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ARTIFICIAL INTELLIGENCE IN THE SERVICE OF MINORITIES' LANGUAGE RIGHTS – OPPORTUNITIES, RISKS AND CHALLENGES[1]

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Artificial intelligence brings both benefits and risks concerning the realisation of linguistic rights for minority language communities. In this paper, I will examine what I perceive as the most evident benefits and challenges, primarily from a techno-optimistic perspective. Before doing so, however, I will first provide a brief overview of the relevant international and EU legal framework, with a particular focus on legal attempts to define artificial intelligence and the existing regulations on linguistic rights.

INTRODUCTION

Beyond doubt, the continuous development of artificial intelligence will soon impact the lives of everyone,[2] including those belonging to minority groups. Presumably, members of linguistic minorities will be no exception. In this article, I aim to examine some of the most significant challenges – involving both opportunities and risks – that they may face. More specifically, I will analyse the potential legal challenges and the consequences which AI may bring. After briefly reviewing both the 'fully' and 'semi-' international legislative efforts

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2   From the most recent pieces of literature on the effects of AI on everyday life see for instance Kissinger et al. 2021.

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undertaken thus far to define artificial intelligence, I will provide a thorough examination of the current legal framework for protecting the rights and interests of linguistic minorities. The key question here is whether this framework is sufficiently equipped to address the challenges that AI may pose in the future. Following this analysis, I will assess the potential benefits and risks to the legal status of linguistic minorities that AI might introduce, particularly from the perspective of their right to use their native language in various aspects of everyday life.

Given the lack of extensive literature on this subject,[3] I will examine existing legal norms, both international and domestic, including draft legislation where relevant. My analysis will primarily be based on the interpretation of legal norms and relevant scholarly works, making this study a qualitative legal inquiry.

My initial research question concerns the potential role of artificial intelligence in enhancing the protection of linguistic minorities' language rights. I argue that it is essential to provide members of linguistic minorities with access to AI-driven tools that empower them and contribute to genuine legal equality and equal opportunities, regardless of their mother tongue. I further contend that, while states already have certain obligations in this regard under the current framework of international law, additional legal norms may be necessary to fully achieve these objectives.

LEGAL ATTEMPTS TO DEFINE ARTIFICIAL INTELLIGENCE[4]

European countries, along with their various cooperative frameworks, have played a pivotal role in defining and regulating issues related to artificial intelligence. The Council of Europe and the European Union are particularly noteworthy in this regard, as both had already established a common approach on the matter by the time this article was finalised. However, no universal or customary international legal framework had yet emerged at the time of writing. It is also important to note that certain States[5] may have developed their own legal approaches

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3   From the somewhat related literature see Gerken 2022; Rehm–Way 2023; Pym et al. 2022.
4   On the issue of defining AI in detail see Hárs 2021: 320–344.
5   Some states are also trying to find internal legal answers to the questions raised by artificial intelligence. In the United States, federal level regulation has not yet been enacted, but codification work has begun in some of the states. In some cases, this means that U.S. states (Alabama, Hawaii, New York) have created committees that are called upon to explore possible regulatory directions to address artificial intelligence. One state (California) has requested that the federal agencies set up such a commission. Utah has created a talent initiative in higher education, while Alabama and Delaware have recognised the important role artificial intelligence could play in the local economy and its potential to transform the lives of residents, while Texas is directly encouraging public agencies to use such technologies. Moreover, the state of Illinois has required employers inform the participants in advance if a job interview is recorded and subsequently subjected to artificial intelligence analysis, and to request their consent. In addition, there are many legislative proposals before the parliaments of the member states, the purpose of which, in addition to strengthening the economy, is generally to include data protection guarantees in the existing legal framework. In terms of the proportion of submitted proposals, the state of California is perhaps unsurprisingly in the lead, but taking everything into account, it is not yet possible to clearly identify common trends, as the regulations are still quite fragmented in the American member states. See https://www.ncsl.org/ncsl-search-results/topics/%20/t/1770995607613?searchtext=artificial%20intelligence%20. It is interesting to

to AI regulation over the years. Additionally, some international *soft law* instruments include attempts to define AI, although these lack legally binding force and cannot be enforced through formal legal mechanisms.

Referring back to successful international or "semi-international" legislative processes, the first legally adopted instrument establishing the concept of artificial intelligence – or more specifically, the notion of an 'AI system' – is the European Union's Artificial Intelligence Act.[6] According to Article 3 (1) of this regulation, an AI system is defined as:

> "A machine-based system that is designed to operate with varying levels of autonomy and that may exhibit adaptiveness after deployment, and that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments."[7]

The Council of Europe's regulatory approach closely aligns with that of the European Union. The Framework Convention on Artificial Intelligence and Human Rights, Democracy, and the Rule of Law, adopted in late 2024, defines "artificial intelligence systems" in Article 2 as:

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note that some large American cities (for example San Francisco or Boston) have banned city officials from using facial recognition software, and a similar bill is before the California and even federal legislatures. See, for example, "Facial Recognition and Biometrics Technology Moratorium Act of 2020", a federal bill introduced by Senator Ed Markey, a Democrat from Massachusetts, and his colleagues are commenting. https://www.congress.gov/116/bills/s4084/BILLS-116s4084is.pdf/ and https://www.markey.senate.gov/news/press-releases/senators-markey-merkley-lead-colleagues-on-legislation-to-ban-government-use-of-facial-recognition-other-biometric-technology/. The situation is similar in Canada, see details here: Shah et al. 2021. In the second half of 2022, the White House published a "Blueprint for an AI Bill of Rights" with the aim of protecting people from the potential harms caused by artificial intelligence https://data.aclum.org/storage/2025/01/OSTP_www_white-house_gov_ostp_ai-bill-of-rights.pdf. Of course, not only legislative bodies but also the legal literature has dealt with the definition and definability of AI. In this regard, see for example Hildebrandt 2020: 74–79; Carrillo 2020; Karljuk 2018, Surden 2019.

[6] Even if there is no such legal source as an 'act' in the European Union, it is relatively common to give informal denominations like these to pieces of secondary EU legislation which are considered to have a significant regulatory relevance. Hence, I will use this denomination throughout this paper, although the official title of the regulation in question is the "Regulation of the European Parliament and of the Council laying down harmonised rules on artificial intelligence and amending Regulations (EC) No 300/2008, (EU) No 167/2013, (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1139 and (EU) 2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828 (Artificial Intelligence Act)".

[7] The definition of an AI system underwent significant changes throughout the codification process within the EU's legislative bodies before the final version was adopted. In the original draft presented by the European Commission approximately three years earlier, the definition was as follows:
"A software that is developed with one or more of the techniques and approaches listed in Annex I and can, for a given set of human-defined objectives, generate outputs such as content, predictions, recommendations, or decisions influencing the environments they interact with."
Annex I of the draft regulation outlined the techniques and approaches that could be used to develop artificial intelligence systems. These included machine learning methods, logic- and knowledge-based approaches, as well as statistical techniques such as Bayesian estimation, search, and optimisation methods.

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"A machine-based system that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that may influence physical or virtual environments. Different artificial intelligence systems vary in their levels of autonomy and adaptiveness after deployment."

While much will depend on the speed of the signing and ratification process,[8] as well as on the number of states ultimately bound by its provisions, it is reasonable to argue that a common European legal approach[9] to defining AI – particularly AI systems – is emerging.

THE CURRENT INTERNATIONAL LEGAL FRAMEWORK FOR THE LANGUAGE RIGHTS OF MINORITIES

The Universal Declaration of Human Rights (UDHR) of 1948 was one of the first international documents to recognise language as a potential ground for discrimination, and it explicitly prohibited such discrimination in the enjoyment of human rights under Article 2. Although the UDHR is not an international treaty, its provisions are now widely regarded as having become part of customary international law, thereby acquiring normative force. Furthermore, alongside the International Covenant on Civil and Political Rights and the International Covenant on Economic, Social and Cultural Rights – both adopted in 1966 under the auspices of the United Nations – the UDHR forms a cornerstone of what is commonly referred to as the International Bill of Human Rights.[10]

Each of the Covenants effectively reiterates the anti-discrimination clause[11] of the Universal Declaration of Human Rights. However, the International Covenant on Civil and Political Rights goes even further by explicitly recognising the right of individuals belonging to linguistic minorities to use their own language "in community with the other members of their group".[12] Another key instrument within the universal international framework for protecting linguistic minority rights is the 1960 Convention against Discrimination in Education, drafted under the auspices of the United Nations. Article 5 of this treaty recognises the right of members of national minorities to use or to be taught in their own language within educational systems, albeit with an important restriction. Specifically, this right must not be exercised in a way that "prevents the members of these minorities from understanding the

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8 As of March 1, no country had ratified the Framework Convention, despite it having been signed as early as 5 September 2024. See https://www.coe.int/en/web/conventions/full-list?module=signatures-by-treaty&treatynum=225/

9 Moreover, it may not only be a European approach, as the convention (as is often the case with the CoE) may also have non-Council of Europe countries and the EU as parties. As of 1 March 2025, the signatories included Canada, Israel, the United States, Japan, and the European Union; however, none of them had ratified the treaty yet.

10 Buergenthal 1995.

11 See Article 2 para. 1 of the International Covenant on Civil and Political Rights as well as Article 2 para. 2 of the International Covenant on Economic, Social and Cultural Rights.

12 See Article 27 of the International Covenant on Civil and Political Rights.

culture and language of the community as a whole and from participating in its activities, or which prejudices national sovereignty".[13]

This provision clearly reflects the interests of linguistic majorities within states by implicitly affirming a state's right to territorial integrity. This highlights a fundamental challenge in regulating linguistic minority rights at both the international and domestic levels: such rights are often perceived as potential threats to state sovereignty, despite them being an integral part of human rights. The Declaration on the Rights of Persons Belonging to National or Ethnic, Religious and Linguistic Minorities (1992 Declaration), adopted by the UN General Assembly as a resolution in 1992,[14] was originally intended to serve as an optional protocol to the International Covenant on Civil and Political Rights, particularly to clarify the scope of Article 27.[15] The Declaration recognises certain language rights of persons belonging to minorities, whether linguistic or otherwise. However, this initiative was never implemented in practice, and the 1992 Declaration did not attain the status of a legally binding international treaty. It is debateable whether its provisions have since evolved into customary international law, similarly to the Universal Declaration of Human Rights. The 1992 Declaration explicitly affirms the right of persons belonging to minorities "to use their own language, in private and in public, freely and without interference or any form of discrimination".[16] Moreover, it asserts that states "should take appropriate measures so that, wherever possible, persons belonging to minorities may have adequate opportunities to learn their mother tongue or to receive instruction in their mother tongue".[17]

The wording of the provisions just cited clearly reflects the interests of states, indicating that while the UN member states addressed by this Declaration are not strictly obliged to provide adequate education in minority languages, the use of such languages – both in private and public spaces – cannot be restricted or banned. In the same year, another significant international instrument was adopted – this time as a legally binding treaty – within the framework of the Council of Europe: the European Charter for Regional or Minority Languages, commonly referred to as the Language Charter. Unlike the International Covenant on Civil and Political Rights (1966) or the 1992 Declaration, the Language Charter applies only to Council of Europe member states. However, the Committee of Ministers may invite non-member states to ratify the treaty after its entry into force.[18]

At the time of writing, the only non-member state fulfilling this criterion is the Russian Federation, which had already been a party to the Language Charter before its expulsion from

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[13] Article 27 of the International Covenant on Civil and Political Rights.
[14] United Nations 1993.
[15] See in this regard paragraph 5 of the preamble of the Declaration: "Inspired by the provisions of article 27 of the International Covenant on Civil and Political Rights concerning the rights of persons belonging to ethnic, religious and linguistic minorities."
[16] See Article 2 para. 1 of the Declaration on the Rights of Persons Belonging to National or Ethnic, Religious and Linguistic Minorities.
[17] See Article 4 para. 3 of the Declaration on the Rights of Persons Belonging to National or Ethnic, Religious and Linguistic Minorities.
[18] See Article 20 para. 1 of the European Charter for Regional or Minority Languages.

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the Council of Europe. Despite the termination of its membership, Russia's participation in the treaty has not ceased.[19] Currently, only about half of the European countries are parties to the treaty,[20] and the Committee of Ministers has not yet extended invitations to any non-member states beyond Russia. Notably, the Language Charter does not refer to "linguistic minorities" but rather to "regional or minority languages". According to the treaty, these are defined as:

> "Languages that are traditionally used within a given territory of a State by nationals of that State who form a group numerically smaller than the rest of the State's population; and different from the official language or languages of that State."[21]

This definition explicitly excludes dialects of official languages as well as the languages of migrants.[22] The Language Charter distinguishes between territorial and non-territorial languages, depending on whether they are linked to a specific geographic area or are used independently of any particular region.[23]

Similar to other international instruments – whether treaties or non-binding declarations – the Language Charter prioritises states' official languages over regional or minority languages. This preference is explicitly stated in the preamble, which affirms that "the protection and encouragement of regional or minority languages should not be to the detriment of the official languages and the need to learn them".[24]

Moreover, neither the obligations that state parties must assume upon ratification nor the treaty's monitoring mechanism strongly favour regional and minority languages. Regarding the former, states are required to commit to at least thirty-five obligations from among the ninety-eight possible measures outlined in the Language Charter, in addition to those set forth in Part II.[25]

Moreover, individuals who are affected by potential infringements of the *Language Charter* have no right to appeal to the *European Court of Human Rights,* as the treaty lacks a judicial enforcement mechanism. Furthermore, its provisions cannot be directly invoked before national courts due to its *non-self-executing*[26] nature. It can be argued that the 1990s represented the "golden age" of international legislation in favour of linguistic minorities, which was probably influenced by the Yugoslav war and other major inter-ethnic conflicts of

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[19]   See https://www.coe.int/en/web/conventions/full-list?module=signatures-by-treaty&treatynum=148
[20]   See https://www.coe.int/en/web/conventions/full-list?module=signatures-by-treaty&treatynum=148
[21]   See Article 1 point a) of the European Charter for Regional or Minority Languages.
[22]   Article 1 point a) of the European Charter for Regional or Minority Languages.
[23]   See Article 1 point b–c) of the European Charter for Regional or Minority Languages.
[24]   See para. 6 of the Preamble of the European Charter for Regional or Minority Languages.
[25]   See Article 2 paras. 1–2 of the European Charter for Regional or Minority Languages.
[26]   There is a difference between international treaties as regarding their direct applicability. The wording of self-executing treaties is such that they do not need any further domestic legislation to be applied. Non-self-executing treaties, in contrast, are unable to fulfil their goals without adopting additional domestic acts. As to self-executing vs. non-self-executing treaties see for instance Vázquez 1995 and Bradley 2008.

the decade. The majority of the existing international treaties on minority rights – whether universal, regional, or bilateral – were signed during this period. However, since the early 2000s, a gradual decline has been observed in activity of this type, both in the adoption of new legislative instruments and in the implementation of existing norms.

In 1995, the *Framework Convention for the Protection of National Minorities (Framework Convention)* was adopted by the Council of Europe. Like the *Language Charter,* its monitoring mechanism relies solely on periodic state reports submitted by the parties, without any effective judicial oversight. While the *Framework Convention* includes provisions emphasising the need to protect the language rights of minorities,[27] it ultimately reinforces the obligation for individuals belonging to minority groups to learn the official language of the state in which they reside. It explicitly states that the right to learn or be taught in a minority language "shall be implemented without prejudice to the learning of the official language or the teaching in this language".

A brief review of the key international instruments that are relevant to the protection of linguistic minority rights suggests that the existing legal framework tends to favour official languages over minority languages. This approach appears to be driven by two main considerations, reflecting concerns about the potential consequences of linguistic minorities failing to acquire proficiency in the official language. First, a lack of proficiency in the state language may hinder the integration of linguistic minorities into society. More significantly, however, states may fear 'losing control' over segments of the population who do not speak the official language, potentially fuelling separatist aspirations within minority communities. The latter concern, in particular, often serves as a covert justification for assimilation policies aimed at integrating speakers of minority languages into the linguistic majority. The possibilities of artificial intelligence, however, could offer a viable solution to this issue. By bridging the gap between the state's goal of integrating linguistic minorities and the need to preserve their linguistic identity, AI technologies could provide a means of achieving both objectives without forcing individuals to abandon their native language.

ARTIFICIAL INTELLIGENCE AND MINORITY LANGUAGE RIGHTS: BRIEFLY ABOUT THE POTENTIAL BENEFITS AND RISKS

Presumably, numerous aspects – perhaps not yet of great practical significance – could be examined in relation to artificial intelligence and language rights, considering both their potential benefits and risks. However, in this article, I will briefly address only two key issues.

First, it is conceivable that artificial intelligence will eventually enable real-time and highly accurate translation of any text or spoken language. Simply put, applications may soon be capable of perfectly bridging the 'Babel gap' between speakers of different languages. If this technological advancement becomes a reality, it could have profound implications for

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[27]   See Article 5 para. 1, Article 9 para. 1, Articles 10–11, Article 12 para. 1 and Article 14.

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communities whose native languages differ from the official languages of their respective states. Currently, linguistic minorities often face significant pressures – perceived as burdensome obligations or strong expectations from authorities and the majority society – to learn the official language of the state. In the best-case scenario, this means acquiring a functional proficiency; in the worst case, it involves mandatory education in the state language, even of school subjects that are unrelated to language learning. States with less tolerance toward linguistic minority rights frequently justify these policies by arguing that without proficiency in the state language, minority speakers risk social marginalisation, loss of opportunities, or even exclusion from full participation in society.[28] However, the proliferation of AI-driven instant translation and interpretation programmes could fundamentally challenge this argument. If such technologies were to eliminate the language barrier between linguistic minority speakers and both the majority population and the state authorities, the true intentions behind state policies would become apparent.[29] It would then be possible to assess whether states genuinely seek to integrate linguistic minorities or whether their ultimate goal is linguistic homogenisation and even assimilation. At present, the technological conditions necessary to test this hypothesis do not yet exist.[30] Nevertheless, even imperfect AI-based translation tools could significantly facilitate everyday communication for linguistic minorities.[31] Furthermore, the rise of AI-driven language solutions may lead to a fundamental reinterpretation of the concept of the 'official language'. Of course, initially, such advanced translation and interpretation software is likely to be costly and may be accessible only to a privileged few. This leads to the second issue I intend to highlight: access to AI-based language solutions. In many cases, linguistic minorities tend to have more limited financial resources compared to majority populations. Consequently, there is a high probability that, at least in the early stages, AI technologies that 'eliminate' or significantly reduce language barriers will not be widely accessible to minority communities. For this reason, I argue that states will have a crucial responsibility to ensure equitable access to such AI-driven solutions for linguistic minorities. Under the principle of equality, states should facilitate access to these technologies to mitigate the disadvantages arising from minority status and to create conditions for genuine equal opportunities. This approach would promote the true social integration of linguistic minorities without requiring them to abandon their linguistic and cultural identity. Since the rights of linguistic minorities are recognised as human rights under existing international legal norms, and states are already required to allocate significant resources to ensure human rights protections, the provision of AI-based language solutions for minorities should not be dismissed solely on budgetary

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28   See for example Council of Europe 2017: 71.
29   It is also true that there are some who disagree with the author's optimistic view. See e.g. Marsden 2024.
30   Of course, nothing can rule out the fact that, over time, various language technology researches will look for and eventually find radically new ways compared to the current ones. This is not only suggested by my 'techno-optimism', but I think it is likely that market demands and aspects will eventually completely 'squeeze' human beings (professional interpreters and translators) out of the interpretation and translation process.
31   It is easy to see that handling everyday matters does not necessarily require C1 or C2 level language proficiency; B1 or B2 may be sufficient for that.

grounds. Instead, it should be regarded as an essential element in upholding the rights and equal opportunities of linguistic minority communities.

FINAL REMARKS

Regarding the linguistic rights of minorities, artificial intelligence offers promising possibilities. The key question is whether, once real-time and highly accurate AI-based interpretation, translation, and information transfer have become a reality, this technological advancement will bring about significant changes in the legal status of affected minorities and their members.

I argue that states will have no choice but to recognise the right of persons belonging to minorities to access AI-based linguistic tools, as this obligation arises from the framework of human rights, particularly the principles of equality and non-discrimination. Moreover, beyond mere recognition, states must ensure broad access by members of linguistic minorities to such technologies. Doing so would not only substantially improve the situation of linguistic minorities but also enhance social cohesion in those countries. Put simply, in linguistically, ethnically, and culturally diverse societies, it would be a considerable social benefit if states, leveraging the achievements of the digital age, did not reinforce inequalities arising from linguistic differences but instead eradicated them with the help of artificial intelligence.

The drafters of existing legal frameworks aimed at protecting linguistic minority rights could not have foreseen the advent of artificial intelligence and the possibilities it has created. Consequently, no direct treaty provisions explicitly address the question of AI in the relevant international legal instruments. However, this does not mean that the current international legislation is entirely inadequate. On the contrary, key provisions – such as Article 27 of the International Covenant on Civil and Political Rights (ICCPR) and other universally applicable language rights norms – would be better served and more effectively implemented if they were supported by AI-driven linguistic capabilities, whether those already available or which are still in development. In other words, AI could be incorporated within the existing framework of relevant international norms.

For instance, Article 4 (2) of the Framework Convention for the Protection of National Minorities obliges state parties to adopt all necessary measures to promote full and effective equality between persons belonging to minorities and the majority population. AI could represent a major step forward in achieving this objective, which remains difficult to realise through conventional means. Additionally, from a practical perspective, AI-powered linguistic services could facilitate communication between linguistic minorities and state administrative bodies responsible for providing public services, as envisioned in Article 10 (3) of the Framework Convention. Similarly, many of the commitments codified in the Council of Europe's other key treaty on linguistic rights, the European Charter for Regional or Minority Languages, could probably be better fulfilled with AI-based technical support.

While the provisions of the existing treaties can be interpreted as requiring states to utilise the opportunities of AI for linguistic minorities, I would advocate for an explicit textual revision of contemporary international minority rights legislation to formally recognise

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access to AI-driven linguistic tools both as a human right and as a special right that should be guaranteed to individuals belonging to minority groups.

Of course, like any technology, artificial intelligence can be misused in ways that do not align with the ideals of justice. AI-based systems are already capable of facial recognition, classification, and the categorisation of individuals, including those belonging to minority groups. This raises serious concerns about AI being used as a discriminatory tool, potentially even against the very minorities it could otherwise empower. States are not only morally but also legally obligated under existing international human rights norms to prevent and, if necessary, prohibit the development and deployment of AI applications that violate the principles of equality and non-discrimination.

Another potential concern is that AI might exacerbate existing inequalities between larger and smaller minority communities, as well as their members, by providing solutions only for the former, while companies and states may fail to develop the necessary linguistic support for the latter.

That said, despite these risks, one of the most significant advantages of AI in the context of linguistic rights is its potential to expose the true intent behind state policies on language and minority rights. By eliminating linguistic barriers, AI could ultimately remove the justification states often use to impose linguistic assimilation under the guise of integration – thus revealing whether their goal is genuine inclusion or merely linguistic homogenisation.

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