subparagraphs it wishes to apply (a minimum of 35 is required). Again, the formulations in the education Article, 8, include a range of modifications, including 'as far as possible', 'relevant', 'appropriate', 'where necessary', 'pupils who so wish in a number considered sufficient', 'if the number of users of a regional or minority language justifies it', as well as a number of alternatives, as in 'to allow, encourage or provide teaching in or of the regional or minority language at all the appropriate stages of education' (emphases added). Of course there are real problems in writing binding formulations which are sensitive to local conditions. Still, it is clear that the opt-outs and alternatives in the Charter permit a reluctant state to meet the requirements in a minimalist way, which it can legitimate by claiming that a provision was not 'possible' or 'appropriate', or that numbers were not 'sufficient' or did not 'justify' a provision, or that it 'allowed' the minority to organise teaching of their language as a subject, at their own cost.

The conclusion is that we are still to see the right to education through the medium of the mother tongue become a human right. Still, the human rights system should protect people in the globalisation process rather than giving market forces free range. Human rights, especially economic and social rights, are, according to human rights lawyer Katarina Tomaševski (1996: 104), to act as correctives to the free market. The first international human rights treaty abolished slavery. Prohibiting slavery implied that people were not supposed to be treated as market commodities. ILO (The International Labour Organisation) has added that labour should not be treated as a commodity. But price-tags are to be removed from other areas too. Tomaševski claims (ibid., 104) that

The purpose of international human rights law is ... to overrule the law of supply and demand and remove price-tags from people and from necessities for their survival.
These necessities for survival include not only basic food and housing (which would come under economic and social rights), but also basics for the sustenance of a dignified life, including basic civil, political and cultural rights. It should, therefore, be in accordance with the spirit of human rights to grant people full linguistic human rights.

6. Alternatives that respect linguistic human rights in education and support multilingualism and linguistic diversity

Worldwide, there are some positive recent developments, though. I shall only mention the one which is most directly and concretely related to the education of minorities, The Hague Recommendations Regarding the Education Rights of National Minorities & Explanatory Note (1996), which have already been introduced. They represent an authoritative interpretation and concretisation of the minimum in present HRs standards (see also van der Stoel 1997, Rothenberger 1997). Even if the term used is "national minority", the guidelines also apply to other groups, for instance immigrated minorities, and one does NOT need to be a citizen in order to be protected by the guidelines (both these observations follow from the UN Human Rights Committee's General Comment on Article 27).

In the section 'The spirit of international instruments', bilingualism is seen as a right and responsibility for persons belonging to national minorities (Art. 1), and states are reminded not to interpret their obligations in a restrictive manner (Art. 3). In the section on 'Minority education at primary and secondary levels', mother tongue medium education is recommended at all levels, also in secondary education. This includes bilingual teachers in the dominant language as a second language (Articles 11-13). Teacher training is made a duty on the state (Art. 14) (see Table 10).

Table 10. Articles 11-14 and the Note on submersion education from The Hague Recommendations Regarding the Education Rights of National Minorities & Explanatory Note

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<td>11) The first years of education are of pivotal importance in a child's development. Educational research suggests that the medium of teaching at pre-school and kindergarten levels should ideally be the child's language. Wherever possible, States should create conditions enabling parents to avail themselves of this option.</td>
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<td>12) Research also indicates that in primary school the curriculum should ideally be taught in the minority language. The minority language should be taught as a subject on a regular basis. The State language should also be taught as a subject on a regular basis preferably by bilingual teachers who have a good understanding of the children's cultural and linguistic background. Towards the end of this period, a few practical or non-theoretical subjects should be taught through the medium of the State language. Wherever possible, States should create conditions enabling parents to avail themselves of this option.</td>
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<td>13) In secondary school a substantial part of the curriculum should be taught through the medium of the minority language. The minority language should be taught as a subject on a regular basis. The State language should also be taught as a subject on a regular basis preferably by bilingual teachers who have a good understanding of the children's cultural and linguistic background. Throughout this period, the number of subjects taught in the State language, should gradually be increased. Research findings suggest that the more gradual the increase, the better for the child.</td>
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<td>14) The maintenance of the primary and secondary levels of minority education depends a great deal on the availability of teachers trained in all disciplines in the mother tongue. Therefore, ensuing from the obligation to provide adequate opportunities for minority language education, States should provide adequate facilities for the appropriate training of teachers and should facilitate access to such training.</td>
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Finally, the Explanatory Note states that
Finally, the Explanatory Note states that 'Submersion-type approaches whereby the curriculum is taught exclusively through the medium of the State language and minority children are entirely integrated into classes with children of the majority are not in line with international standards' (p. 5). Remember that most of the education offered to indigenous and minority children in Europe and North America is submersion.

The last issue to be mentioned here is that having full legally guaranteed LHRs is a necessary but not sufficient prerequisite for languages to be maintained. Teresa McCarty and Lucille Watahomigie (1999) discuss the language education of the 'nearly two million American Indians, Alaska Natives, and Native Hawaiians [who] reside in the USA, representing over 500 tribes and 175 distinct languages' (p. 79). The article starts with a denouncement of subtractive education. One of the important conclusions is that 'language rights have not guaranteed language maintenance, which ultimately depends on the home language choices of Native speakers' (91). What this means is that bottom-up initiatives are urgent. There must be incentives for people to transmit their own languages to the next generation, and these incentives need to be both affective and instrumental.

7. Linguistic and cultural ecologies

Finally, a few words about linguistic and cultural ecologies. The impact of the recent positive developments in counteracting linguistic genocide in education and the killing of linguistic diversity is yet to be seen. We might learn from the history of killing biodiversity. Jared Diamond examines in the chapter 'The Golden Age That Never Was' in his 1992 book the evidence for people and cultures before us having completely ruined the prerequisites for their own life. They have destroyed their habitats and/or exterminated large numbers of species. This has happened in many places and it makes the 'supposed past Golden Age of environmentalism look increasingly mythical' (Diamond, 1992: 335). If we want to learn from it, and not make it happen on a global basis (this is our obvious risk today), we better heed his advice. Diamond claims (ibid., 335-336) the following (Table 11).

Table 11. When do people ruin their environment beyond repair, according to Jared Diamond?

"... small long-established, egalitarian societies tend to evolve conservationist practices, because they've had plenty of time to get to know their local environment and to perceive their own self-interest. Instead, damage is likely to occur when people suddenly colonize an unfamiliar environment (like the first Maoris and Eastern Islanders); or when people advance along a new frontier (like the first Indians to reach America), so that they can just move beyond the frontier when they've damaged the region behind; or when people acquire a new technology whose destructive power they haven't had time to appreciate (like modern New Guineans, now devastating pigeon populations with shotguns). Damage is also likely in centralized states that concentrate wealth in the hands of rulers who are out of touch with their environment’.

Summary of Diamond’s factors:
1. Colonize an unfamiliar environment;
2. Advance along a new frontier;
3. Acquire a new technology whose destructive power people haven't had time to appreciate;
4. Centralized states that concentrate wealth in the hands of rulers who are out of touch with their environment’

As we can see, we have the perfect global prerequisites for ruining our planet beyond repair.
- Long-established small societies are breaking up, and, with urbanization and migration, people encounter new environments; factor 1.
- New technologies are more destructive than ever and results of biochemical and other experiments (like genetically modified crops) are taken into use before we know anything about the long-term effects on nature or people; factor 3.
- We have growing gaps and alienated elites; factor 4.
- And we do not have the new planets to move to when we have damaged this one; factor 2…

In terms of ruining our linguistic and cultural ecologies beyond repair, we know already that similar processes are at work. There are many similar analyses of destructive paradigms. Some researchers have also started the discussion trying to identify the languages-related devastating processes which are similar to the list of factors that Diamond has identified. I will here give one of them - this is my latest reworking of factors in two paradigms originally suggested by the Japanese scholar Yukio Tsuda (1994) In analyzing English language imperialism in Japan, he identifies two paradigms which he calls the Diffusion of English paradigm and the Ecology of Language paradigm. In his analysis of the spread of English Tsuda presents several other factors related to this diffusion (Maher & Yashiro's 1995 description about Japan seems to identify similar concomitants to the spread of English in Japan; so do Masaki Oda's writings; see also Honna, 1995). In Tsuda's alternative, the 'ecology of language' paradigm, he includes minimally bilingualism but hopefully multilingualism for all. Robert Phillipson and I have worked further on Tsuda's original suggestions (see our discussion in Phillipson & Skutnabb-Kangas, 1996). Table 12 presents both paradigms in my latest version (2000), where I have added several new dimensions to Tsuda (see also his 1998). Obviously the list is very much of a 'goodies' and 'baddies' type. Still, too often there seems to be a correlation between ideologies and practices which follow each approach. - Again, it is important to remember that learning of English can be included in both paradigms. In several other disciplines, similar frameworks for the necessary choices have been presented and I discuss some of them in the last chapter of my book (2000).

Table 12. Diffusion of English and Ecology of languages paradigms

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<th>The diffusion of English paradigm</th>
<th>Ecology of languages paradigm</th>
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<td>1. monolingualism and linguistic genocide</td>
<td>1. multilingualism, and linguistic diversity</td>
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<tr>
<td>2. promotion of subtractive learning of dominant languages</td>
<td>2. promotion of additive foreign/second language learning</td>
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<tr>
<td>3. linguistic, cultural and media imperialism</td>
<td>3. equality in communication</td>
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<td>4. Americanisation and homogenisation of world culture</td>
<td>4. maintenance and exchange of cultures</td>
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<tr>
<td>5. ideological globalisation and internationalisation</td>
<td>5. ideological localisation and exchange</td>
</tr>
<tr>
<td>6. capitalism, hierarchisation</td>
<td>6. economic democratisation</td>
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<tr>
<td>7. rationalisation based on science and technology</td>
<td>7. human rights perspective, holistic integrative values</td>
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<tr>
<td>8. modernisation and economic efficiency; quantitative growth</td>
<td>8. sustainability through promotion of diversity; qualitative growth</td>
</tr>
<tr>
<td>9. transnationalisation</td>
<td>9. protection of local production and national sovereignties</td>
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<tr>
<td>10. growing polarisation and gaps between haves and never-to-haves</td>
<td>10. redistribution of the world's material resources</td>
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Summing up, then, learning new languages should be additive rather than subtractive. It should add to people's linguistic repertoires; new languages, including *lingua francas*, should not be learned at the cost of the diverse mother tongues but in addition to them. In this sense, the 'killer languages' (Anne Pakir's term), and English as the foremost among them, are serious threats towards the linguistic diversity of the world (see Phillipson & Skutnabb-Kangas 1997, 1999). Linguistic human rights are more needed than ever. So far, human rights instruments and discussions about both them and about educational language rights have not even started addressing these big questions in a coherent way where all types of ecology would be discussed within an integrated political and economic framework. When speakers of small languages learn other, necessary, languages in addition to their native languages, they become multilingual, and the maintenance of LD, necessary for the planet, is supported. When dominant languages, like English, are learned subtractively, at the cost of the mother tongues, they become killer languages.

I would not like to be more dramatic than necessary - but I would still like to remind ourselves: when our great grandchild asks: 'why did you not stop this craziness? You could have done it!', the one answer we cannot give is: I DID NOT KNOW. Secondly, if some of you may feel provoked, even furious, please don't shoot the messenger. Reflect rather on the message. Thirdly, I asked in the title of this paper whether the school system is a villain, or a partial solution. It is up to you.

**References:**


York: Simon & Schuster.


Notes:

1 Earlier versions of this paper have been presented at several conferences in 2000 and 2001.
For connections between biodiversity and linguistic and cultural diversity, see Terralingua's web-site <http://www.terralingua.org>. 'Terralingua is a non-profit international organisation devoted to preserving the world's linguistic diversity and to investigating links between biological and cultural diversity.'

Examples of positive recent human rights instruments, draft instruments, recommendations, declarations or comments

1. UN, Human Rights Committee: General Comment on UN International Covenant on Civil and Political Rights, Article 27 (4 April 1996, UN Doc. CCPR/C/21/Rev.1/Add.5).


3. CIEMEN (Mercator Programme, Linguistic Rights and Law); The International Pen Club (Committee for Translation and Linguistic Rights): The draft Universal Declaration of Linguistic Rights (handed over to UNESCO in June 1997); <http://www.troc.es/ciemen/mercator/index-gb.htm>.


