



Multilingualism in the Age of Technology

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Abstract

This essay for the inaugural issue of *Technology and Language* builds on the observation that both humans and animals have a communication system but only humans are multilingual. Likewise, humans and animals use tools but only humans develop technology. The multilingual and technological conditions of humankind are undergoing profound transformations in the age of globalization and under pressure of a pandemic. Since these transformations implicate human languages and technologies in tandem, it is important to study them in tandem as well.

Keywords: Multilingualism; Dominant language constellation; Multimodality; Technology; Communication

Аннотация

Это эссе для первого выпуска журнала “Технологии в инфосфере” (“*Technology and Language*”) основывается на том, что и люди, и животные пользуются коммуникативными системами, но только люди многоязычны. Аналогичным образом, как люди, так и животные используют инструменты, но только люди разрабатывают технологии. Многоязычные и технологические условия жизни человечества претерпевают глубокие преобразования в эпоху глобализации, а также под давлением пандемии. Поскольку эти преобразования в двух значительных областях человеческой жизни взаимообусловлены, изучать их нужно тоже во взаимодействии.



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An ant who can speak
French, Javanese and Greek
Doesn't exist.
Why ever not?

(Robert Desnos)

With this short poem Jean Aitchison (2008) begins her discussion of whether *language* is restricted to humans (p. 24). Researchers discovered that mammals, birds and insects possess highly diverse systems of communication, ranging from rather simple to truly sophisticated ones. The wide variety of means by which animals communicate goes beyond sounds, gestures, moves, and chemicals responsible for color change. They include smells, vibrations, tactile displays and light. The aims and functions of animal communication also vary. Honeybees perform their dances to tell others about the location of rich stores of honey; eels release electrical pulses in different patterns and rates in order to communicate their location and territory. Wolves compete for food using facial expressions, staring into the eyes of the competitor, and baring their teeth; they mark their territory by urinating on its boundary. Octopi change colors to reveal anger and readiness to mate, while fiddler crabs wave their claws in a specific pattern.

Scientists describe non-human systems of communication as 'animal communication' rather than 'animal language.' This is not to show that human language is superior to that of animals, but rather to describe the interaction between animals as fundamentally different from human language in its underlying principles: animals engage the first signal system, which connects the communication only with the 'here and now' (Pavlov, 1934) in their mostly seasonal communication that normally corresponds with particular behaviors.

Consider the human faculty for language. The majority of the world's population is bi- and multilingual. It is therefore also sensible to maintain that using *more than one communicative system* is humans' exclusive characteristic. The case of the "speaking elephant" Batyr (1969–1993) who lived in the Karaganda Zoo in the Republic of Kazakhstan in the former USSR, is curious enough, but also controversial and cannot persuade scientists of animal bi-or multilingualism. This elephant attracted attention in 1979 because he allegedly used about twenty words, both in Kazakh and in Russian. Reportedly, having put the trunk in his mouth, pressing the tip of his trunk with the bottom of his jaw and manipulating his tongue, the elephant produced words such as 'Ба́тыр' – Batyr; 'Ба́тыр хоро́ший' – Good Batyr; 'Дурак' – the fool; 'Ой-ё-ёй' – Oh-yo – (it is very sonorous – the trunk in the mouth); 'Ба́-ба' – short for 'babushka' – the grandmother; short children's sound 'ba' (the trunk in the mouth). It is difficult to claim that Batyr used



the two codes as human bilinguals would do, or even distinguished between the languages.

Similarly, while humanity lives in the technological age, we cannot claim that any of the animal communicative systems are supported by technology. The reactions of animals to the communicative situations shown to them by digital means on the screen of various appliances are still organized by people, not apes or clever birds.

We may thus infer that using more than one communicative system on a daily basis is the prerogative of humans. And that although animals are known to use tools, these are quite basic and cannot be compared with human technology. In other words, while sharing the existence of important traits (technology and language broadly understood) with other species on an elementary level (basic limited communication and tools), humans significantly develop these features further, to greater complexity and emergent novel qualities.

Both the technological and language development of the human species undergo crucial transformations in the time of globalization. Both features have developed unique forms that fit our contemporary world.

Multilingualism has a bearing on all of us and in myriad ways. Not only the bi- and multilingual majority of the world's inhabitants, but also those who normally use only one language are significantly impacted by the multilingual world they live in. With that, not everyone realizes the specific nature and scope of multilingualism in the contemporary world.

What is multilingualism? If you ask a passerby in the street what multilingualism is, chances are that you will receive an answer that it is 'about language' or something like multiculturalism. This answer cannot be assessed as totally unsuitable, but it is not correct either. Language and its structures are studied by linguistics. While linguists concern themselves with morphology, syntax, phonetics, semantics and pragmatics, the main interest of multilingualism is *how people use multiple languages* both individually and in groups. Researchers of multilingualism aim to solve the problems and challenges that are associated with multiple languages and that arise in society, education, business, and industry. The purview of multilingualism is indeed broad. Multiculturalism is only one of its societal aspects.

The key feature of the current global language condition is that human language faculty is no longer expressed in the mastery of single languages, no matter how "big" they may be, such as English, Mandarin or Spanish. In today's globalized world a single named language cannot account for the multitude of communication practices in business, education or any other area of human life any more. In most parts of the world one language does not suffice for carrying out all the tasks and covering communicative needs of individuals and groupings. The language functions that used to be carried out by a single language are now distributed between a number of languages. With that, people do not use their entire *language repertoire* that is, all the language skills in all language varieties that a person can have. This is simply not plausible. Instead, individuals and communities employ the most active part of their language repertoire, a *set of* most



expedient *languages*, which work together as a unit and enable an individual to meet all their needs in a multilingual environment. Therefore, the contemporary linguistic “unit of circulation” is a *Dominant Language Constellation* (DLC) (see, e.g., Aronin, 2016, 2019; Lo Bianco & Aronin, 2020).

Attempting to untangle multiple interlocking factors, researchers in the fields of education, communication, healthcare, social work, science, economics and engineering deal with the questions that aim to clarify the effects of current multilingualism on individual language speakers, family members, citizens and professionals.

Among these questions are:

Why does it happen too often that grandchildren and grandparents do not understand each other because they speak different languages? Is it right to allocate funds for preparing and grading driving license tests in languages other than English in the United States? Why are people concerned with language loss and how long it takes to revive a language? Are there more and less economically beneficial languages? What is an optimal age to start teaching English as a third language to a child who also speaks Catalan and Spanish? Which kinds of schools – monolingual, bilingual or multilingual are appropriate in present-day Vienna? What should be the criteria of selecting working languages for international meetings? Why do not all the people reach the high proficiency in multiple languages as that ascribed to the legendary Cardinal Mezzofanti?

Consider now another crucial global process that develops alongside multilingualism and that is its counterpart – *technology*. The two are inseparable, although we do not always see all the intricate interfaces of multilingualism and technology. In the same way as we need to understand the novel nature of human language, awareness of the role of technology also needs mediation. Contemporary thinkers in philosophy of technology remind us that “[I]ndividual habits, perceptions, concepts of self, ideas of space and time, social relationships, and moral and political boundaries have all been powerfully restructured in the course of modern technological development” (Winner, 1986, p. 9). Nordmann emphasizes that today technology leads us to “questions about ourselves and especially to reflections on how we want to use technology for organizing our way of living together and our relation to the world” (Nordmann, 2015, p. 19).

The tight interconnection between multilingualism in its contemporary form and technology is one more novel development of globalization. The fact that the two primary features of our global human existence are becoming increasingly intertwined raises new questions, and calls for solutions that would have been unthinkable only a little while ago. Increasingly we face the questions that acknowledge the complex and variegated interconnections of contemporary multilingualism and technology. Among them are the following:

Do some Dominant Language Constellations include the so-called languages of technology, such as Languages of Mechanics used in mechanical engineering that draw on a long tradition of considering the compositional practices of builders and makers as a language of sorts, and do they associate the very term “technology” with a grammar of things? Do only digital methods of communication and teaching additional languages



meet the various goals of discourse and language acquisition? Which languages are better served by digital facilities? Should small dying languages be supported via computer projects and programs? Is using Roman script while writing messages in languages like Arabic, Chinese or Russian a positive or a negative development? Where will the change of script prompted by technology lead us? What will happen with languages and, importantly, their users, as a result of the current trend accelerated by the COVID-19 pandemic to move communication and learning online, resting on the shoulders of technology? Will the LOTE – languages other than English – flourish or wither in the current uncertain reality and how will the latter change the existing hierarchies of languages and the corresponding status of their users?

It appears so far that the technologically supported real life interactions between individuals and organizations and governmental systems roughly mirror the interactions and hierarchies of the off-line world. Will this change as a result of the COVID crisis in the near or distant future?

These complex interconnections are partly covered by the concept of *multimodality* of multilingualism. Not only in the number and variety of modalities but more importantly, in the ways these modalities are distributed through tasks and languages, modified by social rules and individual emotions.

Multimodality of multilingualism is only one way of interconnection of multilingualism and technology. An exciting path awaits researchers, a road full of new insights into multilingualism and technology to be explored as those mature and expand in tandem.

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