THEORETICAL ESSAY

THE ECONOMIC VALUE OF ENDANGERED LANGUAGES

Camiel HAMANS
Comité International Permanent des Linguistes (CIPL)
Amsterdam, The Netherlands

Hein VAN DER VOORT
Museu Paraense Emílio Goeldi (MPEG)
Belém, Pará, Brasil

Miguel OLIVEIRA JR.
Faculdade de Letras - Universidade Federal de Alagoas (UFAL)
Maceió, Alagoas, Brasil

Katia Silene Costa VALDENILSON
Secretaria de Educação do Estado do Pará (SEDUC)
Bom Jesus do Tocantins, Pará, Brasil

EDITORS
– Ana Vilacy Galúcio (UFPA)
– Angela Chagas (UFRGS)

REVIEWERS
– Gabriela Baez (UO)
– Ana Carla Bruno (UFAM)

ABOUT THE AUTHORS
– Camiel Hamans
Conceptualization; Writing - Original Draft; Writing - Review & Editing.
– Hein van der Voort
Conceptualization; Writing - Original Draft; Writing - Review & Editing.
– Miguel Oliveira Jr.
Conceptualization; Writing - Original Draft; Writing - Review & Editing.
– Katia Silene Costa Valdenilson
Writing - Review & Editing.

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ABSTRACT

In a world where more than half of the approximately 8,000 languages are under the threat of extinction, this paper challenges the conventional view that language preservation lacks concrete economic benefits. After an introductory survey of the relationships between monolingualism, cultural identity, and economic dynamics, it touches upon the diverse values that languages possess, from communicative and emotional to ecological and scientific. It also points out the interconnectedness of linguistic diversity with biodiversity, in order to focus on its relevance for global and local economy. Case studies illustrate the economic implications of language loss in sectors like medicine, where traditional knowledge guides pharmaceutical development. Beyond direct monetary considerations, the exploration underscores the unexpected role of language diversity in business, bearing on international trade, collaboration, and workplace dynamics. Advocating for the economic relevance of investing in language resources, the article urges decision-makers to recognize the economic dimensions of endangered languages. The conclusion calls for a shift in perspective, positioning languages not only as cultural

assets but as vital economic factors as well. It encourages the integration of language preservation into national and international policies in order to safeguard global linguistic diversity.

RESUMO

Em um mundo onde mais da metade das cerca de 8.000 línguas corre o risco de desaparecer, este artigo desafia a visão convencional de que a preservação das línguas não traz benefícios econômicos concretos. Após uma pesquisa introdutória das relações entre monolinguismo, identidade cultural e dinâmica econômica, o artigo aborda os diversos valores que as línguas possuem, desde comunicativos e emocionais até ecológicos e científicos. Salienta também a interligação da diversidade linguística com a biodiversidade, a fim de focar na sua relevância para a economia global e local. Os estudos de caso ilustram as implicações econômicas da perda linguística em setores como a medicina, onde o conhecimento tradicional orienta o desenvolvimento farmacêutico. Para além das considerações monetárias diretas, a exploração sublinha o papel inesperado da diversidade linguística nos negócios, influenciando o comércio internacional, a colaboração e a dinâmica do local de trabalho. Ao defender a relevância econômica do investimento em recursos linguísticos, o artigo incentiva os tomadores de decisão a reconhecerem as dimensões econômicas das línguas ameaçadas. A conclusão apela a uma mudança de perspectiva, posicionando as línguas não apenas como bens culturais, mas também como fatores econômicos vitais. E também estimula a integração da preservação da língua nas políticas nacionais e internacionais, a fim de salvaguardar a diversidade linguística global.

LAY SUMMARY

In a world where more than half of the 8,000 languages are at risk of disappearing, this article questions the idea that saving languages doesn't bring real economic benefits. It explores the connections between using only one language, cultural identity, and how money works. The article mentions the different ways languages are important to humans, their societies, and their ecological environment. Examples are given to explain how losing languages can impact things like medicine and businesses. The article suggests that investing in languages is also worthwhile for the economy. It encourages leaders to understand the economic side of saving endangered languages and

recommends that policies should include keeping languages alive to protect the variety of languages around the world.

KEYWORDS
Endangered Languages; Economy; Language Preservation; Policies.

PALAVRAS-CHAVE
Línguas Ameaçadas; Economia; Preservação; Políticas Públicas.

INTRODUCTION

Across the globe, perhaps more than half of the 8,000 languages in existence (Hammarström et al. 2024) face the threat of extinction (e.g., Nettle & Romaine 2000; Moseley 2010; Belew & Simpson 2018). This raises a pertinent question: is it necessary to preserve endangered languages? Some argue that having fewer languages and more people speaking a common tongue would streamline communication and lead to economic benefits. In this article we will discuss the economic significance of endangered languages and language diversity, particularly exploring their direct and indirect economic contributions. By doing so, we aim to shed light on their substantial impact on our global socioeconomic fabric.

1. MONOLINGUALISM

Throughout human history, there has been a recurring desire in various cultures for monolingualism, the belief that a single language could simplify communication and enhance unity among diverse peoples. In contrast, multilingualism has sometimes been seen as a challenge, leading to confusion and inefficiency, as noted in the biblical account of the Tower of Babel. Multilingualism, however, is known to have social and cognitive benefits for the individual (e.g., Appel & Muysken 1987; Bialystok 2013). Furthermore, it is frequently encountered throughout history as an established part of the culture of nations. In fact, as argued by, e.g., Evans (2018), the original state of human societies is probably multilingual. Certainly, monolingualism is not a guarantee for efficient communication and harmony between peoples, as history has shown time and again.[1]

Nevertheless, the pursuit of a common language has endured, with notable instances of leaders attempting to establish a lingua franca for effective communication. For example, Darius the emperor of the Persians made Babylonian Aramaic the official language of his empire. Alexander the Macedonian introduced a Koine Greek as the language of his empire. The Romans chose Latin as the unifying language of their vast empire. By the time of Emperor Caracalla's Constitutio Antoniniana de Civitate in 212, Latin had already become the lingua franca, uniting a wide range of territories. These lingua francas do not necessarily represent attempts to establish monolingualism, however. For a highly readable overview of the language situation in the ancient and classical euroasiatic empires, see Ostler (2005).

1 In this respect, the biblical account of the Tower of Babel should perhaps be interpreted as relating the divine solution for a specific problem, rather than, as is often claimed, a punishment.

Moving closer to contemporary times, attempts to enforce monolingualism have become characteristic for nations with political ambitions of domination. France grappled with its own struggle against regional languages, which encountered resistance stemming from linguistic diversity within its borders. In 1794, Abbé Grégoire presented a report to the National French Convention, *Rapport sur la Nécessité et les Moyens d'anéantir les Patois et d'universaliser l'Usage de la Langue française* 'Report on the necessity and means to annihilate the regional languages and to universalize the use of the French language'. In this report he claimed that only 20% of the French people were able to speak and understand the language as it was spoken in Paris and in the Convention, which prevented the other 80 percent from exercising their civil rights. This report was the starting point of a long battle against dialects in French education. Nevertheless, it took the French government a long time before they were more or less successful. In the 1880's, Jules Ferry, minister of education, reformed the French school system. He founded *l'École de la République* 'the School of the Republic', the public school. This type of school aimed at achieving equality among the French citizens. Therefore, a uniform school system was needed in which only one language could get a place, and this was of course the official and national language (Van der Elst & Van Rootselaar 2004). Patois, i.e., non-standard dialects and other languages such as Breton, Occitan, etc., should be banned from school. For decades signs were hanging in French schools that prescribed "no spitting or speaking patois".

It took about two hundred years for the dialects and languages to become seriously endangered in France, when immigration from North and Central Africa represented a new challenge to France´s ideology of monolinguism (e.g., Szulmajster-Celnikier 1996, Haque 2010a, Filhon 2021). It may take perhaps up to eight generations before the speakers of these languages will be monolingual in standard French. No one can predict what will happen in the meantime, except that the transitional generations who are not yet monolingual, but who are also beginning to lose control of their old mother tongue, fall between the cracks (e.g., Staring et al. 2017, Haque 2010b).

The Canadian context offers a contemporary parallel to these historical efforts at monolingualism. Indigenous languages in Canada have endured a turbulent history, with colonization and the imposition of English and French languages that resulted in the decline of many Indigenous languages. The Indian Residential School system, established in the late 19th century, aimed at assimilating Indigenous children into Western culture, including the use of English or French, which contributed to the erosion of Indigenous languages and cultural heritage (see the extensive reports of the Truth and Reconciliation Commission of Canada).

Similar situations existed in South America, for example in the highly linguistically diverse Northwest Amazon in the late 19th and early 20th centuries, where Indigenous peoples were enslaved in the rubber enterprises. Those who fled from the horrendous conditions to the catholic Salesian missions were subjected to policies of cultural and linguistic assimilation. In the Salesian boarding schools children from different Indigenous peoples were concentrated in order to receive

Western education and received corporal punishment for speaking their Indigenous languages. Later the Salesians realized that they would have more success by using one of the Indigenous languages as a standard, which led to a certain degree of dominance of the Tukano language in the region (see, e.g., Epps 2005). Also elsewhere Westerners elevated certain Indigenous languages to lingua franca status, such as the 17th century Jesuit missions standardizing and promoting Nheengatu in Brazil (e.g., Freire 2011) and Chiquitano in Bolivia (e.g. Métraux 1942), contributing to the disappearance of other Indigenous languages of the region.

Efforts to establish world auxiliary languages, such as Esperanto, have faced limited success. Moreover, languages tend to change through time and develop dialectal variation depending on factors like geographical region. The changes that take place within languages that have a global reach, such as English, Portuguese or Spanish (see, e.g., Jara et al. 2023), indicate that, depending on the area where they are originally from, their present geographical distribution and the contact with local languages, these global languages can develop independently. In the long run their internal variation could result in different languages in their own right. It therefore makes little sense to continue aiming for monolingualism or for limiting the number of languages to a few, however much that may be supposed to be economically preferable.

2. THE WORTH OF LANGUAGES INCLUDES ECONOMIC VALUE

A language is not only used for the transfer of semantic and pragmatic content from speaker to hearer. Aside from having a communicative value, languages have a cohesive or contrastive social value and are used to mark regional, social or ethnic identity. Furthermore, languages can identify the individual person and have an emotional value for their individual speakers. Languages may also have a legal value in identitary and territorial claims of Indigenous peoples (e.g., Kwaza of Brazil, in van der Voort 2008; Xinca of Guatemala, in Rogers 2016; see also Moore & Galucio 2016: 54). Also, it has become increasingly clear that languages may have an ecological value: those geographical regions with high linguistic diversity also tend to possess relatively high biological diversity (e.g., Gorenflo et al. 2012; Harmon & Loh 2018). Finally, languages have a scientific value, since they can inform us about the nature of human cognition, the development of the brain and the history of our species' cultural differentiation (e.g., Croft & Cruse 2004; Enfield 2004; Robinson & Ellis 2008; Deutscher 2011), geographic dispersal (e.g., Nichols 1992; Auer et al. 2013) and interethnic contacts (e.g., Thomason 2001; Winford 2003). Especially when languages are endangered with extinction, all these values come to the fore. Every single language represents a part of humanity's immaterial cultural, intellectual and spiritual heritage, and the extinction of each of the world's languages represents a loss that is felt in interpersonal communication, societal belonging and differentiation, human rights, the preservation of nature, and the possibilities for scientific research. See, e.g., Nettle

& Romaine (2000), Harrison (2007) and Evans (2022) for general interdisciplinary treatments of the values of language diversity.

All these values may also entail economic value. From a monetary perspective, the economic value of languages tends to be indirect and resulting from the other values mentioned above. For example, the observation that linguistic diversity and biological diversity seem to be interconnected, referred to as biocultural diversity (Maffi 2001; Gorenflo et al. 2012; Frainer et al. 2020), is borne out by satellite photos of the Amazonian rainforest: Indigenous languages tend to disappear in the deforested areas. Attempts to assess the economic value of the preserved rainforest compared to the exploitation of deforested areas have not yet led to conclusive results (e.g. Brouwer et al. 2022). Huge profits can obviously be made from mining, the lumber trade, cattle ranching, and soy and other monocultures, but at what cost? In this respect it is relevant to mention the report by Rijk et al. (2023), which criticizes the investments of the Dutch Rabobank that cause immense destruction in the Amazon forest, worth many times the value of those investments.

A large part of the enormous diversity of natural species in the Amazon is unknown to science (e.g., Zapata-Rios et al. 2021). The forest is furthermore an extremely important resource for Indigenous and extractivist communities, as well as for the rains that irrigate the large agricultural regions to the south, for the global climate, and, last but not least, for scientific development (see the various chapters of the report of the Science Panel for the Amazon, edited by Carlos Nobre et al. 2021). Indigenous languages are spoken where Indigenous communities are located and those also tend to be the places where the rainforest is preserved and where diverse ecological systems thrive. The indirect global economic value of the endangered languages of the forest therefore should not be underestimated, although it has to be determined as yet. Linguistic diversity often overlaps with biodiversity hotspots and many Indigenous communities have intricate ecological knowledge. Consequently, endangered languages enable the transmission of Indigenous ecological wisdom and may foster sustainable practices in agriculture, forestry, and resource management. A useful discussion of the linkages between Amazonian biodiversity and Traditional Ecological Knowledge (TEK) is presented in Athayde et al. (2021). We suspect that emphasizing local languages in conservation initiatives can lead to more effective and community-driven conservation efforts, ensuring the preservation of valuable ecosystems and their associated economic benefits.

A somewhat more concrete example of the importance of endangered languages was described in a recent article by Cámara-Leret & Bascompte (2021). It can be regarded as a response to the question of why one should care about the endangerment of languages and the reduction of linguistic diversity. We all know about the great economic turnover in the pharmaceutical industry. A large percentage of Western medical drugs is based on traditional knowledge of medicinal plants and fungi, such as aspirin (*Salix* spp.), quinine (*Cinchona* spp.), morphine (*Papaver somniferium*), ergotamine (*Claviceps purpurea*), atropine (*Atropa belladonna* and other *Solenaceae* species), digoxine (*Digitalis* spp.) and curare (various species). Cámara-Leret & Bascompte (2021) have

shown in their research that traditional knowledge of medicinal properties of a specific plant tends to be restricted to the speakers of one particular language. Neighbouring peoples who speak a different language usually do not possess knowledge about the same plants, but they might have knowledge about other plants. The percentage of medicinal plant knowledge that is language specific varies across the world's regions, with the highest percentage in the Amazon region, where 91% of medicinal plant knowledge is language specific. This fact is independent from plant species, the clade to which it belongs, or the language family involved. This means that knowledge of medicinal plant use tends to be highly specific for a particular language and culture, especially in the Amazon, which is one of the most biologically rich and linguistically diverse parts of the world. This also implies that whenever a particular language disappears, the specific medicinal plant knowledge restricted to that language disappears as well. Considering the history and development of the pharmaceutical industry, the loss of potential economic value of new applications when Indigenous languages disappear is inestimable.

3. LANGUAGE AS A GLOBAL ECONOMIC FACTOR

A diverse linguistic landscape facilitates international trade and collaboration. Endangered languages can act as bridges between cultures, fostering understanding and cooperation between communities with unique cultural knowledge and practices. Effective intercultural communication also has the potential to streamline business interactions, promote international partnerships, and lead to economic growth.

Efforts to revitalize endangered languages often involve educational programs and language documentation projects (Hinton et al. 2018). These initiatives not only form a basis for the preservation of endangered linguistic diversity and maintenance or revitalization of languages, but also help to improve educational outcomes and may contribute to employability prospects for speakers of endangered languages. By creating a bi- or multilingual workforce, language revitalization can positively impact global and local economies and contribute to national human capital development.

In the following subsections we give some practical examples of the economic importance of recognition and awareness of language diversity.

3.1. ONLINE BUSINESS

Language can play an unexpectedly important role in Western economies. For instance, it is evident that Western companies that have turned online sales into a revenue model and that are looking to expand beyond the border of their original language area, or that want to do business in a multilingual

culture, have a great interest in offering their products adequately and correctly in various languages. This requires not only good translators, but also linguistic (online) resources such as grammars and dictionaries. These must of course be made by linguists and lexicographers. Normally it is assumed that independently funded scientific research guarantees this, but a hurried business life can also contribute to this itself by supporting or funding linguistic research.

Steurs (2016:34-36) convincingly shows how much more eBay's profit increased when the platform was able to present its offerings in Russian as well. A one-time investment of 20 million U.S, dollars in language technology yielded an annual profit of between 50 and 100 million dollars until the recent economic sanctions.

3.2. MEDICAL INSTRUCTION

A somewhat different example shows what the negative effects of the lack of linguistic insight can be. The 2014 Ebola outbreak in West Africa has shown the result of poor linguistic awareness. As Berger and Tang (2015) observe:

> Language was one of the main difficulties faced by humanitarian workers responding to the Ebola crisis. Information and messages about Ebola are primarily in English or French, but only a minority of people (approximately 20%) in the three most affected countries, Sierra Leone, Guinea and Liberia speak either language. In Sierra Leone only 13% of women understand English.[2] Most Sierra Leoneans, particularly in rural areas, speak Krio, Mende and Themne. Providing Ebola-related material in English or French leads to important knowledge gaps. In a survey published in late August, UNICEF found that, in Sierra Leone, 30% believed Ebola was transmitted via mosquitoes and another 30% thought it was an airborne disease. Four out of ten respondents believed that hot salt-water baths are an effective cure. (Berger and Tang, 2015, p. 33).

It is clear that the language problem caused numerous unnecessary human losses and at the same time damaged the good name of the medical profession and pharmaceutical industry in this part of the world. If the human losses may be considered less important in the cynical world of capital, the reputation of the pharmaceutical industry will certainly make an impression. In order to recoup that good name, and thus to be able to make turnover on the African market and profit again, a substantial investment will be required.

Examples of how the lack of language consciousness can play a detrimental role also come from the Northern Hemisphere. The radiation accidents in Épinal (France) of the first decade of this century prove how important it is that producers supply information or medical leaflets in the language of the users (Steurs 2016: 41-42; Tamarat & Benderitter 2019). Due to a lack of knowledge of English, French medical specialists administered too high doses of radiation to cancer patients, as a result of which a number of patients died and others suffered severe burns. In a German hospital,

2 Note that in Sierra Leone the official language is English (note by current authors, not in the cited text).

surgical knee prostheses were placed incorrectly because well-educated surgeons misunderstood the English text (Steurs 2016: 42).

3.3. TOXICOLOGICAL INSTRUCTION

The fact that the business community is by no means always convinced of the importance of proper labeling and proper description is demonstrated, for example, by the discussion about the safe labeling of pesticides in the US:

> While Spanish is the dominant language for 62 percent of farmworkers in the U.S., pesticide labels are typically only printed in English. (...) Some of the more powerful pesticides used in agriculture may come with one small message in Spanish. Under the Spanish words *advertencia* or *aviso*, which mean "warning," the labels typically include one sentence that reads: "If you do not understand the label, find someone to explain it to you in detail." But advocates say the chances that a worker will find someone to translate these labels before they apply the pesticides are low. And farmworkers are often under immense pressure to work quickly. (Marshall-Chalmers, 2022).

Note in this respect that farmworkers and other immigrants from Latin America may be native speakers of Indigenous languages and do not necessarily speak Spanish or even understand it at all (see Stephen 2023).[3] Hence the first policy recommendation of the Oregon COVID-19 Farmworker Study (Martinez et al. 2022): "1. Provide access to culturally informed methods of mental health support in a variety of languages and administered through trusted community clinics and universities partnerships."

Governments and international organizations increasingly understand the importance of labeling in the right language. That is why the American producer of pesticides SC Johnson got fined for exporting nine of its products without a translation of the instructions into the main languages of the market (Steurs 2016: 61). The EU introduced a regulation, no. 1169/2011, which prescribes in which language food labels should be written. Article 15 (language requirements) provides that "mandatory food information shall appear in a language that can be easily understood by the consumers of the Member States where a food is marketed." The labelling of chemical products is regulated by the European regulation 1272/2008; regulation 2009/128 deals with pesticides. The EMA, the European Medicines Agency, an agency of the EU, requires that the medical leaflet is in the national language of the patient but also checks if the content is understandable to laymen (Steurs 2016: 159-160).

3 The same can occur in hospitals, like in Baltimore, where "there is a large number of patients who speak Spanish as a second language -- and sometimes not even that. Everyday I work with such patients, native speakers of Quíchua (Ecuador), Mixteco (Mexico), Garífuna e Misquito (Honduras, Nicaragua) and several Maya languages of Honduras, Mexico and Guatemala (Kiché, Kekchi, Ixil, Mam, etc.). They work in the same areas where other "Hispanics" work: construction, restaurant, cleaning, etc." (Eduardo Ribeiro, pers. comm., 15/5/2024).

4. OUTSIDE OF THE GLOBAL ECONOMY

One of the questions may be: economic value for whom? Of course, modern global monetary economy is one of the determining components of Western culture, whereas many endangered languages are spoken by Indigenous peoples who are not necessarily connected to the global economy. Their economy tends to be self-sufficient and its maintenance depends among other things on traditional culture and knowledge, recognition of land rights, language maintenance and multilingualism. Evans (2022) gives the example of the Sa/Saa people who live on the southern Pentecost Island, Vanuatu:

> Many factors play a role in the high retention rate of Vanuatu's traditional languages: tolerant multilingualism, limited urban drift, demographic breathing space as the country recovers from catastrophic population declines a hundred years ago, and government recognition of traditional land rights, thus giving village groups full ownership of their means of subsistence. (Evans, 2022, p. 216-217)

From this viewpoint, the economic value of an endangered language can be very high.

In many traditional societies different languages coexist and individual members may speak or understand multiple languages. In this kind of small-scale multilingual settings, languages tend to have equal prestige and people tend to take pride in speaking the different languages around, using them depending on factors such as the discourse situation, place, and identity or status of interlocutors (e.g., Lüpke 2016). This kind of stable multilingualism differs markedly from the kind of multilingualism known in Western urban societies.

The decline of the world's language diversity is strongly related to the advantages of access to the metropolitan languages that are dominant in the global economy. Multilingualism in Western (post-)colonial urban societies tends to be asymmetrical in that it fosters language shift towards the colonial and metropolitan languages, such as English, French and Spanish. These languages offer many opportunities in the global economy and, as a consequence, are attributed prestige. On the rebound, local and immigrant languages are often discriminated against, as a result of which people may give up on speaking them and may not pass them on to their children. This is one of the main reasons why many of the world´s indigenous languages have become endangered or have disappeared (e.g., chapter 6 of Nettle & Romaine 2000).

One of the solutions to the problem of the decline of language diversity lies in a recognition of the fact that bi- or multilingualism is not detrimental to the individual or to society. Unfortunately, whereas proficiency in more than one of the metropolitan languages is viewed as a sign of education, multilingualism that includes indigenous or immigrant languages is often considered backwards. In Denmark, where many immigrants are native speakers of Turkish, Kurdish or Arabic, the word *tosproget* 'bilingual' was during some time frequently used in the press for persons with an immigrant background, who don't speak perfect Danish and are therefore not presumed to be well integrated

in Danish society (Bakker & van der Voort 2003). It is true that limited skills in the dominant language may reduce one's chances in the global economy. A survey on language skills and the labour market in Bolivia concludes that:

> Monolingual Spanish speakers earn about 25% more than those who speak both Spanish and an indigenous language, while women who speak only an indigenous language earn about 25% less than the bilingual speakers. Bilingual speakers may be penalized in the labor market because of a poorer proficiency in Spanish. (Chiswick et al., 2000).

For those who participate in the global economy, it is of course advantageous to acquire thorough proficiency the dominant language. Yet it should not be necessary to give up one's own native language. General acceptance of multilingualism as an asset rather than a handicap may contribute to a fairer society and to the maintenance and preservation of the world's endangered languages.

5. LANGUAGE IN THE WORKPLACE

As the examples presented in section 3 above show, there is little language awareness in business, except in the case of eBay, which saw opportunities in a new market. This is not necessarily a result of unwillingness or bad faith; rather it is a matter of ignorance and blinkered eyes. Companies initially focus on production, only at a later stage do they think about marketing. And even then, the focus often remains close to home, on the domestic market, so that there is hardly any attention for language aspects.[4]

Moreover, it is still far too often assumed that the whole world speaks the language of big business, English. But what the examples also make clear is that language represents an economic interest. Although the examples presented here do not deal with minority languages, it is clear that the reasoning can be extended to all languages.

Too little attention is paid to the issue of economic value in the discussions about language and language endangerment. Therefore the economic value of languages is not seen, neither by economists or politicians nor by the commercial world. Since power and policy are nowadays, unfortunately, almost exclusively expressed in terms of economic value, it is good to defend the right of languages to exist also in economic terms. Let's illustrate this with a few examples.

If one wants to be certain to be fully understood when communicating complex issues or matters of a far-reaching nature, it is best to speak the other person's native language. However, in some

4 In regions with a strong linguistic identity, businesses are more likely to translate their products or marketing into the regional language. See for example White (n.d.) about Catalan.

parts of Africa, where local multilingualism is relatively common (e.g., Lüpke 2016), the average patient still has great difficulties when he visits a doctor. Doctors in these countries, especially if they have been sent from Europe or have studied there, often speak only English or French, while the patients, as we have seen, have no more than a superficial command of these languages. The language of the medical leaflets, which are mostly in French or English, often causes unsurmountable problems. In principle, such problems can only be solved if doctors have a sufficient command of the language or of one of the languages of their patients. This, however, requires additional language training, which is only feasible when these languages are first sufficiently described. As soon as that is the case, another step can also be taken: the development of a translation app for this language, which is, of course, not the same, as a face-to-face conversation, but which can be very helpful.

Western managers who are active in the industry or agriculture in Africa, Asia and in Latin America, may face problems when they can only address their employees and workforce in English, French, Portuguese or Spanish. The command of these official but exogenous colonial languages among their workers is usually rather low whereas even the local staff is often not fluent in the local languages. That is why it is not only necessary to raise the level of the colonial languages among the workers, but also to give the staff a more than elementary knowledge of the different native languages spoken by the local workers, or to develop digital tools that can clear up misunderstandings. Again a translation app could be useful, having the possibility to clear that hurdle.

Managers in situations as sketched above too often don't speak the language of their workers. The implication thereof is that they don't see the real talents of their employees. Moreover, whoever takes the trouble to speak the language of their employees, albeit only on a modest level, shows that they take them seriously. It goes without saying that this has a positive effect on cooperation. Therefore, multilingualism in the workplace may increase safety and promote creativity and confidence.[5]

In recent decades, Dutch rose growers have moved their activities to Kenya to save costs. In Kenya labour costs are much lower and there is no need for expensively heated greenhouses (Lijfering et al. 2023). Another argument for choosing Kenya was that many English-speaking staff could be found. However, according to Van de Ven (2023) most of the workforce consists of workers with hardly any knowledge of English, as a result of which there can hardly be any verbal communication and knowledge transfer from the Dutch grower/owner to his employees. All of this has to be done through intermediate layers with all the associated loss of communication. Some of these Dutch entrepreneurs now move to Ethiopia, since the rules are more flexible there (Van de Ven 2023). They seem unconcerned about the consequences for communication, which is very much like the old-fashioned colonial attitude.

5 See also the efforts of the European Agency for Safety and Health at Work (EU-OSHA) on behalf of multilingual tools and services: <https://osha.europa.eu/en/tools-and-resources/multilingualism>.

6. SUPPORT FROM AN UNEXPECTED SIDE

As shown so far, language is an economic factor and command of languages can be very helpful in health care, agriculture, business etcetera. Nevertheless, multinationals and other commercial companies hardly invest in language research and the development of language tools. The main reasons for this is lack of language awareness among managers of big industries and multinationals, as shown above. Linguists are in a good position to create such awareness and could point to the economic value of languages, language research and training, as well as demand support from business and agriculture.

On the basis of our argument that languages have an economic value we suggest not to hesitate to ask the commercial world for support. Especially because national and international research boards and governments suffer from a lack of resources, we should try to convince CEO's and CFO's that it is worthwhile and profitable to invest in language research, which includes language documentation, grammar writing, lexicography and development of digital tools. Of the over 3.000 endangered languages (e.g., Campbell & Belew 2018), there are a large number that are spoken by so many people that it economically makes sense for the companies that operate in the areas where these languages are spoken, to support these languages.

It will not be easy to convince companies of the economic importance of preserving languages. One of the comments from the audience at our discussion panel at the *Viva Língua Viva II* event was that there are mining and oil companies active in the Amazon region that do not even care about the original inhabitants of the area. They are only out to collect as much precious minerals as quickly as possible and do not respect the rights of others (see, e.g., Amazon Watch 2022; Stand Earth 2024). Unfortunately, this is true, but there is also another kind of firm in which critical shareholders can help determine policy. We believe that we should direct our first actions to get business on our side to these types of companies. Pension funds of academic staff are often shareholders in such companies. We are therefore in a position to contribute to a change in company policy.

7. THE ROLE OF DECISION MAKERS

Decision-makers in agencies responsible for funding research and education play a crucial role in supporting the documentation, preservation and revitalization of Indigenous languages. By recognizing the significance of these languages, they can allocate resources to support research and educational initiatives that yield valuable insights and have far-reaching economic implications.

Research projects that focus on Indigenous languages can provide crucial information for sustainable resource management, climate change adaptation, and biodiversity conservation. For

example, traditional knowledge encoded in Indigenous languages can offer valuable insights into sustainable land management practices and the use of medicinal plants. Acknowledging the economic dimension of such research can justify increased investment in these areas.

Promoting Indigenous language education not only preserves linguistic diversity but also has economic benefits. Decision-makers in educational agencies should allocate resources to support language programs, teacher training, and the development of relevant educational materials. This can lead to higher educational attainment among Indigenous populations, enhancing their economic prospects and contributing to the overall economic development of their communities.

Decision-makers also have the power to shape public perceptions and policy agendas. By championing the economic value of Indigenous languages through public campaigns and advocacy efforts, they can foster greater appreciation for linguistic diversity and garner support for initiatives aimed at language documentation, preservation and revitalization. This can lead to increased funding for research and education in this area, further enhancing the economic value of Indigenous languages.

8. CONCLUSION

In this article, we have highlighted the fact that languages represent not only a cultural, social, historical or scientific value, but also an economic one. This has not been sufficiently recognized until now. Because policy is often determined mainly on the basis of economic arguments, care for languages is seriously undervalued.

Now that it is clear that languages also have an economic interest, it is time to integrate care for languages in future national, supranational and international policies and to give it the similar weight as, for example, health care or education. Furthermore, economic policy is not only determined by democratically controlled governments, but also by companies. When formulating new policies for language care and gaining support for it, attention should therefore not be exclusively focused on governments, but also on CEOs and CFOs of the international business community.

RECOMMENDATIONS

- Respect for ethnolinguistic diversity, which implies recognition of Indigenous rights and of the fundamental equality of languages.
- Stimulating bi- and multilingualism, informing about its cognitive and social benefits.

- Financial support of endangered languages, fostering education, study, documentation, maintenance and revitalization.
- Protecting biodiversity.
- Creating awareness, by educating authorities, companies, the general public, and the Indigenous peoples.

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ADDITIONAL INFORMATION

COMPETING INTERESTS

The first, second and fourth authors have no competing interests to declare. The third author is editor-in-chief of Cadernos de Linguística, but was not involved in the editorial process related to this paper.

DATA ACCESSIBILITY STATEMENT

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

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