Tackling the Anglophones' free ride

Fair linguistic cooperation with a global lingua franca

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In science and in all other domains that require communication across borders, we need one lingua franca, and this lingua franca will be English. The adoption of the native language of some as everyone's lingua franca unavoidably raises a problem of justice in various senses. One of these is cooperative justice, the fair distribution of the cost of producing a public good. This article proposes a criterion of fair burden sharing — proportionality of cost to benefit — and explores its policy implications.

Does this criterion require a linguistic tax on the native speakers of the lingua franca in order to subsidize the learning of it by all others? If so, how high should the subsidy be, and should it be pitched at the same per capita level for all learning communities? If not, is there an alternative way of implementing a fair compensation for the free riding of lingua franca natives on everyone else's learning?

Among the article's conclusions are that fair subsidies would need to be directed disproportionately to the Chinese — even abstracting from possible differences in the difficulty of learning English — and that more hopes should be focused on the compensatory poaching of the web than on anything resembling a linguistic tax.

Introduction

Let us not beat around the bush. In science and in all other domains which require communication across borders, we need a lingua franca. One lingua franca. As quickly as possible. And this lingua franca will be English.

Is this a problem? Yes it is. Not because it needs to entail Anglo-American ideological hegemony: it is up to all of us non-Anglophones to grab the megaphone and use English to say whatever we wish to say, instead of whispering our clever thoughts

— and our frustration — in our (henceforth) provincial tongues. But the adoption of the native language of some as everyone's lingua franca unavoidably raises a problem of justice in three distinct senses.

1.   Fair co-operation as proportionality between benefit and cost

Firstly, a common language can be viewed as a public good, and linguistic justice can then be understood as fair cooperation. Secondly, one's linguistic competence can be viewed as a personal asset, and linguistic justice can then be conceived as equality of opportunities. And thirdly, one's native language can be viewed as a core component of one's collective identity, and linguistic justice can then be conceived as equality of dignity. I shall restrict myself here to the first of these three interpretations, cooperative justice.[1] As a point of departure, I shall briefly present without argument the criterion of fair burden sharing which I believe best captures the demands of linguistic justice in this first sense, and then concentrate on the policy implications. Both the principle and the implications are meant to apply across the board, in all domains in which a lingua franca is emerging. But the possess, as we shall see, special relevance to scientific communication.

In the first of our three interpretations, then, a common language is viewed as a public good, and linguistic injustice is understood as free riding by some on the learning effort made by others. A common language benefits all the people it enables to communicate with one another. But if the language serving this function is the native tongue of some of these people a subset of the population benefits without contributing itself to the production of the public good.

The criterion I propose (and defend elsewhere) as a general criterion of fair cooperation requires that one should equalise the ratio of (gross) benefit to cost for everyone involved or, put differently, that every co-operator should benefit from the public good proportionally to the cost he or she incurred by contributing to its production.[2] The benefit is here most conveniently understood as the gross gain from cooperation, i.e. the gain abstracting from any cost incurred. But if gross benefit is proportional to cost, so is net benefit. And the criterion therefore amounts to requiring the cooperative surplus to be distributed in proportion to each party's contribution to the cost of producing it. Since the learning is only worth doing if the total (gross) benefit exceeds the total (gross) cost, the ratio of total benefit to total cost must be strictly larger than 1. What the proposed criterion requires is that this overall ratio should apply to each speaker involved, and hence also to each of the two communities taken as a whole.

As a rough and simple approximation, suppose the gross benefit of one person learning a language known by others is measured by the sum of numbers of speech partners that are thereby gained by the various people involved. If one unilingual A-native learns language B spoken by n unilingual B-speakers, the gross benefit is then n for each B-learning A-native speaker and n too for the B-native linguistic community

whenever one A-native learns B. Under this simple assumption, the gross benefit is therefore equal for both communities, but the cost is borne by just one of them. Co-operative justice as proportionality between cost and benefit requires that this cost should also be equal, and hence — prima facie — that the community whose language is being learned should subsidize the community which is doing the learning up to the point where the cost, somehow measured, become equal. In other words, fairness requires, under the assumptions made, a fifty-fifty sharing of the cost between lingua franca natives and lingua franca learners. This is the basic ethical intuition the real-world implications of which we are now going to explore.

2.   A fifty-fifty contribution by the Anglo countries?

Whether coerced or spontaneous, asymmetric bilingualism has been a frequent phenomenon in many places for a long time. But as schooling, mobility and communication expand and intensify, it is becoming more ubiquitous and more massive than ever, with English strengthening from one day to the next its position as a worldwide lingua franca. This ubiquitous asymmetric bilingualism is undoubtedly very efficient but, by the standards of our proposed criterion, it is also very unfair. To make it fair, transfers are required. Can one make some intelligent guesses as to how high they would need to be?

One possible point of departure is the average time required to master adequately a non-native natural language. One guess is 10.000 hours — compared to a standard school year totalling less than 1.000 hours in the classroom (Piron 2001: 95). But this sort of estimate is pretty tricky. In the first place, the notion of "mastering" a foreign language is extremely fuzzy. Once the basic syntax and morphology are learned, hundreds of hours may be needed for tiny improvements in pronunciation, fluency, use of idiomatic expressions and respect of grammatical exceptions, as well as for expanding one's lexical repertoire. At what stage should the timer be stopped? Secondly, the number of hours required through a classroom method for any given level of competence is highly dependent on linguistic distance between one's mother tongue (and other languages previously learned) and the language to be learned. Should only some combinations of languages be considered, and how should they be weighed to provide an average? Thirdly and most importantly, the effectiveness of what happens inside the classroom is crucially dependent on motivation and opportunity and hence on what is going on outside the classroom. The "average" time needed to achieve any level of proficiency in a language is therefore crucially dependent on the way in which the various combinations of native language background, language to be learned and context are weighted — a rather tricky matter, both conceptually and empirically, to put it mildly.

A more relevant and reliable point of departure can be sought in estimates of the cost of actual language learning. Here again, pitfalls abound. But a reasonable conjecture has been made the difference between the per capita cost of language teaching in

state schools in France and in the United Kingdom: €100.[3] There are various factors that bias this estimate upward and above all downward. In particular, it does not incorporate the cost of private tuition nor the opportunity cost (for both teachers and learners) of language learning. But let us adopt this as a conservative estimate. How much can the Brits expect to pay? How much can the French hope to receive?

Suppose first that the world reduces to the French and British populations (of about equal sizes), each supposed to be linguistically homogeneous, and hence that the learning of English by the French serves no other purpose than to enable the two populations to communicate, actively and passively, with one another. Suppose also that the benefits of this learning are enjoyed symmetrically by both sides. Here again there are biases in both directions. On the one hand, the Brits are able to talk, bargain, argue, etc. with the French with the advantage of using a language in which they feel more comfortable. On the other hand, language learning provides the French with an access to English-language material accumulated through the centuries, and such access is of little benefit to contemporary Brits. Assuming equal levels of benefit may therefore be reasonable enough. Under these assumptions, our criterion implies that half the cost of €100 per capita should be billed to the British government, and hence €50 per capita or roughly three billion euros transferred annually as a fair contribution to the current learning of English by the French.

However, the Brits and the French are not alone on the planet. Very roughly again, there are five times more English natives than there are people living in the UK, and one hundred times more non-English natives than there are people living in France. Assuming, for simplicity's sake, that the level and cost of learning of English is the same in the rest of the non-Anglo world as in France, the total cost is multiplied by one hundred, and hence also the part of it to be funded by the Anglo countries, now up to 300 billion euros. Fortunately for the UK, this amount is to be shared with other Anglo countries. But unfortunately for all of them, this makes only five times more people, and the per capita subsidy they owe to the rest of the world, it seems, is therefore multiplied by twenty — up to €1000 per capita.

3.   A cheaper deal? Non-natives talking to non-natives

Is this right? No, it is not. It would only be right if the lingua franca learners consisted of one big community of 6 billion people who already share the same native language, and hence for whom the benefit of learning English reduces to communication with the Anglophones. But the six billion non-Anglophones are split up among six thousand distinct native languages, and even for the many among them who know a non-native language other than English that enables them to communicate with some of the others, access to English is also a major potential benefit to them by virtue of the many non-Anglophones with which convergence on English enables them to communicate. Because of this huge additional benefit accruing to English learners, achieving

proportionality between cost and benefit can be expected to require a smaller transfer from English natives to English learners. How much smaller?

Here is a simple and rough arithmetic exercise that will enable us to get an order of magnitude. Suppose that the non-Anglo population of the world consists of 100 linguistic groups of 60 million speakers, 10% of which are competent in English. The benefit conferred by competence in English to each of the six million speakers of each language who have learned it is then given by the number of Anglo natives (300 Mn) plus the six million English learners in each of the other non Anglo communities (99 × 6 Mn). The aggregate benefit to the Anglo population is then no longer 50% of the total benefit, but about 25%. (See Appendix 1 for details.) Suppose that we extrapolate the expenditure estimate for France and that the 10% rate of competence in English in each of the 100 non-Anglo communities is achieved at an average cost of €100 per capita (relative to the total population, not the part of it that is proficient in English). The total learning bill is then 600 billion euros (100 × 60 Mn × 100), but only a quarter of it, not a half, needs to be funded out of Anglo pockets. This amounts to €500 (=(60 Bn/300 Mn) × 0.25) per capita for the 300 million Anglophones, rather than the €1000 conjectured above, and hence to a per capita subsidy to the non-Anglophone communities of €25 (= €500 × 300Mn/6Bn), i.e. one quarter of their cost.

Should the share to be borne by the Anglophones not be expected to decrease further as more and more people learn English in all other linguistic communities and hence benefit more and more from each other's learning? This is correct. Under the assumptions made about the number and sizes of the linguistic groups, the Anglo community would only be liable to about 5% of the cost if everyone learned. (See Appendix 2 for details.) But at the same time, the total cost of learning would of course increase tenfold, as the number of learners rises from 10% to 100% of each of the non-Anglo communities. Hence, as a rough estimate of the long-term prospect for the Anglo community of the fair cost of its language having become universal, we are back to a contribution of €1000 (= (100 × 60 Mn × 100 × 10/ 300 Mn) × 0.05. The average subsidy received by each member of a learning community can then be calculated by dividing the total Anglo contribution by the non-Anglo population. This yields €50 (= €1000 × 300/6000), equal to the amount received by the French in our initial two-country scenario, but now covering 5% instead of 50% of the total learning cost.

Our illustrations so far have supposed that the learning communities are of equal sizes. But size inequality not only justifies different levels of aggregate and per capita subsidy (both increasing with size), but may even justify transfers from smaller to larger communities (de Briey & Van Parijs 2002). The subsidy to the learning by large communities would then be co-funded by the Anglo community and small non-Anglo communities. Given the distribution of potential learners among linguistic communities in our real world, however, this latter situation is unlikely to arise. Subsidies could only be required from small learning communities if the biggest learning community — the Mandarinophones — were much bigger, relative to the others, than it already is (see Appendix 1). But differences in size do lead to differences in subsidy levels.

Again some simple arithmetic exercises can give an idea of the orders of magnitude. With a level of learning that makes 10% of the non-Anglo communities proficient in English and costs them €100 per capita, the subsidy amounts to €32 per capita for a community of 1 billion Chinese, and to slightly over and slightly under €24 per capita, respectively, for communities of 60 million French speakers and 4 million Danes, while tax on the Anglo population amounts to over €500 per capita. With a level of learning that reaches 100% of the population and costs €1000 per capita, the per capita subsidy would jump to over €170 for the Chinese, stagnate around €25 for the French and fall to below €17 for the Danes, while the per capita tax on the Anglos would rise to €937. (See Appendix 3 for details.) Even the Chinese, who pocket 60% of the total subsidy, are compensated for only a fraction of the cost of learning (17%), basically because the bulk of the reward of learning English now comes from speaking it with non-natives.

4.   A cheaper deal? Shrinking the cost

Many simplifications were needed above to get some useful orders of magnitude. One of them is that the cost of learning English is the same for everyone and constant over time. Obviously, the cost of learning a completely alien language — as English is for the Chinese — can be expected to greatly exceed, for any indicator of oral or written proficiency, the cost of learning what is just a variant of one's own — as English is for the French. Taking this complication into account would require fairness to boost the overall level of subsidy (at the expense of English natives, who would be better off with more French and less Chinese in the world) and to direct a greater proportion of it to non-indo-European populations (the French would lose, the Chinese would gain).

However, how much a difference it makes depends on the learning method used. The schoolish learning of grammar and vocabulary by adults may both involve a big difference between costs depending on the native language of the learner and cost a lot more, for a given level of proficiency, than immersion, media exposure and other interactive methods at a young age. What must be used as the basis for calculating the Anglo community's fair liability — and everyone else's fair entitlement — is arguably not the actual cost incurred, however sloppy the learning method used, but rather the most efficient of the methods to which the community can reasonably be assumed to have access. By dubbing films, or voicing them over, instead of subtitling them, some linguistic communities foolishly deprive themselves of very effective tools used by others. Both fairness and efficiency recommend that they should not be compensated for these wasteful choices. Whether through increased contributions (from the non-learners) or reduced subsidies (for the learners), other linguistic communities cannot be expected to foot any portion of the resulting extra bill.

Another factor of the learning cost is endogenous to the very diffusion of the lingua franca. As competence in English spreads worldwide, the quantity of learning may

be rising, but its unit cost is bound to fall for two reasons. First, both the general and the local spread of competence in English make it possible to provide prospective learners far more cheaply with the competent teachers they need: it is no longer necessary to import natives at high cost or to send children to immersion courses in native territory. Thus, Korean families already send their children to English courses in China (Stevens & al. 2006), and Chinese institutions use Belgian teachers for English courses in their management schools (Graddol 2005). Secondly and even more importantly, as the number of (non-native) potential English speech partners expands along with the likelihood to meet them, there are more and more opportunities to speak, listen, read and write in English, and there is nothing like the expansion of costless opportunities to speak a language to cheapen the learning of it. Consequently, the swelling of the global cost of lingua franca learning is bound to be far less than proportional to the swelling of its amount.[4] At the limit, if it ever became as easy and natural to learn the lingua franca as it is to learn one's mother tongue, linguistic injustice, understood as the unfair distribution of the burdens of lingua franca production, would vanish altogether.

For the time being, however, the acquisition of the lingua franca at the present or at higher levels of proficiency does cost a considerable amount that needs to be shared. A country like the UK can fairly be expected to pay annually an amount that can be roughly assessed, in the light of the calculations sketched above, at €500 per capita and will increase or decrease over time depending on how fast the volume of learning increases and its unit cost decreases. A country like France, on the other hand, can fairly expect to receive annually a subsidy in the order of €25 per capita, which is likely to stagnate or fall over time, despite increased learning. This is more to pay for the UK and less to receive for France than if there had just been the two of them sharing half of the French learning costs (see Section 2), even tough both are much better off than in the latter situation because of lingua-franca-mediated worldwide communication. How do I propose implementing the transfer scheme thus shown to follow from linguistic justice, plausibly interpreted as proportionality between benefit and cost?

5.   A linguistic tax ?

Most straightforward would be to charge a global tax to the native English community and leave it to allocate this tax among its members, while distributing the proceeds among other linguistic communities so as to equalize all ratios of benefit to cost. But linguistic communities are not political communities, capable of taxing and of being taxed. Nor do they have the sort of grip on their members which religious communities may have. A more plausible though undeniably rougher approximation therefore consists in taxing countries, i.e. politically organized communities, in proportion to the number of English natives they house. One may, and probably should, exempt the countries with a small proportion of English natives, not only because this would not

be worth the administrative trouble, but also because whatever English natives they have may be presumed to be particularly mobile, and hence likely to largely elude whatever allocation of the tax burden might be designed.

This leaves with a sizeable tax to be levied on the few countries in which the bulk of the English natives live — in particular the United States, home to 70% of them — and to be spread by these countries among their citizens. When distributing this tax, these countries may understandably balk at the prospect of targeting the native English speakers among their residents, if only because this would amount to perversely penalizing those families that assimilate most successfully. But in all cases where there is a significant degree of interaction between native English speakers and others, there would be little harm done in failing to differentiate between them for three reasons: first, whatever advantage the natives enjoy worldwide because of the lingua franca status will tend to spread to some extent to other people in their living environment; secondly, a public school system largely paid by natives is likely to provide language teaching to non-natives; and thirdly, the non-natives among natives enjoy particularly favourable conditions for learning the lingua franca, and hence should be entitled to a smaller transfer.

So far so good enough. But is it not pretty pointless to speculate about the way in which it would be most sensible to share out a tax that is most unlikely to ever come about. This is not the sort of tax that is going to be imposed by force. Hence, the governments of the Anglo countries will need to be persuaded — in English, of course — that this is a fair tax for them to pay. But how could they possibly be persuaded to provide massive subsidies for the learning of English all over the world, when such learning is happening anyway on a grand scale, powerfully driven by the individual and collective self-interest of hundreds of millions of people? A hopeless task, however you approach it, even if the governments concerned were able to understand and willing to accept that massive free riding on other people's efforts is ethically problematic. But perhaps we should not give up too quickly.

One possibility would be to bring the matter up whenever supranational organizations need to be financed. The most massive supranational budget is that of the European Union. For over twenty years the debate on the way in which contributions should be distributed between member states was dominated by the so-called "UK rebate" which Margaret Thatcher managed to bring home, after much bickering, in 1984. When part of it was cancelled and a new compromise was reached on this issue in December 2005, would it not have been appropriate to bring up the implicit transfer to the UK from the rest of the EU as a result of asymmetric language learning. The British rebate under discussion was in the order of 4.5 billion euros annually (see http://en.wikipedia.org/wiki/UK_rebate). But the 25 euros or so per capita to which the over 400 million EU citizens outside of the UK are entitled from the Anglo countries (see Section 4 above) amount to over 10 billion euros, while the 500 euros or so per capita owed by the 60 million UK citizens to non-Anglo communities around the world (see Section 4) amount to about 30 billion euros. So why not forget about the "UK rebate"

and even ask a little additional effort. A fair contribution to the worldwide production of a mutually beneficial lingua franca requires far more to be done, by the Brits and others, in favour of non-Anglo communities throughout the world. But contributing an additional 10 billion euros to the EU budget would be a good start, while leaving the US, Canada, Australia, etc. to do equally good work in other continents.

6.   Compensatory poaching

If this looks too haphazard, too dependent on contingent opportunities, what about compensatory free-riding? To understand the potential of this alternative avenue, first note that, as English increasingly suffices to get by wherever one is, both the incentive and opportunity to learn English will increase, whereas the incentive and opportunity to learn any other language will decrease. As a consequence, English will become more and more a globally public language. Other languages, by contrast, will remain or increasingly become globally private languages, not in the sense of being restricted to people's homes, but in the sense of being accessible to only a relatively small proportion of the people one has some chance of interacting with. Having no private language means being far more liable to give away information to any outsider who cares to listen or read. This may take some minor forms: whatever your mother tongue, you may benefit from overhearing two American tourists telling each other, in the queue to the museum, that the door to the toilet is locked. Had they been Finnish, you might have lost in vain your place in the queue.

  Trivial asymmetric benefiting of this sort may seem hardly worth mentioning. But as more and more information gets loaded onto the web, easy to access, copy and use worldwide, this asymmetry is taking gigantic proportions. Whatever is being made available in this way to the three hundred million English natives is being made available simultaneously to the hundreds of millions of non-natives who bothered to learn English or are learning it now, and are massively over-represented among web users from their respective countries. By comparison, very little of the information that these hundreds of millions are putting on the web in their own native languages can be "overheard" by English natives (or indeed by the natives of any language but their own), because so few of these know other languages. Of course, more and more of the material put on the web by non-English natives will be in English (far from exclusively, or even mainly, to communicate with English natives). But as long as a significant proportion of potentially useful contents is produced and made available in other languages (see Nunberg 2002: 322–24), a deep asymmetry remains, which should partly cancel the advantage derived from one's language having become the lingua franca. Indeed, it may provide the only realistic chance of ever cancelling that advantage to a significant extent.

  Whereas the political prospects of a trans-national linguistic tax are dim, it is trivial to observe that poaching — i.e. in this context accessing useful information without

compensatory payment — is already happening on the web quite massively. The far greater difficulty of protecting intellectual property rights effectively on the web, compared to hard supports, means that such poaching, tolerated or not, will take ever growing proportions. In actual practice, by far the most effective (though selective) lock on information is the language in which it is expressed — for those who do not understand it. But as English spreads, all English material gets unlocked for the world, and poaching becomes increasingly asymmetric. True, when competence in English will have spread at a high level throughout the world, contents of more than local interest may be produced proportionally as much by non-English natives as by English natives, and the beneficiaries of the poaching will coincide with its victims. But this is fine if the trend suggested above (Section 4) materializes: by then, the learning of English will have cheapened to such an extent that there will be little to compensate for.

Of course, this is again only rough justice. For a start, even assuming all of the information accessed in this way is identified, it is not exactly easy to assess its value. And unless we do so, we are unable to state at some stage that the poaching of Anglo material by, say, the French must stop, because they have had access to their annual 1.5 billion euros quota (= €25 × 60 Mn) of free Anglo-produced material, in exchange for the language learning they do at their own expense for everyone's benefit. So, how should the material accessed be valued? The price the owners of the information are trying to get for it cannot serve as a standard of valuation: what is deliberately made accessible on the web free of charge should also enter the relevant accounts. How convenient or awkward it would be to make beneficiaries pay for a public good, or how keen or reluctant the producers of the public good are to avail themselves of this possibility, should in no way affect the assessment of the benefit level relevant to the application of our criterion of proportionality of benefit to cost. Nor is the fact that the information producers would have produced it even in the absence of an expectation of non-Anglo reward sufficient to make it count as nothing — just as the voluntary nature of language learning does not disqualify the possibility of free riding. Just as in the case of language learning something like the cost of production must be used. But the identification of the relevant part of the product is very problematic: in most cases, the product is indivisible and most of its beneficiaries are natives of the language in which it is expressed. The assessment of the size of the compensatory benefit, therefore, is unavoidably tricky.

Moreover might not the matching between the beneficiaries of the linguistic free riding and the victims of the compensatory free riding be very poor? Does it not amount to stealing blindly from a large number of people on the ground that some of them do not pay their due? Those who lose out through the plundering of the information they worked hard to produce may only very approximately coincide with those who benefit from the hard work that is being put worldwide into learning English. This lack of coincidence should not be exaggerated, and the poaching may be no less well targeted than the least badly targeted of all feasible schemes for taxing English natives. For the English native "symbol analysts" who are losing out in fees and royalties also

tend to be among the cosmopolitans who most benefit in a wide variety of ways from the spreading of the lingua franca. And if less revenue can be collected abroad as a result of permissive legislation or lax enforcement in matters of intellectual property, they will have to recoup their costs and secure the profitability of their activities on Anglo territory, which will be a way of sharing the cost with a far wider constituency of English natives.

So, what is the bottom line? That this is the least bad way of organizing fair compensation, even though it will be necessarily be messy. Free access to English-language contents on the web — or indeed in (increasingly obsolete) printed form — can plausibly be advocated on grounds of justice. When no intellectual property rights protect them, no moral self-restraint should be exercised. When intellectual property rights do protect them, no vigorous efforts should be deployed to enforce them in non-Anglo countries. Nor can collaboration be legitimately expected for the sake of redressing the resulting asymmetric (net) benefiting by non-English natives and non-Anglo countries. For this is nothing but compensatory (if not retaliatory) free riding, a rough compensation for the massive benefit offered free of charge to the natives of the lingua franca by the hard learning of non-natives. To put it metaphorically: when it is in everyone's interest that one should always meet in the same place, it is fair that those who never need to do any travelling should be charged part of the travelling expenses. If they cannot feasibly or conveniently be charged, they can fairly be expected to compensate by offering dinner. And if they do not bother, the others are entitled to help themselves on their shelves.

As the very spreading of the lingua franca makes its learning less hard, less compensatory poaching will be justified in this spirit. But less asymmetric poaching will be happening anyway, because of more and more English content coming from non-English natives. It does not follow that the poaching must then stop. We might as well enjoy the lingua franca to the full, while resisting or circumventing any attempt by greedy fingers to lock what is no longer linguistically locked, to fetter the free worldwide flow of knowledge and ideas to which the spread of a global lingua franca will be giving a wonderful unprecedented boost.

Notes

1. The present paper draws on the final part of Chapter 2 of a book in progress under the title *Linguistic Justice for Europe and for the World* (Oxford University Press.). Other parts of that chapter provide an argument for the chosen principle, and other chapters of the book deal with linguistic injustice in the two senses ignored here. A preliminary exploration of linguistic justice as cooperative justice can be found in Van Parijs (2002) and de Briey & Van Parijs (2002) and a more general discussion of linguistic justice in all three senses in Van Parijs (2004).

2. This criterion happens to be a specific version of the "rule of distributive justice" formulated by George Homans (1961: 72–8, 232–64) and subsequently used in the social-psychological

literature under the name of "equity". Homans's conjecture is that in many contexts of human cooperation (or "exchange") feelings of fairness and resentment are guided by a rule of proportionality between investment and profit, with investment understood very broadly to cover age, seniority or gender as well as effort or skills. Many interpretations of "investment" allowed by Homans (such as age or gender) are too morally arbitrary to make ethical sense. Moreover, even when they are filtered out (leaving us with something like "effort"), Homan's rule does not provide us with an acceptable criterion of distributive justice (see Van Parijs 1995: 166–9 and 281 fn87). But this need not prevent it from providing a plausible criterion of cooperative justice, with a fair distribution of entitlements taken as a given background.

3. In the United States, over half of secondary school pupils no longer study any foreign language and the cost of foreign language learning per capita can be roughly estimated to be about forty times less than in Switzerland (Maurais 2003: 24, 32). A thorough study by Grin (2005: 88–91) concludes that the cost of foreign language teaching in state schools is about €36 in 2002–3 in the UK, compared to about €138 in 2003–4 in France (about 10% of the total annual education budget).

4. This process can be expected to be far slower in bigger linguistic communities, which provide less opportunity (and hence also motivation) for interacting in the lingua franca. More than linguistic distance, this is a reason why the learning cost of the Chinese is likely to remain particularly high, and hence justify a higher share of the subsidies than what is justified by the sheer arithmetic effect of the size of the Chinese linguistic community.

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Appendices

1. An estimate of the Anglo fair share in today's learning cost

300 million English natives and one hundred communities of 60 million non-English natives each, 10% of which have learned English: this gives us a very simple first approximation of the sort of world we are in or shall be in shortly. What sort of share of the total cost of learning should we expect Anglophones to bear under these assumptions? It is given by the ratio of the benefit for the 300 million Anglophones of acquiring 600 million additional speech partners to the benefit for 600 million non-anglophones of each acquiring as speech partners 300 anglophones and 594 non-anglophones (the other learners minus those with whom they shared their mother tongue), i.e.

$$(300 \times 600)/((300 \times 600) + 100 \times (6 \times (300 + (600 - 6)))) = 25.1\%.$$

Assuming, in line with François Grin's (2005) estimate used in the text, that the cost of turning 10% of one's population into competent English speakers amounts to about €100 per capita per annum, this means a subsidy of €25.1 per capita for each learning country, and a tax of €25.1 × (6000/300) = €502.0 per capita for the Anglo population.

As the lingua franca gradually spreads further to cover the whole of mankind, the total cost (with an unchanged unit cost) will be multiplied by ten (from 600 to 6000 million learners), while the Anglophones' fair share in this cost will be divided by five (from 25.1% to 4.58%).

However, the non-Anglo linguistic communities are not of equal sizes. This matters to some extent for the size of the total subsidy and matters a great deal more for its distribution. To see this, consider a somewhat more realistic distribution between linguistic communities, say 300 Mn native English speakers, and 10% of secondary English speakers in one linguistic community of 1000 Mn (say, the Chinese), in 50 linguistic communities of 60 Mn speakers (say, the French, etc.) and 500 linguistic communities of 4Mn speakers (say, the Danes, etc.).

The total benefit is then given by

$$(300 \times 600) + 1 \times (100 \times (300 + 500)) + 50 \times (6 \times (300 + 100 + 494)) + 500 \times (0.4 \times (300 + 100 + 499.6)) = 180000 + 80000 + 268200 + 179920 = 708120.$$ With a per capita cost of 100 (relative to the total population), the overall ratio of benefit to cost is then 708120/(6000 × 100) = 1.18.

The pre-transfer ratios of benefit to cost (with the assumed 10% ratio of learners to total population) are

$0.1 \times (300 + 500))/100 = 0.800$ for the Chinese
$0.1 \times (300 + 100 + 494)/100 = 0.894$ for the French
$0.1 \times (300 + 100 + 499.6)/100 = 0.8996$ for the Danes.

As all three ratios fall short of the overall ratio of benefit to cost, all learning linguistic communities will be entitled to part of the subsidy to be paid by the Anglo community. Adding another lot of communities of no more than even, say, a single English-learning member would hardly alter the picture: even they (who stand to gain most from widespread lingua franca learning) would have a benefit cost ratio that does not exceed 0.9. However, the level of the subsidy varies as a decreasing function of how many partners the lingua franca enables a linguistic community to gain. Thus, the per capita subsidies are

€32.20 (= −(80 − 100 × 1.18)/1.18) for the Chinese,
€24.24 (= −(89.4 − 100 × 1.18)/1.18) for the French,
€23.76 (= −(89.96 − 100 × 1.18)/1.18) for the Danes,

instead of a uniform subsidy of €25.1 under the assumption of 100 linguistic communities of equal sizes. With 16.7% of the learners, the Chinese can claim 21.1% (= 1000 × 32.20/300 × 508.13) of the total subsidy, even taking no account of the linguistic distance between Chinese and English.

The Anglo population's per capita liability, on the other hand, needs to rise to €508.13 (= (1000 × 32.20 + 3000 × 24.24 + 2000 × 23.76)/300) i.e. slighly more than under the assumption of equal sizes (€502) in order to yield the same ratio of benefit to cost for English natives as for everyone else: 600/508.13 = 1.18.

2. When the lingua franca becomes universal

Applied to the real world, the ratios assumed in our illustration would reflect a very minimalist estimate of the spreading of English (with the population of English learners double the population of English natives). If instead we consider the extreme situation in which the whole population of the world has learned English as a second language, the proportion of the cost that could fairly be billed to the Anglophones would — paradoxically perhaps — shrink dramatically.

With rough estimates of the populations of English natives (say 300 Mn) and non-English natives (say, 6000 Mn) in today's world, the Anglo countries' minimum fair share in the cost of lingua franca learning is given by the ratio of the benefit to Anglophones of universal English learning (300Mn × 6000 Mn) to the total benefit (300Mn × 6000 Mn + 6300Mn × 6000Mn), i.e. 300/(6600) = 1/22 = 4.5%. This corresponds to the extreme case where there are 6 billion different languages (and hence learning the lingua franca enables each non-English native to communicate with 6 billion minus 1 other non-English natives).

But it cannot be expected to be much higher in the real world. With a more realistic approximation of 100 non-Anglo communities of 60 million people each, the cost-sharing required from the Anglophones becomes (300 × 6000)/((300 × 6000) + 100(60 × (300 + (6000 − 60)))) = 4.58%.

With 10 communities of 600 million people each, it rises to exactly (300 × 6000)/((300 × 6000) + 10(600 × (300 + (6000 − 600)))) = 5.0%.

The reason is simply that, even in this last case, the bulk of the benefit to each non-Anglo community comes from being able to communicate, thanks to English, with other non-Anglo communities.

Hence, as the lingua franca becomes more and more universal, the proportion of its cost to be borne by its natives decreases very steeply. Under realistic assumptions about the degree of diversity in the non Anglo population, it will eventually fall below 5%.

However, it does not follow that the absolute level of the cost to be borne by the Anglo community, whether in the aggregate or per capita, will fall as an ever greater proportion of the world population learns the lingua franca. For as the Anglophone community's share of the cost shrinks with every increase in the number of learners, the total learning cost increases even more with every such increase, and the Anglophone community's aggregate contribution to the cost and its per capita contribution are therefore bound to increase in absolute terms, though at a decreasing rate as the total number of lingua franca learners becomes large relative to the number of lingua franca natives. Or at least this conclusion follows if the unit cost of learning is not affected by the very spread of English, an assumption questioned in Section 4.

3. Where are we heading?

To see which way we are moving, it is useful to consider the limiting case where 100% of the world population learns English (as in Appendix 2), while heeding the fact that the world's linguistic communities vary greatly in sizes (as at the end of Appendix 1).

The overall ratio of benefit to cost is then given by

$(300 \times 6000) + 1 \times (1000 \times (300 + 5000)) + 50 \times (60 \times (300 + 1000 + 4940)) + 500 \times (4 \times (300 + 1000 + 4996)))/(6000 \times 1000) = 6.40.$

The per capita subsidies now diverge far more widely than with a smaller percentage of learners (see Appendix 1) because, except for the Chinese, the learning of the lingua franca now gives access to over 99% of the world population:

€172.13 (= −(5300 − 1000 × 6.402)/6.402) for the Chinese,
€ 25.30 (= −(6240 − 1000 × 6.402)/6.402) for the French,
€ 16.58 (= −(6296 − 1000 × 6.402)/6.402) for the Danes,

instead of a uniform subsidy of €1000 × 4.58 = €45.8 under our equal size assumption (see Appendix 2). With 16.7% of the learners, the Chinese alone now absorb 61.2% (= 1000 × 172.13/300 × 937.3) of the fair subsidy, even abstracting from the fact that they may have greater difficulty learning English than many others.

The Anglo population's per capita liability correspondingly rises to €937.30 (= (1000 × 172.13 + 3000 × 25.30 + 2000 × 16.58)/300) i.e. again somewhat more than under the assumption of equal sizes (€45.8 × 6000/300 = €916.0), and considerably more than if only 10% are learning. Yet, because of the massively enhanced benefit resulting from the universalisation of the lingua franca, this is consistent with English natives getting the same ratio of benefit to cost as everyone else: 600/937.30 = 6.40.