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**.Monolingualism is a body modification practice**

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**Abstract:** Humans possess a cognitive faculty to acquire and practice multiple linguistic systems. As cognitive linguistics makes progress in understanding the organ that produces this multilingual faculty of language, monolingualism emerges as the marked case. Considering the biological foundations of human language, and the input impoverishment necessary for the realization of monolingualism, I propose that monolingualism is a social practice of body modification. Like cranial shape modification in babies, foot binding, or tight-lacing of girls, the social practice of monolingualism takes advantage of the plasticity of human bodies in order to alter the natural growth of children before puberty, obtaining a shape and behaviour that conspicuously mark their bodies and deliver a desired social signal. The social practice of monolingualism forces the faculty of language (the linguistic brain organ) into a state of functional atrophy. I explore the predictions that this proposal makes and discuss them in taking the French state as a case study that provides adequate historical context for the development of such a body modification practice in modern Europe.<sup>1</sup>

*Keywords:* monolingualism; bilingualism; body modification; cognitive linguistics; anthropology of the body; faculty of language

## 1. Introduction

### 1.1. From cognitive linguistics to the humanities and policy makers

The study of monolingualism is at the crossroads of numerous academic fields. As sociolinguist Ellis (2006) states, monolingualism is “a ‘linguistic ideology’ which needs to be studied not only by linguists but also social scientists, historians and cultural theorists”. In this article, I would like to argue that monolingualism is not just a linguistic ideology, i. e. a system of ideas about language use. I will claim that monolingualism is a body modification practice

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<sup>1</sup>

This article has benefited from comments by Claude Le Gouill, Milan Rezac, Emilie Barteau, Manon Jouitteau, Johan Rooryck and three anonymous reviewers of *Biolinguistics*. Be they thanked here. All shortcomings or misinterpretations are mine.

that enacts that linguistic ideology. Its effects on the brain can be studied with cognitive approaches. I claim that the hypothesis that monolingualism is a body modification practice allows for a deeper understanding of the genesis and re-enactment of the mechanisms leading to monolingualism. As such, this article may be of interest to anyone navigating the intricacies of language policies, including fieldwork linguists of all theoretical persuasions, and policy makers in language revitalisation programs.

## **1.2. Addressing methodology for transdisciplinary studies**

Transdisciplinary scientific accuracy is a challenge in itself, and the political dimension of monolingual policies makes it a delicate topic of study. Let me first clarify my standing point and perspective. My background is in formal and cognitive linguistics. I will here take stock of the main results of cognitive linguistics concerning monolingualism, and synthesize them for a non-specialist readership. The first part of this paper develops a straightforward argument. I follow the ethnologists' definition of Soukup and Dvorská (2016:519) that body modifications include "all bodily alterations that help to change the natural state of the human body to a body, which is desired by the culture where one lives". I show that in cognitive terms, monolingualism falls under this definition of a body modification. There is a linguistic tradition in which languages represent hallmarks of culture as opposed to nature in a Platonic/Cartesian tradition. This opposition is no longer recognized by cognitive scientists, for whom languages constitute the direct productions of a physical organ in the brain. It is not controversial to cognitive scientists that the organ that realizes the faculty of language is modified by the social practices that regulate the linguistic input received by children and young adults.

I lack the academic anthropological, ethnological and sociological tools to study ideologies and social behaviours. My hypothesis however makes important predictions about language policies, language teaching and sciences of education in monolingual states. I will articulate these predictions so that colleagues more qualified than me in these fields can more easily test my hypothesis. I will provide reference to text laws or historical facts and studies where they illustrate my hypothesis, but on sociological matters, I can only deliver my informed intuitions and explicate them. I do not claim that they alone constitute scientific proof. Following standpoint theory, I however enrich these intuitions by an explicit statement of the position from which I am speaking. My standpoint is constructed by my practice as a fieldwork-oriented linguist, with a specialisation in Breton (Celtic), a highly endangered language spoken by less than 200 000 people in the French Republic, whose only official language is French. I received a monolingualist education as a child in a state school in France. The reality of the languages children could have been speaking was ignored, but French monolingualism was valorized. We were taught "it is not nice to make fun of people who cannot speak French, because it is not their fault

if they don't have access to the language of the mind"<sup>2</sup>. I have had several occasions to perceive the distance between the French monolingualist ideology and the reality shown by Breton, Gallo, Basque or Poitevin speakers, as well as immigrants and foreigners. In 2004, I submitted a thesis on comparative grammar and was obliged by law to write it in French, and to select a French speaking jury despite a monopolistically English-oriented job market. Finally, I have myself experienced immigration in several other European countries.

### **1.3. Road map**

This article has two main sections. The first one is argumentative. I show how cognitive linguistics approaches the faculty of language as an organ that gives different results to tests, depending on the amount of linguistic diversity it is exposed to. I show how monolingualism emerges as the marked case, remarkable by its functional atrophy. Taking stock of this, I show how monolingualism falls under the definition of better-studied body modification practices. Monolingualism is most accurately compared with a subclass of body modification practices that proceed by containment of body parts in order to alter the growth trajectory of children. This achieves a culturally valorised functional atrophy during adulthood. The typology of these practices comprises foot binding, cranial shape modification of babies, imposition of neck rings or tight lacing of girls.

The second section explores the predictions that my hypothesis makes, exploring the empirical domain of the linguistic cultures in the French State. I provide historical context for the genesis of the imposition of monolingualism in the French State. I show it realizes a literal embodiment of republicanism, and has done so since the French revolution. I next develop some of the predictions that my analysis makes for the cultural representations of monolinguals, multilinguals, and natives of non-French languages in the French State, taking Brittany as a case study.

## **2. Monolingualism is a body modification practice**

This section provides a short overview of the cognitive arguments that an organ located in the brain realizes the faculty of language, and that monolingualism is achieved by deprivation of linguistic input in young children. I will explain here in what sense the practice of monolingualism is a modification that realizes functional atrophy, and how it fits into the typology of better-studied body modifications.

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<sup>2</sup>

My translation. "C'est pas beau de se moquer des gens qui ne parlent pas français, ce n'est pas de leur faute s'ils n'ont pas accès à la langue de l'esprit. »

## 2.1. *The linguistic organ in the brain*

The field of cognitive linguistics analyses the productions of the human organ that creates human languages, their universals and variations, their possibilities and grammatical restrictions as created by the linguistic brain. In this academic field, there is little doubt that the language faculty is the by-product of an organ located in the brain (Lenneberg 1967, Anderson and Lightfoot 2002). In the last decades, cognitive studies have produced impressive advancements in the study of this linguistic organ. The physical plasticity and the resilience of this organ is remarkable (Piattelli-Palmarini 2017), but it is now clear that for each individual, very specific linguistic functions are tied each to very specific brain localisations. This organ is observable by fMRI techniques while operating different linguistics tasks. Open brain surgery techniques have allowed neurologists to use linguistic feedback of patients so as to propose a probabilistic map for crucial cortical epicentres of human brain functions, including language (Matthew and al. 2014). Brain tumour removal can now selectively suppress or spare languages spoken by the patient on demand.<sup>3</sup>

Different brain lesions are known to selectively trigger the loss of very specific syntactico-semantic classes like mass nouns, count nouns, proper nouns, place names, etc. (see Semenza 1998). Specific language impairments in children have been reported to alternatively target the results of very precise grammatical operations like finiteness markers, tense, agreement, affixal morphology, hierarchical complexity, or even syntactic relations known in generative linguistics as movement (*Move-a*), if not specifically verb movement in the syntactic structure (Curtiss 2013:86). We now know that some genetic profiles can be attached to some specific syntactic impairments. Males with an extra X chromosome, known as exhibiting the Klinefelter syndrome, have a specific problem with syntactic binding and control structures (Curtiss 2013:81). Since the discovery of the FOXP2 gene tied with grammatical impairments in 2001, geneticists have been studying the evolutionary origin of the linguistic organ, like they would the evolutionary development of eyes or spine in mammals (see Fisher 2019 for a recent overview and discussion).

This growing field of cognitive linguistics has had the side effect of switching the unmarked value from monolingualism to multilingualism in the broader field of linguistics. Indeed, the focus of classical philology, and later of formal grammars and typological studies was set on languages, not on the

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<sup>3</sup>

Hugues Duffau, neurosurgeon in Montpellier and co-author of Matthew and al. (2014), claims he successfully operated a brain tumor on a multilingual patient who had declared beforehand that Russian, French and English were mandatory for her to keep. Thanks to the linguistic feedback that she provided during the open-brain surgery, the functional location of these three languages could be spared. She lost, as predicted and agreed upon beforehand, only Italian and Spanish whose mapping in her brain could not be achieved during the operation. *Le Cerveau se répare lui-même, L'Express*, 02/10/2014, republished in 07/01/2016.

language faculty producing each and every one of them. These fields traditionally worked language by language, comparing the different linguistic systems produced by the human brain. Forms of language mixing like code-switching or lexical borrowings were ascribed to a set of contact phenomena between separate linguistic systems, as if the former derived from the latter. Linguists expected monolingual speakers to provide the baseline for what a given individual language truly is, before turning to the productions of bilingual speakers. Cognitive linguistics and generative linguistics initially built on these previous results, and consequently, they inherited this monolingual reflex: with a long tradition of language descriptions that one could rely on, bilingual forms looked like an undesired complication in protocols.<sup>4</sup> However, from the new cognitive perspective, the object of study was not languages *per se* anymore, but, through them, the linguistic human faculty itself. Studying the modularity of language and its discreteness in brain tissues is easier to address with bilinguals than with monolinguals, because these subjects offer more differential testing possibilities. In what is now known as the field of *bilingualism studies*, it is uncontroversial that monolingualism is partly cognitively different (Bialystok and Kroll 2017). Monolingualism is no longer the “natural” state of the mind, nor is it the “unmarked case” (contra the cultural representations of monolingualism, cf. Ellis 2006, 2008).<sup>5</sup>

Neither monolingualism nor bilingualism is more “natural” or “cultural” than the other. What seems genetically encoded is precisely the neural plasticity that allows for very different linguistic systems and acquisition processes among humans. The human body is programmed for building internal grammars of linguistic systems it comes into contact with. It does so in a more restricted way when only one system is offered in contact. Cultures modulate access to linguistic diversity.<sup>6</sup> A physical organ that matures and develops during life realizes the language faculty. The maturation of the brain designs critical periods for language acquisition and learning. The development trajectory of this organ depends on language(s) exposure or deprivation thereof. It is thus the social practices, in controlling the linguistic input available to children, which have

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Gramling (2016:9) probably reacts to this when he writes that Noam Chomsky created “the earliest form of monolingualism” (in 2009 sic!). One should not take this statement too seriously as Gramling also states on the next page that the scientific discovery of monolingualism precedes the formation of nation-states. To the extent one can set aside the book’s acrimonious tone and its profound misunderstanding of formal and cognitive linguistics, and even of language descriptions, it provides a rare and important historical point of view on the cultural erasure of monolingualism in European cultures since the Middle ages, including scientific cultures.

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The cognitive field is still oriented in its terminology. The study of monolingualism is to be found in so-called *bilingual studies*. In late 2019, a Google search for “early monolingualism” gives 21 hits, none of them from cognitive studies, whereas “early bilingualism” obtains 31,200 hits.

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We know of linguistic states that do not vary with presence or absence of linguistic input; they are only arguably “more natural” in the sense that they represent deep forms of aphasia and linguistic impairments.

control over the resources available to the development of the linguistic brain. In this sense, the linguistic social practices directly impact the physical development of body parts. In the next section, I present the arguments that monolingualism leaves its trace on the brain.

## 2.2. *What monolingualism does to the brain*

Monolingualism is the state of an individual who has internalised the grammar of only one linguistic system that has the complexity of a human language. Strictly speaking, such a speaker is even restricted to one speech level in his native language. In the following however, I consider as monolingual any speaker restricted to a minimal set of typologically extremely close linguistic varieties. For concreteness, I consider monolingual a speaker of French restricted to the standard variety, with L2 partial proficiency in administrative or literary French since school.

Cognitive studies known as *bilingual studies* have shown how the co-presence of several languages modulates the development of the linguistic organ in the brain during life. The amount of linguistic diversity available during life has consequences for each of the specific language systems, as well as on the linguistic system as a whole. Werker and Hensch (2015) review the cognitive experiments on the critical period for the acquisition of language. As they put it, “the question no longer is, “Are there critical periods?” but rather what processes open them, keep them open, close them, and allow them to be reopened”. They find that although the different cognitive critical periods are typically constrained by maturation of the brain, two types of exposure/experience can accelerate or delay their closing. A first factor is diet (Pivik and al. 2012). Early thiamine deficiency leads to syntactic impairment (Fattal and al. 2011). Infants with higher intake of fatty acids at 2 months of age are better able to discriminate the (non-native) Hindi phonetic contrast between dental /da/ versus retroflex /Da/ at 9 months of age (Innis and al. 2001:537). Bilingualism is another external factor that impacts the critical period, by delaying or cancelling its closing (Werker and Hensch 2015), as compared to monolingualism. Monolingual and multilingual children process language differently as early as one year old, which means that they do so even before uttering their first words (see Bialystok and Kroll 2017 for a summary of experiments).

The Functional Magnetic Resonance Imaging techniques (fMRI) have provided a new stream of evidence. fMRI shows the areas in the brain where blood flow delivers oxygen to the neurons. The process of neurovascular coupling associates it to underlying neuronal activity: the signal we measure thus relates to increased neural activity, which, we believe, is related to cognition. Science is progressing in understanding this relationship, but we are still in the very early stages of understanding how the brain creates language. It is important to remember that different modes of brain activation do not

automatically translate into 'better' or 'worse' observable linguistic performances, but they clearly show that there are quantifiable cognitive differences between early bilingualism and late bilingualism, and between monolingualism and early bilingualism. According to studies that have operationalized fMRI, the fronto-cortical area of a native language and of a second language learned in adulthood form two separate spaces. In contrast, the fronto-cortical area of a native language and an early second language are coincidental (Kim and al. 1997, Dehaene and al. 1997, Wattendorf and al. 2001). Still according to MRI, early monolingualism has long-term effects on the brain (Pierce and al., 2015): the brain of children who spoke Chinese before French reacts differently from the brain of French monolinguals in the face of French-like invented words. French monolinguals activate typical phonological word memory brain regions, while bilinguals with Chinese also activate regions implicated in cognitive control. Remarkably, this is true whether the children still practise Chinese or not, pointing towards a specificity of early maintained monolingualism.

The linguistic productions themselves also suggest different processes for early acquisition of one single language and for acquisition of multiple languages. I will briefly illustrate this with a syntactic case. Devlin and al. (2012) studied the productions of a child between the ages of two and four, who is trilingual in English, Scottish Gaelic and Italian. English seems to be his dominant language. The authors remark that the child, in his dominant language English, produces a clitic that is coreferential with a right dislocated object, like in *He broke it, the duck*. Such structures are not documented for monolingual children of English. The structure is ungrammatical for both adult speakers of English and Scottish Gaelic. Adult Italian grammar does have such clitics in right dislocation cases, but the child does not produce any such structure in his Italian, probably because of the complexity of the Italian clitic's morphology that are deployed in full person, number and gender paradigms. In contrast, the *it* pronoun in English is free of the morphological overload of the Italian system. Devlin and al. (2012) thus suggest that this trilingual child is actively training himself to produce the syntactic structure of Italian with material from another language that he finds more easily suitable to the exercise. Critical age of exposure and consistency of the input play a critical role in both monolingual and bilingual acquisition, but this example shows that multilingual acquisition proceeds differently from monolingual acquisition because it can proceed in cognitive pathways unavailable to monolingual acquisition. In early bilingual adults, the two languages engage directly within a single language system (see Grosjean 1989, and Kroll and al. 2015 for a state-of-the-art review). If multilinguals juggle between different linguistic systems, the equivalent for monolingual language acquisition is to learn to juggle with only one ball.

Multilingualism results from sufficiently diverse and consistent linguistic input during interaction with children. Provided that this input is early and persistent, multilingualism is not something children do, but rather something that happens to them, in a manner similar to the normal growth of bodies, once



sufficient food and healthy conditions are provided to them. Monolingualism is a reduction of the faculty of language that arises when it is fed with a unique linguistic system. The process that realizes monolingualism is subtractive: it consists of the deprivation of linguistic input diversity during infancy. After the critical age of puberty, and with individual variation, the effects of monolingualism are partially irreversible and qualify as a permanent functional atrophy. It is uncontroversial that late bilingualism requires more cognitive resources than early bilingualism, and gives worse results in terms of maximal linguistic attainment of non-native languages.

Independently of this conclusion, a separate research question is the potential impact of monolingualism on extra-linguistic executive functions, like the voluntary control of attention, inhibitory control, non-verbal cognitive development, memory flexibility, multitasking or conflict resolution. A recent line of research has studied from a cognitive point of view what bilingual brains do that monolingual brains do not, like switching from a language to another, or inhibiting one language while speaking another one. They examine the hypothesis that these cognitive operations that come with bilingualism are associated with additional cognitive advantages for cognitive executive functions, when compared to monolingualism (see Abutalebi and Green 2008, Bialystok and al. 2012, Brito and al. 2015, and references therein). These studies are contradicted by a line of research in cognitive psychology, which claims that these effects are not replicable on a large scale, or are not clearly demonstrated (see Paap and Greenberg 2013, Barac and al. 2014, Dick and al. 2019, and references therein). The present paper is certainly not the place to engage in this debate. Independently of potential extralinguistic cognitive advantages associated with bilingualism, monolingualism is a restriction on multilingual natural human capacities.

The faculty of language is realized by an organ. Monolingualism proceeds by containment of potential development, and cognitively amounts to the functional atrophy of this physical organ. As such, it qualifies as a body modification practice and can be compared to the modification practices of other organs. In the next section, I will show how monolingualism fits precisely into the typology of better-studied body modification practices.

### ***2.3. Monolingualism in the typology of body modifications***

Soukup and Dvoráková (2016:519)'s definition of body modification is very open. It includes for example body building practices, which however realize a physical strength that could be useful for certain human activities. On the other hand, body modifications like tattoos or scarification marks do not provide any physical advantage, and their motivation is arguably exclusively social in essence. This is also most clearly the case of monolingualism, as a body modification triggering a functional atrophy.

Direct ablation or fusion of body parts may give rise to functional atrophy, as in the case of sexual excision or infibulation. Today, the loss of languages by physical removal of brain parts is possible, but it is a by-product of our technical limitations on brain tumour surgery. Physical removal of brain parts could create monolingualism, but it is not the way human societies proceed.

Another class of body modification resembles monolingualism because it is derivative of a social practice. Prayer marks are calluses on bony prominences in feet, knees or forehead that result from repeated, extended pressure, and friction exerted when praying on hard ground (Fosse and al. 2020). Socially, they function as a signal of a behavior of frequent praying. However, these marks can appear on adults, even on relatively new practitioners. They do not require early practice in children, with a critical age for full realization, as is the case for monolingualism.

Among the typology of body modification, we are looking at processes that take advantage of the human body's plasticity at an early age and so obtain functional atrophy: early containment practices. Those body modifications, because they are engineered by adults on children, function as the sign of a deeply coherent society. Cranial shape modification alters the growth trajectories by containment and/or long-term immobilization of a body part. Such practice is documented, among many other examples, in the pre-Inca Tiwanaku society in South America (Blom 2005) or in most of Western France until the beginning of the twentieth century (Broca 1871, Delisle 1902). The relatives of children perform the procedures on them long before the age of their possible consent. This early intervention of adults allows for a literal embodiment of the social project that the adults have for those children in society. Body containment practices sometimes result in conspicuous underdevelopment and functional atrophy, as in the cases of foot binding in China, neck rings of the Padaung women of the Burmese Kayan people, or tight-lacing of girls in nineteenth-century Europe. The constant of body containment is thus to obtain the conspicuous atrophy of a physical organ that would otherwise grow painlessly in non-contained children. Monolingualism falls into this latter class, as it is realized on the human body via containment, and is performed by early and persistent deprivation of linguistic input. The hypothesis thus is that permanence or semi-permanence of linguistic containment of children before puberty alters the growth trajectory of the physical organ in the human brain responsible for the faculty of language and gives rise to monolingualism.

Monolingualism has several exceptional features among body modification practices: (i) it is not perceptible by the visual modality, and (ii) it has a very high degree of social heritability. I shall now discuss these two features. The first exceptional feature, its invisibility to the eye without MRI techniques, does not appear to change the nature of body modification. Monolingualism is conspicuous for non-visual senses<sup>7</sup> because humans seldom

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Monolingualism can also be perceived by visual senses in case of monolingual practice of a

interact without language. The productions of one's linguistic organ are consubstantial to most communication acts in society, and clearly reveal one's linguistic flexibility or lack thereof. The linguistic productions of monolingual speakers are conspicuous in any multilingual setting, where their lack of linguistic proficiency in a late second language impacts prosody, accentuation, and grammar in the broad sense. They also lack the pragmatics of multilingual exchanges, including code switching or the creation of speech levels by carefully selected borrowings. The second exceptional feature is a high degree of social heritability, and has an important impact on the social use of monolingualism as a body modification practice. Once a society or a micro-society attains monolingualism in the same language for all the adults in contact with children, full heritability of monolingualism is ensured without any further conscious intervention. It can perpetuate itself for generations, as long as this society does not encounter consistent evidence of other linguistic systems, or prevents the children from receiving this linguistic input. This form of heritability is entirely culturally constructed; the languages spoken by genetic parents are of course irrelevant. If a unique linguistic system is performed by the members of society who take care of the children, those children will grow monolingual. They will perceive additional languages as the result of intense training at adult age, setting the monolingual state as unmarked, as is actually the case in their experience shaped by their relatives.

I conclude here that monolingualism as a social practice falls under the definition of body modification practices, specifically the range of body modifications that operate via long-term containment of a physical organ whose plasticity allows for it before puberty, and obtains permanent physical transformation of individuals post-puberty. This hypothesis makes the prediction that the practice of monolingualism mobilizes the same social mechanisms as other body modification practices. Some uses may in particular take advantage of its exceptionally high degree of heritability. I shall explore this prediction in detail in the next section.

### **3. Monolingualism, the case of the French State**

In contemporary Europe, some states have a single official language and tie monolingualism with national identity, as is famously the case in Greece or France. Their national identities are intimately entangled with a representation of their monolingualism. I shall concentrate here on France as a case study. Monolingualism in the French State is remarkable in that it offers a rather rare example of a body modification practice organized at State level. Traditional societies used body modification as signs of possession or inclusion. Thracians,

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signed language, but most Deaf signers are at least bilingual because they have to read another language.

Persians, Greeks and Romans, or the first European Nation-States, developed tattoos or brands for large-scale marking of slave status on individual bodies, or as punishment for criminals (DeMello 2011). In the following, I propose that organization of monolingual containment is a national strategy of a modern Nation-State towards its own citizens.

### 3.1. *Genesis of the French monolingual republican body*

The French Republic is grounded on the philosophical idea of universalism, a notion constructed as transcending individual particularisms. Body modification practices are ostensible signs of ethnicity, so one could see them as a counter-characteristic of French republican identity. However, as Geisser (2005) puts it, “one would find vivid and « objective » traces of [...] *Republican Ethnicity* in both the jacobinist revolutionary thoughts – which is not the least of paradoxes – but also in several republican nationalist schools of thought, like for example Gaullism”. Geisser mainly illustrates this with the genesis of republican secularism, and proposes that the French Republic, despite its official pediments, is philosophically based on a more or less explicit ethnic dimension, and that this ethnic dimension can be historically traced back to a large political spectrum since the end of the eighteenth century. I propose that French monolingualism emerged as a body modification practice at that key moment of French history. It became a sine-qua-non characteristic of the republican body, an ostensible sign of this newly born republican ethnicity.

France has a singular history of politicization of the monolingual practice of the French language, and a monolingualist understanding of universalism. The idea that the French language alone has a universal value dates back to the French colonialist empire and lives on to this day<sup>8</sup>. The *French Academy* was founded in 1625 by Richelieu. In 2020, its members still trace back the rise of French monolingualism (against Latin) to the splendors they perceive of the past Monarchy. <sup>9</sup> The overthrow of the monarchy by the French revolution of the eighteenth century further reinforced the installation of French as the only

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<sup>8</sup> Nolan (2011:92) points out the relevance for language policy of the material produced during presidential campaigns. He translates, from the 2007 Sarkozy program: “We have a duty to promote the French language, for our children, for the future of world civilization and for the defense of a certain idea of humanity”. The values of the French revolution are equated with, and only with, the French language. Universalism does not follow from diversity but from a lack thereof.

<sup>9</sup> The website of the French academy (accessed [12/08/2020], my translation) claims that “The brilliance and the power of the French monarchy, the refinement of the culture, the improvements made to the language by the Academy and the grammarians, the significant influence of the Protestant emigrated populations, made that French quickly overflowed, in the XVIIth century and eighteenth centuries, the limits of the nation. It is the language of the aristocracy and of cultivated people throughout northern Europe, in Germany, in Poland, in Russia ... It is also the language of diplomacy. All major treaties are written in French, whereas they were previously written in Latin. The empire of the French language greatly exceeds (and it is a constant) the political and economic empire of France”.

politically viable language (this time, against all other languages spoken on the territory). In 1789, the bourgeois class came to power thanks to an alliance with the working classes, which liberated them from both nobility and clergy. But as soon as 1791, the bourgeoisie turned against their former allies, the working class, which they considered dangerous both in Paris and in the Provinces. Trade unions were then forbidden (Le Chapelier law), along with long established regional liberties including linguistic diversity. This sudden turn of the French revolution established, for the years to come, the idea that the existence of the French republic depends directly on the eradication of any language in competition with French (Giacomo 1975). The pivotal argument at the time was that only a monolingual setting enforcing the monopoly of the French language could oppose conservative forces and guarantee equality for the citizens in the French State. Building France as a Nation thus amounted to ensuring the linguistic monopoly of the French language. Breaches to this linguistic monopoly were interpreted as anti-republican, and had to be eradicated in the name of the nation. In this philosophical paradigm, equality and diversity are clearly constructed as opposite notions, in which the former has to be promoted over the latter. For language policies, this means that the defence of the right to use traditional or immigrant languages is interpreted as contrary to human rights. Only widely shared monolingualism is seen as a guarantee of democracy and equal rights among citizens (Määttä 2005:173). Promoters or practitioners of non-French languages in France still face this traditional culture of monolingualism promoted by a powerful nation-state that views them as an existential threat.

The 1791 bourgeois turn of the Revolution organized at state-level the reproduction of its monolingual ideal, against the multilingual tradition of the European aristocrats, as well as the citizens of rural areas that mainly spoke non-French languages at the time.<sup>10</sup> The French educational system was openly constructed as a tool serving the monolingual mission, leaving multiple traces in the legal archives, as well as in memories (Prémel 1995, Moal 2016, and references therein). The third Republic of 1871 promulgated a total ban of non-French languages in the schools in 1881, even during recess. Like in most European colonial states, the schooling system promoted an inventive array of public shaming strategies associated with the public use of any non-French language (Prémel 1995:80, Broudig 2013). These public shaming rituals were not specifically associated with an incomplete mastering of French. Children in schools, from Brittany to Corsica, were not systematically punished for their grammar mistakes in French, but rather for public practice of a non-French language.

Today, language teaching in French schools faces two contradictory requirements: teaching second languages to children but also at the same time ensuring their French monolingualism. This double bind organizes the

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<sup>10</sup>

Deputy Barrères declared in 1794: “federalism and superstitions speak low-Breton, emigration and hatred of the Republic speak German, the counter-revolution speaks Italian, and fanaticism speaks Basque”.

dysfunction of second language teaching, both reflecting and feeding the stereotype that French citizens have poor linguistic skills. A line of evidence is the double standard between state recommendations for teaching French as a foreign language, and the teaching of non-French languages in France. Linguistic pedagogies created for French since the eighteenth century are grounded in immersive methods (Extermann 2018). The *Alliance Française* states “French immersion courses are among the best ways to learn and improve your French language skills in a short amount of time”<sup>11</sup>. However, in France, non-French languages in public schools are taught in French. When it comes to the teaching of non-French languages, immersive methods are stigmatised. The Minister of National Education and Youth, J-M. Blanquer, declared to the Senate (21/05/2019) that linguistic immersive pedagogies in non-French languages were to be rejected because they would lead to “unilingualism”. This is contradictory to the facts: in the modern context of French hegemony, immersion schooling in another language can only efficiently achieve plurilingualism. The Minister also alerted against the cognitive prejudice this pretended "unilingualism" could cause, without considering the very real monolingualism he was defending which constitutes a clear double standard (and a conundrum: French people should be monolingual to protect themselves against the dangers of “unilingualism”). In line with his comments, the Constitutional Council declared later the immersive methods to be unconstitutional (Decision 2021-818 DC, may 2021<sup>12</sup>).

In France, the linguistic views of both progressive and conservative political forces converge in support of the linguistic monopoly of French. This particular alignment of otherwise opposing political forces is crucial to understanding the present and future of any non-French language in the French state. The progressive, once revolutionary, forces still equate monolingualism with equality among citizens. On the other side of the political spectrum, the conservative forces, which elsewhere may support individual linguistic rights in the name of liberalism, interpret French monolingualism as a conservative core value and a resistance strategy against globalisation. Oakes (2017) compares political theories in their relations to language policies. He identifies a cultural peculiarity in the construction of French republicanism and liberalism, unlike liberalism and republicanism as theorized elsewhere. Following Laborde (2008:25), he notes that French republicanism, “is better conceived of as a “public

<sup>11</sup>

Citation from the website of the Vichy antenna, accessed [27/05/2020 and 24/05/2021].

<sup>12</sup>

Décision 2021-818 DC, *Loi relative à la protection patrimoniale des langues régionales et à leur promotion*. 19, 20 : « l'enseignement immersif d'une langue régionale est une méthode qui ne se borne pas à enseigner cette langue mais consiste à l'utiliser comme langue principale d'enseignement et comme langue de communication au sein de l'établissement. Par conséquent, en prévoyant que l'enseignement d'une langue régionale peut prendre la forme d'un enseignement immersif, l'article 4 de la loi déferée méconnaît l'article 2 de la Constitution. Il est donc contraire à la Constitution. »

<https://www.conseil-constitutionnel.fr/decision/2021/2021818DC.htm>

philosophy” or national ideology, mostly articulated and diffused by public intellectuals, politicians, and the media”. Oakes considers that this ideology prevented French republicanism from adapting itself to the “new circumstances of modern life, including the realities of ethnic diversity”. Oakes (2017) also points out that in France, the “liberal egalitarian critique of multiculturalism”, or, with Petrovic (2015:38), “language-negative liberalism”, is built on a contradiction in logic. On the one hand, the liberal ideal aims at increasing opportunities to individuals, but by conceiving all non-French languages as a barrier to equality of opportunity, it actually advocates a restriction of linguistic options available to individuals, contrary to liberal ideals. My hypothesis that French monolingualism is a body modification practice resolves this contradiction in logic by supplying the missing piece of the puzzle: this society favours ostensible signs of monolingualism, at least for a subset of its citizens. By doing so, it engineers a reality in which a restriction in one’s linguistics options really amounts to a broader set of societal opportunities.

French monolingualism provides a thematic platform of national alliance in France, and thus ensures its long-term promotion even inside the European Union. Even with occasional historical pushback from federalist movements, like the Commune insurrection or various pan-regionalist movements in the twentieth century, promotion of the monopoly of French is still at the core of linguistic policy of the state, as well as of public debate (see Alcibar 2016, and references therein). In June 1992, the European Council adopted the *European Charter for Regional or Minority Languages*. France reacted the same month and added an alinea in article 2 of its Constitution instituting French as « the language of the Republic », hence officially becoming a monolingual state. France signed the Charter in May 1999, but the French Constitutional Council unsurprisingly found it unconstitutional (Decision 99-412 DC of 15 June 1999, Rec. 10, see Määttä 2005). In 2008, a constitutional amendment stated that ‘[r]egional languages belong to the heritage of France’ (art. 75-1), but ratification of the Charter was once again rejected by the French Senate in 2015. It has not been ratified to this day.<sup>13</sup> As noted by Oakes (2017), since the teaching of non-French languages was “first permitted in the public sector by virtue of the Deixonne Law of 1951 (Ager 1999: 31; Blackwood 2008: 47–49), it has been repeatedly argued that such teaching must necessarily remain optional as a matter of principle (Judge 2007: 125–145), French being the language of the Republic and thus of the state education system (Law No. 94-665 of 4 August 1994 relative to the use of the French language, art. 1)”. In the 2019 Blanquer reform of the high school diploma, a course in a "regional language" validates 1% of the final grade. A specialization in English is compatible with a course in Latin or Greek, but not with a course in

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A clear majority of 25 countries have signed and ratified the European Charter for Regional or Minority Languages since 1992. 8 countries signed the Charter but never ratified it: France, Azerbaijan, Iceland, Italy, Malta, North Macedonia, the Republic of Moldova and the Russian Federation. 14 countries never signed: Turkey, San Marino, Portugal, Monaco, Lithuania, Latvia, Ireland, Greece, Georgia, Estonia, Bulgaria, Belgium, Andorra and Albania. [Council of Europe website, accessed 25/05/2020].

any “regional language”. A specialization in “language and regional culture” has been created, but few students choose it because they would have to give up mathematics (Garrigues, sept. 2019).

Both the particular genesis of French monolingualism and its persistence in the age of globalisation are consistent with the present hypothesis that they consist of body modification practices. If so, the organisation of monolingualism enters the typology of the “techniques of the body”, as studied in anthropology since the foundational text of Mauss (1934). This hypothesis could redefine our entire view of Western modern body modification cultures, because they are widely reported as expressions of individual sovereignty on one’s own body, as in the emblematic case of tattooing. Contrary to the idea that the modern body emerges as an expression of individualism against the collective since the medieval times (Le Breton 1992), this body modification is a collective affirmation, engineered at the scale of a State and associated to the idea of cultural enlightenment and progress. Monolingualism provides a possible counter-example in the neo-liberal expression of one’s sovereignty over one’s own body, for this body modification practice has to be performed before the age of consent, and is organized on a state-wide scale.<sup>14</sup>

### **3.2. *Cultural engineering of a body modification practice***

I now move to the question of the social function of monolingualism. I show that it is comparable to that of other body modification practices. Collective body modification practices are evident displays of group membership, and it should come as no surprise that nation-states would take advantage of them. Monolingualism organizes the social traceability of individuals in a way similar to a tribal tattoo. Of course, any language assigns an individual to a group speaking it, but monolingualism dramatically radicalises this group assignment effect. Rare are the late bilinguals who can interact in their second language without revealing their group of origin. Linguistic traceability of origins is true of all speakers, in a sense, be they monolinguals or multilinguals. However, early multilinguals can perform natively in their different native languages, and they can choose to alternatively reveal and conceal different groups of origin. Multilinguals also have a better chance at attaining high proficiency in non-native languages learned later in life, because they have kept practicing a broader spectrum of linguistic varieties. Monolingualism, on the other hand, marks the body so as to permanently reveal the origin of the speaker. The physical mobility of citizens is restrained: monolinguals can less easily emigrate, which makes

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Even tattooing could be analyzed as more than individuals’ expressions of sovereignty over themselves. A structuralist analysis shows that tattooed bodies are still significant only in comparison with non-modified bodies (see Johncock 2012). In both traditional and neo-liberal societies, the body marks also denote a relative social standing that is meaningful only at the scale of society (see Gell 1993: 305–306 for traditional Polynesian tattoos).



them a captive workforce. In the World Wide Web, monolingual citizens have access to less information, training and points of view, including scientific, medical, economic and political analyses and influences.

Voluntary body alteration reinforces group cohesion within society. Its permanent nature is conspicuous proof of commitment to a social group. The modified body amounts to a declaration of faith that the handicap created will be compensated for and rewarded by a sociological advantage. Conversely, an individual trying to resist an assigned body modification reveals a lack of commitment towards his social group. This predicts that French speakers who deliberately show signs of bilingualism will face accusations of symbolic betrayal of the community, and of the republican concept itself.

The cultures that produce modified bodies by containment valorise them as a high form of cultural development. Permanently modifying the body of a young human requires a social group for which this body modification makes sense in the long term. The practising human group associates conspicuous signs of body modification with the possibility of social promotion or protection. Specialization to a linguistic variety is always a clear social marker, but here, we are looking at the ostensible exhibition of a restriction to this variety. It is not Standard French *per se* that functions as a social marker, but the ostensible signs of its monolingual performance. Schooling in France attempts to provide citizens with equal proficiency in Standard French. This proficiency is assessed when children can perform Standard French without any sign of influence from other linguistic systems.

Non-modified bodies are associated with lack of cultural development, or even lack of early care, if not a sign of animality (DeMello 2011). They are at risk of exclusion or lower social ranking. This prediction seems validated by Prémel (1995:79), who found that in school inspector reports about the linguistic situation in Brittany between 1850 and 1930, the most used appellations associate Breton with the words "archaic", "barbarian", "coarse", "chaotic", "unbearable", "relic", etc. Nowadays, for most social classes in the French state, signs of contact phenomena like code-switching or even lexical borrowings into French are associated with impurity (*français impur* means French with signs of other linguistic systems), or degraded forms of speech that are improper to civilized communication. My hypothesis predicts that in monolingual societies, multilingualism is regarded as a sign of incomplete cognitive development. In France, in monolingual social classes, someone speaking exclusively French should enjoy greater intellectual symbolic status than someone speaking natively both French and another language. This should hold true for minoritized languages and immigration languages, but their lower social status association could also derive this effect. Remarkably, this should also be true, even if to a lesser extent, for languages of economically greater status like English or Chinese. Inside of the monolingual French cultural system, I predict there to be an assumed cultural pride and an intellectual prestige attached to the ignorance of

non-French languages. Evidence for this would be a well-regarded pride to mispronounce names of world's capitals, people faking incomprehension of traditional languages, or politicians overplaying their (supposed) monolingualism in an attempt to increase their popularity. This range of predictions is consistent with the idea that achieving monolingualism as a body modification is hard work that society asks from individuals, and that this work should be rewarded and honored.

The intersectional interplay of monolingual body modification with social classes is meaningful in social classes that need to rely on school for social promotion. Children whose family does not exclusively exchange in Standard French are *de facto* multilinguals. They learn at school, and later in professional life, to hide any sign of multilingualism, any sign of extra-Standard-French linguistic knowledge. The more multilingual they are, the more they will need to hide it in order to demonstrate goodwill and the ability to integrate into society. Children whose families are already monolingual in Standard French passively enjoy this advantage in school. It is easier for monolingual upper and middle class children to perform well at school because the school's linguistic project is to create the broadest set of possible interlocutors for their monolingualism, so that their body modification will not feel like a social handicap.<sup>15</sup>

The intersectional interplay of monolingual body modification with social classes is also meaningful for the social classes that exonerate themselves from it. In the case of body modifications that create a functional atrophy, elites and groups of power typically exonerate themselves from it. For example, in patriarchal societies, men are exempt from the functional atrophy of body modification. Foot binding, neck elongation by neck-rings or tight lacing is not valorised on boys' bodies, but on the female bodies shaped to serve them. In monolingual societies, individuals in true political and economic power may exempt themselves from the monolingual requirement. International trade, political or scientific pragmatism may prevail, including in this article. Consequently in the class system, monolingualism is also valorised as a sign of acceptance of lower social status in the class assigned to it.

We saw that the high degree of heritability of monolingualism in a society leads to the absence of voluntary subjective intervention. In already monolingual circles, the monolingualism of children may seem "natural". The representation of modified bodies as "natural" is in fact a hallmark of body modification practices. Human cultures organize what individuals consider as unquestionably natural. At the same time, the cultural apparatus erases the long-term work of individuals in order to attain this cultural norm defined as natural. The physical transformation obtained by a body modification practice is constructed as

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I refer the reader here to the growing literature in educational linguistics on the 'monolingual habitus' (Gogolin 1994) or 'monolingual mindset' (Clyne 2008, Hajek and Slaughter 2015). For the study autochthonous languages in Australia and Germany in this perspective, see Ellis, Gogolin and Clyne (2010).

reflecting nature, even if it is also rewarded as the result of the individual's hard work to comply with the society's canons of beauty and attractiveness. This cultural blind spot is a contradiction in logic that is typical of culturally induced body alteration practices ('We need to do something because it is natural, but not natural in the way that it would exist without us doing something'). For a trivial illustration, western cultures construct femininity as naturally hairless on the legs. At the same time, it produces multiple injunctions towards women for them to achieve this result, and provides an entire industry to this effect. Logic suggests that if hairlessness was indeed natural, no depilation technique would be required, and neither would a cultural valorisation of it. Analysing French monolingualism as a subtype of body modification predicts that we should be able to observe the same type of syllogism. Speakers should consider monolingualism as unquestionably natural. They should at the same time develop techniques in order to better reach this "natural" state. Modified bodies should be symbolically rewarded with pride, and deviance from them should trigger different forms of anxiety and public shaming. According to my hypothesis, despite the various forms of multilingualism actually practiced in the population, monolingualism should be regarded as a result of nature, multilingualism being understood as a threat or an exogenous complication of our natural monolingual state.

A surprising feature in the societies practicing body modifications is that the medical consequences of the physical transformations on individuals are regularly overlooked. This is congruent with what we observe in the French society with respect to the cognitive dangers of monolingualism. Recent scientific research has shown evidence for the cognitive benefits of bilingualism, for example in delaying the onset of dementia by about four to five years (Bialystok and al. 2004, and subsequent studies). Despite fifteen years of scientific and public debate of these results in Europe, monolingualism in France fails to be apprehended as a cognitive feature with potential medical consequences.<sup>16</sup>

Like any body containment practice, monolingualism provides a social advantage only internally to the culture that valorises it. Modified bodies are valorised culture-internally, while rejected with horror and repulsion outside of it. Female genital modification is a good case for comparison, as it typically triggers a clear cut divide between culture internal and culture external reactions to it (see Smith 2008, and its discussion in Steinberg 2015). Likewise, French monolingualism is desirable only internally to the French culture and triggers negative reactions outside of it. French monolingualism does not realise desirable bodies outside its own cultural system, but this does not restrain its practice because the speakers are culturally isolated. Only bilinguals with extra-national

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See Makin (2015) and references therein for an approach of the discussion and counter results. Irrespectively of the reality of such cognitive effect, the attitude towards these studies in Brittany and France draws a sharp contrast with the interest it triggers elsewhere. For an example in the Celtic domain, see Jones (2018) on the retarding effects of English/Welsh bilingualism on the onset of dementia.

languages clearly experience the difference in the images they project outside of the group.

The contemporary trend towards English/French bilingualism and its relative accessibility for middle classes may lead to the social desirability of bilingualism more generally in the future. However, in the French state, its development into a more general practice of multilingualism is not a given. Other traditional practices of body modification have disappeared in history. The generalisation seems to be that body modifications lose intensity if individuals and groups start doubting that the sign or handicap created will provide them with a sociological advantage.

### ***3.3. Monolingualist cultures in multilingual realities, the case of Brittany***

In this last section, I shall present the effects of monolingualism as a body modification practice in multilingual realities. I shall illustrate this with the case of Brittany.

Monolinguo-centrism is observable for any minority language in the French state, heritage language, immigration language or even dialectal varieties of French. It is particularly dramatically observed in Brittany because of its multilingual history. Brittany is a traditionally trilingual region inside the French state (Hornsby and Nolan 2011). Its traditional languages are Breton (Celtic, spoken in West Brittany), Gallo (Romance, spoken in East Brittany) and French (since at least Middle French, mostly restricted to the urban centres). Since the nineteen sixties, Breton speakers have been bilingual with at least French. The practices of Breton or Gallo are now exclusively performed by multilingual brains. Since the twentieth century, monolingualism in the minorized language has not been a possible strategic option in the French state. Despite a multilingual past and present history, and consistently with the naturalization effect of body modification, monolingualism largely remains the unmarked case in the cultural representations in Brittany. Breton nationalist or regionalist movements of the twentieth century have worked to install different forms of stable bilingualism with French, but the only language that truly unified all Breton citizens has remained French. Breton political parties including regionalist or nationalist movements thus overwhelmingly favoured French as a unifying factor. As a result of these convergent forces, a traditionally trilingual country like Brittany never truly developed a culture of bilingual or multilingual self-representation.

French, but also Breton and Gallo language policies, are largely functioning with monolingualist premises (Nolan 2011:98). This impacts the representation of Breton natives because native speakers are recognized as such only when monolinguals, despite signs of their early bilingualism (Jouitteau 2019). This also impacts the representations of all Breton speakers, because bilingualism is conceived as intrinsically unstable, an intermediary state doomed to lean towards French monolingualism. Without the possibility to rely on a

culture of stable bilingualism, promoters of Breton struggle to address the reality of Breton speakers who live in a *de facto* multilingual situation.<sup>17</sup>

The lack of cultural perception of multilingualism is politically performative. Linguistic policies for minority languages in Brittany address citizens as if they were monolinguals in each of the three languages. For illustration, the *Regional Department for the Languages of Brittany* provides financial support for cultural creations only if they are monolingual in the minority language, despite the fact that all speakers of those languages are at least bilingual, and overwhelmingly so with French. As a result, publishers who need financial support from the Region publish monolingual texts that are by definition deprived of all the code-switching richness demonstrated by the true practices of the speakers of different generations. The same goes for theatre companies, which create monolingual plays in the traditional languages, but mostly play them in their French monolingual translation for financial reasons. As a consequence, monolingual French speakers in Brittany see only monolingual French creations from companies whose staff is entirely bilingual. The lack of political perception and valorisation of a multilingual reality thus has the direct effect of impoverishing the different cultural representations of bilingualism. In monolingualist societies, bilinguals underplay their linguistic competence and instead perform several monolingualisms in different circles (Blackledge 2000).

The practice of monolingualism is very literally embodied. It is culturally enforced as unquestionable and natural, which organizes a general blind spot on its alternatives. As a result, in the French state, speakers of non-French languages are either erased from collective representations, or perceived as ghosts (Jouitteau 2019). A weakness of cultural representations for balanced bilingualism leads both speakers and researchers to under-evaluate the presence and the linguistic influence of natives.

#### 4. Conclusion

I have presented the main arguments of cognitive linguistics for considering the faculty of language as a physical organ located in the brain, from which it takes its remarkable plasticity. I have shown how this plasticity is taken

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Hornsby (2010) has specifically addressed the ideology of Breton monolingualism in a sociolinguistic study. His observations are compatible with the present proposal, but they could be independently derived because his fieldwork was conducted in Breton immersion classes, whose enforced monolingualism can be explained by a pedagogical choice. Pedagogical linguistic immersion serves as a trigger factor for adult learners to enhance acquisition-like cognitive resources. Strict monolingual immersion is supposed to support the cognitively most demanding part of the learning process. However, monolingualism in the classroom can in principle be a step towards balanced bilingualism outside of the classroom.

advantage of by a social body modification practice. I have shown that monolingualism is very similar, in its techniques and results, to the tight lacing of girls or foot binding, in the sense that it modifies the body and results in a functional atrophy, an adaptive handicap compensated by a cultural reward. The cognitive abilities attainable by children provided with sufficient linguistic input are lost when the linguistic input is impoverished. The effects are partially irreversible after the age of puberty and socially function as a group assignment marker. I have developed the predictions that such a proposal makes, and shown how it advances our understanding of monolingualism, especially as developed in the French state, as illustrated in the case of Brittany.

In the field of applied linguistics, Ellis (2006, 2008) counts three major representations of monolingualism, (i) unmarked, (ii) limitative and (iii) pathological. The representation (i) that monolingualism is the unmarked case makes little sense in view of the last decades of results in the field of cognitive linguistics, for which the unmarked case is the effortless acquisition of any varieties in contact, provided there is early, persistent and sufficient linguistic input. The second representation of monolingualism (ii) casts it as a limitation on cognitive, communicative, social and vocational potential. A modulation of this view is compatible with the present hypothesis that monolingualism is fundamentally a body modification practice. I propose to approach monolingualism as a traditional practice of body alteration: individuals and groups have interests and counter-interests in perpetuating the practice, despite its relative cost to both the individual and the group. My hypothesis predicts the existence of the two other representations (i) and (iii). The representation that monolingualism is the unmarked natural case will be promoted internally to the culture that practises monolingualism. The third representation (iii), which employs metaphors of disease, sickness and disability to portray monolingualism as a pathological state, is discarded by cognitive studies. Interestingly, it is also predicted to exist by the body modification hypothesis: body modifications tend to be considered as pathological outside of their community of practice, especially when they trigger a physical atrophy. I believe we reach a better understanding of these practices if we include in our model the sociological advantages that are offered to the modified bodies inside the cultural system that produces them, and if we can address their historical genesis.

My proposal sheds new light on the relative scarcity of monolingualism. Parkvall (2020) is, to my knowledge, the only work proposing a numbered estimation of monolingualism in the world based on empirical research. He estimates that one third of modern humans are monolinguals (monolingualism may even be rarer if one considers multilingualism to start at the mastering of different speech levels, or mastering of very close linguistic varieties). Parkvall writes: "to my surprise, pretty much all [...] correlations [such as linguistic diversity, degree of globalisation, access to education and economic development] proved to be insignificant. The one exception was the size and international currency of a population's main language. Australia and New

Zealand are among the most monolingual nations there are, closely followed by Ireland, the United States, Britain and even the officially bilingual Canada. French and Spanish speaking countries are also less polyglot than those where the dominant L1 is a smaller language, like Luxembourgish, Maltese or Mauritian Creole. Indeed, inhabitants of countries where the main L1 has less than 50 million speakers score higher [in bi-, multilingualism] than the world average". Interestingly, the only meaningful correlation that Parkvall found confirms Dorian (2006)'s intuition that the prevalence of monolingualism is linked to the historical rise of large human groups culminating with modern nation-states<sup>18</sup>. We know that the spread of monolingualism worldwide is linked to their methods of colonisation (see Edwards 2004, among others).

My proposal extends our typology of body modifications in human societies. In Cartesian traditions, bodies and minds are separate entities. They are broadly interpreted as mirroring the opposed notions of Nature and Culture. Anthropological studies have drawn attention to how cultures shape human bodies (Mauss 1934), calling for a framework for the analysis of body modification practices as cultural productions (Lane 2017). The hypothesis that the organization of monolingualism is a body modification practice shows that culture, via the modulation of the diversity of linguistic input, very literally shapes the organ that realizes the faculty of language, and the linguistic organisation of the mind.

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Even in European nation-states, monolingualism is a minority fact. EU commission (2006) found that 56% of Europe citizens declare they are not monolinguals. Eurobarometer 386 (2012) found similar results with "over half of Europeans (54%) [...] able to hold a conversation in at least one additional language".

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