Digital Power in Preservation of Endangered Languages

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Abstract

This paper explores the approaches of endangered language preservation, with observations from particularly digital sphere. By collecting and analyzing previous articles, we firstly figured out certain limits of prior researches, and innovatively applied the framework of Technology Determinism to this issue. The paper argued that the technology for language is of social power, and thus could influence the endangered language preservation, in both positive and negative ways. The result suggests that modern technologies could have a double-blade effect on languages, which people need to take care of. It also inspires and sheds light on future studies in terms of social media scopes.

Keywords

Endangered Language; Technology Determinism; Sociolinguistics.

1. Introduction

The survive and thrive of languages has long been a huge concern for native speakers and linguists as well. The significance of language lies in that languages serve as mediums of instruction which could help increase numbers of their speakers under their representative cultures, and therefore strengthen socialization into national ideologies. Languages are also resources, considering the amount of unique cultural knowledge contained within each language. As a result of that, preserving diversity for language is meaningful in preserving human intelligence. According to Ethnologue, 389 languages (nearly 6%) have more than a million speakers [1]. These languages together account for 94% of the world's population, whereas 94% of the world's languages account for the remaining 6% of the global population.

Such statistics suggest that not all languages are facing the same "living" status. Kornai claims that of the approximately 7,000 languages spoken at that time, some 2,500 are generally considered endangered [2]. He raised up a scale to measure different levels of endangerment. The protection of the relatively "endangered" languages has become the problem that brook no delay. Researches on such topic has many focuses, while recent ones sharing common interest on digital sphere.

Feeling obliged to start preservation right now, this study aims at looking for a solution to such problems. Taking Winner's technology determinism theory [3], the paper holds that digital technology is, in essence, of power so that it could be a key factor for language policies in endangered language preservation which we need to carefully handle with.

2. Review of Endangered Language Protection

Within the scope of language protection, the major concerns evolved in accord with linguists' gradually improvement of their understanding of the world. In the past, the protections on endangered languages were merely policy-guided. Methods like altering language teaching programs and language policies were often applied then. Romaine summarizes the past policies and analyzed the impact of them [4]. He claims that language policy is not an autonomous factor

and what appears to be ostensibly the "same" policy may lead to different outcomes, depending on the situation in which it operates. Weak linkages between policy and planning render many policies ineffective. Policies fail to suffice the support needed in that they have negligible impact on home use, i.e., policies could not force citizens to master carefully designed "home language". Instead, only languages used in school and other public situations could be put under control. Romaine then argues that though survival cannot depend on legislation as its main support, legal provisions may allow speakers of endangered languages to claim some public space for their languages and cultures.

Due to limitations alike, scholars have gradually shifted to have solutions on preserving languages with more practical resolutions, including seeking for help in digital sphere.

The LREC 2016 Workshop on "Collaboration and Computing for Under-Resourced Languages: Towards an Alliance for Digital Language Diversity" [5] explores the relationship between language and the Internet, and specifically the web of documents and the web of data, as well as the emerging Internet of things, is a growing area of research, development, innovation and policy interest. Therefore, the language policy conductors should have a more detailed regulation in digital sphere, so that the language could receive desirable consequence digital world could bring about, and that is the right method to preserve all languages.

Similarly, Zaugg looked into digital sphere's impact, but out of different considerations [3]. Using qualitative and quantitative methods, she reached out for several digital support including UNICODE, ISO, and other coding procedure to look into a specific language, Ethiopic, trying to investigating the role of digital design and governance. She claims that digital design has come to support an increasing number of languages, but this process has been largely market-driven, excluding languages of communities too small or poor to represent viable markets. A language could not be addressed as "dead" unless there were no new learners of that kind of language, and digital power helps the language gain members, which is beneficial for language preservation.

In terms of languages' role, some may believe that languages are mainly used for the purpose of communication. Moore developed an alternative vision of modern technology's role that centers not on distinct, named, countable languages, but on speakers and repertoires, and on the actual resources that speakers deploy in actual contexts [6]. He used examples of indigenous languages in Africa, South America and South to show critical reflections on the uses of numbers to communicate facts about the changing dynamics of speech communities undergoing language shift. They claim that digital support accelerates the shift of language, making them more vitalized in absorbing new sources.

Prior research dug deep into the relationship of technology and language preservation, and have already provided us enough information on how the influence of digital sphere, whether significant or not, took place. However, they fail to see the social essence of technology, and did not relate digital tools to some other artifacts. Hence, some of the problems associated with digital world's roles remain unrelated.

3. Methods

This paper used literature research methods to collect research materials, aiming at analyzing them and draw to a concrete conclusion on technology's role in protection of endangered languages. On the basis of collecting prior researches, with applying the technology determinism and the politic artifact theory from Winner [7], this paper hopes to focus on the digital sphere's impact on the protection of endangered languages, and tries to find a concrete method in doing so. This study will mainly dig into the following research questions:

(1) In what way is digital technology social-related?

(2) How do social issues exert their influence on language preservation?

3.1. Results and Discussion

Technology Determinism has a very long history. Among the researches, one of the most well-known frameworks was raised by Winner in 1980. Winner delineates in Do Artifacts Have Politics that the source of the intrinsically empowering nature of technologies: either the "specific features in the design or arrangement of a device or system could provide a convenient means of establishing patterns of power and authority in a given setting" [7, p. 134] or "the intractable properties of certain kinds of technology are strongly, perhaps unavoidably, linked to particular institutionalized patterns of power and authority" [7, p. 135]. In both instances, the power, social, and cultural implications of a technology are intrinsically embedded in the technology itself at the moment of its conception and creation. He also ties the social nature of a technology to its essence, to the choice either to introduce that technology to begin with or the design choices made in its development. While the inherent social quality to technology is hardly deniable, it is also necessary to acknowledge that Winner's perspective of technology places social quality in the choices of design essentially puts the power to either allow or resist those social implications in the hands of the already powerful group of people: the engineer, the programmer, the architect, the designer... Those are the people who, consciously or not, making choices that may lend technology certain social qualities, and they are by Winner's formulation the only ones capable of altering those choices.

So, the essence of the empowering nature of technology is, rather, dynamic and mediated through societal engagement with that technology. The process of a technology becoming socially embedded is never-ending, it is reconstituted each time that technology is applied in everyday life. Perhaps power dynamics are indeed established by choices made in the creation of a technology, but they are certainly not set in stone at that moment. Those choices can be either reaffirmed, challenged, or dismissed if users of technology would more consciously understand what technological engagement implies for the social and power order of societies, and could act accordingly.

Winner's theory could be applied to language technology, since the technology, or even language itself could be categorized into "artifacts". Winner's analysis is overwhelmingly pertinent to language-dependent social media and, by extension, surveillance through social media and other digital modes of communication and information-seeking. On the one hand, social media, for example, offers a sense of digital communal access to its users. The more diversity in language representation there is social, the more, at least hypothetically, people will have the power to actively engage in this system, fostering a globalized sense of access. In another sense though, especially in recent times, social media has been under surveillance and also hijacked in many ways, jeopardizing users' privacy. The more language diversity there is in the digital sphere then, especially in social media, the more the user becomes informationally vulnerable. Both sides of this issue have fundamentally repercussions.

In a word, the technologies, be them beneficial for the language or not, is of power. Its double-blade effect asks us to not only use them as resolutions, but be aware of the side-effect, too. The technology could change the environment around us, and thus making a certain language being used by more speakers.

Once realized the social innate of digital technology, it is not difficult to draw a conclusion that technology could serve as other social-related issues like language policy. Kornai have already made a success of using Wikipedia to maintain the survival of some extremely endangered languages [2], which was proven by diachronic path to literacy and digital literacy that the language is well understood by the young who are willing to learn the language online. The existence of Google Translation and other tools accelerates the process, making the circulation goes without conflict.

As mentioned previously, Zaugg holds that the language is not alive unless there are plenty of new learners of that kind of language [3], and digital power helps the language gain members. To this point, digital power is even more applicable for the revival of languages because no official document is needed. People living in the area where some languages are endangered may have the choice not to learn a language unwillingly.

Unfortunately, it is necessary to keep aware that the technology could also be barrier for endangered languages: the "bully" language may interfere with endangered languages' revitalization. English has already been the dominant language, and many nations are gradually accepting English as one of their official languages. Rapatahana and Bunce mentioned in their chapter 1 that some scholars have already been claiming that the language dominance has already become a new form of colonization [8], with more and more young people speaking "big" languages, and growing tired of the local language. Such evidence shows that the technology itself could have social influence and put pressure on the people of the "oppressed". Due to the trend of globalization, it is inevitable while necessary to call for equity of different languages' chances of being selected.

Similarly, since technology determinism has been under criticism for ages, whether all of its claim could apply to all circumstances is still under debate. Language policies are directly published by the authority, which means they are relatively faster to be put into use. While the technology may more or less influenced by the "outsiders" of the language group, and many argues that the non-native speakers should not determine the destiny of the endangered language [5].

But it is still convincing that the language preservation programs could have a bright future. Janse points out that when a certain language is dying at a high speed [9], there is no other choice but to use "a task of great urgency to respond to this situation by promoting and, if possible, sponsoring programs of linguistic organizations for the description" (p. xiv).

Also, associations in different countries have already been aware of the significance of digital support and have already held several conferences, during which both leading official of international corporations and leaders of tribes could attend. Hopefully we could have access to more endangered languages and make records of them before they extinct.

4. Conclusion

According to technology determinism addressed by Winner, digital technology is social-related, and like other man-made artifacts, has the innate power property, which means that it could develop separately on its own from the society, and may exert its force in many ways.

The literature research method provided evidences to support the power property as well as the limitations for the application of the technology determinism theory. Winner's Technological Politics stands for that the technology is making effort on helping the develop of society, thereby could support language as well, since language is also a critical element of society and culture.

Admittedly, this study may still have limits in different perspectives. Due to time limitation, no first-hand source could be obtained. Besides, the technological determinism has not been thoroughly studied, for that only one author holding one particular point of view was used as the framework for analysis. Still, this study widened the horizon, linking the media terms with linguistic phenomena, and the result is an interdisciplinary one, which may shed light on future research.

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