Multilingualism as an Edge*

Abstract: The article presents a philosophical conceptualization of multilingualism. Philosophy’s general task is to subject human experience to reflective scrutiny and the experience of present day society has changed drastically. Multilingualism, as the vehicle of a new linguistic dispensation, plays a central role in it. We apply the metaphor ‘edge’ to explore the way multiple languages are deployed in, and intensively shape, the postmodern world. We also demonstrate how multilingualism is an edge, not only metaphorically, but involving true and real boundaries of various kinds, and all of them are essential for its nature.

Keywords: philosophy, multilingualism, boundaries, edge

Introduction

Multilingualism is currently a thriving area of enquiry. It is being researched from a variety of angles and has amassed an impressive and diverse pool of data. Theoretical knowledge on multilingualism is expanding too. It concerns social organization, the role of languages, and a wider vision of the universe in which speaking and thinking man, homo loquens, exists.

Research methodology on multilingualism allows for a wide range of approaches. While a great diversity of traditional methods of psycholinguistic and sociolinguistic research continues to be intensively employed by scholars, a significant change is taking place as new methods are developed or being borrowed from neighboring disciplines, and also from seemingly distant ones

* The research work of the first author of this article was supported by the Visiting Research Fellowship at the Trinity Long Room Hub Arts and Humanities Research Institute, TCD, Dublin, Ireland.
The new trends in the research methodology of multilingualism include *conceptualizations* which is an umbrella term, meaning “applying theoretical thinking and entailing interpretation of data from a number of viewpoints. This can include clarifying terms, developing new concepts and constructs, and applying novel perspectives to already studied phenomena” (Aronin & Jessner, 2015, p. 62).

Conceptualization as a method refers to the field of philosophy, and in this paper we reach a philosophical level of conceptualization of multilingualism. This is distinct from other research in its scope and methods and also in that it is a method that “avoids using the senses and relies on reflection” (Lacey, 2001, p. 252).

To engage in the philosophical level of investigation requires that enough empirical data are collected in a research discipline. By now, multilingualism has arrived at a situation appropriate for philosophical concerns, and the province of the *philosophy of multilingualism* is emerging.

The philosophy of multilingualism as a distinct area of research in multilingualism was enunciated in 2008 (Aronin & Singleton, 2008a), and is still taking its first steps in an incipient area (Aronin & Singleton, 2013). Its establishment has been warranted by the intensive development of multilingualism studies, which in turn was the consequence of the new global realities, in which so much depends on multilingual arrangements and individuals. The role of multilingualism in the contemporary world has changed with the enormously extended *scope and salience* of current multilingualism. There has been a dramatic rise in the number and significance of multilinguals and multilingual communities all over the world. The latter’s diversity and complexity account for the fact that today *constellations of languages* often fulfill the communicative, cognitive, and identification requirements once met by single languages. But the crucial importance of this novel and distinct global development is that multilingualism affects post-modern society *as a whole*. Vital societal processes and prominent characteristics of contemporary society are inseparably linked to multilingualism (Aronin, 2007; Aronin, forthcoming; Aronin & Singleton, 2008b; 2012; Singleton, Fishman, Aronin, & Ó Laoire, 2013).

In this contribution we offer a philosophical consideration of the phenomenon of multilingualism, and suggest using the metaphor of *edge* to better understand its current nature. To this end, we outline the cognitive field of the concept ‘edge’, and present a brief synthesis of how edges are treated in natural sciences. We then demonstrate in what way multilingualism is an edge (or how multilingualism represents an edge) from various perspectives. Finally, the advantages of such a theoretical vision for developing the theory and good practices of multilingualism are discussed.
Metaphors as Method of Thinking

Metaphors are employed not only in poetry and belles lettres as rhetorical devices; they have long been applied for understanding the world around us, and later in science as a tool to facilitate the grasp of abstract conceptual ideas in various domains of knowledge. By providing a particular type of comparison by analogy metaphors capture the essence of a phenomenon under exploration, and open up researchers’ minds for generating new solutions.

It has been noted that the choice of metaphors over time is governed by the stage of technological development, and ensuing scientific views, which, together with contemporaneous religious, cultural, and political beliefs create societal mind-sets in a particular period. Indeed, the hyperbolic formal symbolism of the late Middle Ages permeated the existence of people in daily life, architecture, painting, and literature, and was the basis of their perception of the world. See, for example, Johan Huizinga’s 1919/1924 study of art, life, and thought in France and the Netherlands during the 14th and 15th centuries. This work sumptuously described symbolic thinking, a system of correspondences based on the perception of shared qualities such as heat, cold, and density, which rested on the authority of ancient writers.

The 16th–17th centuries’ discoveries in astronomy, mechanics, and the composition of matter, including those of Nicolaus Copernicus (1473–1543), Galileo Galilei (1564–1642), Johannes Kepler (1571–1630), Robert Boyle (1627–1691), and Sir Isaac Newton (1642–1727), led to deployment of different kinds of metaphors (Crane, 2010). The new metaphors, where analogy conveyed the structure, were necessitated by the character of the findings, which were invisible or inaccessible to the bare eye. Planets and the way celestial bodies move could not be seen without a telescope, and Copernicus’s heliocentric system which identified the sun, rather than the earth, as the center of the solar system, was not easily demonstrated to the public. Atoms are invisible and their movements are impossible to follow; it was difficult to see how they could make up what appeared to be a solid surface.

What an ordinary person could intuitively understand from everyday experience came into sharp disagreement with the findings of scientists of that time. “Ordinary people could no longer trust their experience of the world to reveal the truth about its nature” (Crane, 2010, p. 105).

Metaphor and analogy became indispensable for science, because the workings of the physical world, such as small particles and the causes of natural events, can only be understood by analogy with phenomena that are visible or perceivable (Gentner & Jeziorski, 1993).

A new analogy, that of a clockwork mechanism, providing a mechanistic model of the universe, became prominent in the 17th–19th centuries. Scientific
explanations using the metaphor of machinery were used for the explanation of the world itself. The clockwork universe goes ticking along, and because its gears are governed by the laws of physics, every aspect of the machine was expected to be predictable. The same was deemed true of the human body. Doctors saw the body as made up of many individual parts that work together, and food was seen as a fuel, in accordance with the spirit of industrialization of the time.

When, in the 20th century, the computer metaphor took over, the universe was seen as a complex high-tech computer system. The computer metaphor is widely employed for the explanation of how the brain works. The human brain is perceived and treated as an information-processing system and its functioning is imagined in terms of “processing,” “input,” and “information” which is “stored” or ”encoded.” In cognitive psychology, human thought is described as a collection of algorithms.

The choice of a particular metaphor is crucial in a number of ways. Depending on which metaphor is chosen, the focus of the research is selected. When, in the 17th–19th centuries, the machine metaphor was in use by scientists and intellectuals, not only did they think of everything in terms of machines, engines, and gears, but also the parts of a ‘machine’ whether that be a person, nature or a plant, was at the center of attention, and research was interested in how the machine operated. Attention was focused on the way in which parts fit together and affected each other, in order to see how the machine worked. In such thinking a body as a machine cannot run without fuel (food), and the machine requires the right amount of fuel to keep it running.

The focus established by the choice of a particular metaphor leads to seeing some real things as highly important, and others as irrelevant for scholarly attention. Currently, commonly used productive metaphors are those of flux and fluidity, and not surprisingly, studies investigating life trajectories, changes, and dynamics in organizations of communities proliferate.

In some ways, the version of the metaphor determines the attitude and conclusions of studies. In the 19th century, Charles Darwin (1809–1882) and his peers perceived the similarity between the transmutation of biological species and the ‘evolution’ of languages (Alter, 1999). It is hardly surprising that the metaphors of nature and living creatures are frequently used in linguistics. Languages evolve, grow, change, live ‘die’, and “become extinct.” The natural reaction to seeing a living being in danger is to think it should be protected, preserved, and revived. This is how endangered languages are treated. At times, the metaphorical tool is taken to extremes and languages are blamed for being killers themselves: “English is the world’s worst killer language” (Skuttnab-Kangas, 2004). Not everything is similar in the source of a metaphor and what it seeks to illustrate. One has to be aware that metaphors can be dangerously
seductive and resistant to change, while human knowledge advances, eventually proving an image to be misleading.

Thus, conceptual metaphors work as models for abstract phenomena and processes, and provide insights for their understanding. Metaphors define the focus of exploration, direct scholarly vision, delimit the content of the research and, in a way, pre-determine research outcomes, as well as forming attitudes of laypeople and intellectuals towards the phenomena of life. The following discussion, while proposing a metaphor, is not intended to instill a dogma, but rather to employ the metaphor of ‘edge’ to grant insights, while drawing on the findings and approach in natural sciences for the benefit of understanding multilingualism better.

The metaphor of ‘edge’, which we are propounding in this article, like other metaphors in previous times, is consonant with the contemporary scientific discourse. Typically for conceptual metaphors (Lakoff & Johnson, 1980), it endeavors to elucidate the highly abstract, complex, and multidisciplinary phenomenon of current multilingualism, with the help of the source domain associated with basic kinetic and spatial experiences. The ‘edge’ metaphor is also inspired and merited by the time-honored, insightful treatment of the concept of edge in philosophy and recently in the natural sciences.

What is an Edge?

The Word and the Meanings of Edge. The word ‘edge’ in English has the following three major meanings:
1. Edge as the border, boundary, margin and verge, or outside limit of an object or area, as well as a line or line segment that is the intersection of two planes.
2. The second meaning refers to sharpness, a harsh and sharp quality: “the sharpened side of the blade of a cutting implement or weapon, like in ‘a knife with a razor-sharp edge’” and a reference to negative outcomes as in brink, verge, <on the edge of disaster> and the threshold of danger or ruin, <living on the edge> (www.merriam-webster.com/dictionary/edge).
3. Edge also has the meaning of force, effectiveness, vigor or energy; a quality or factor which gives superiority over close rivals: ‘his cars have the edge over his rivals’ (http://www.oxforddictionaries.com/definition/english/edge).

All these meanings are metaphorically suitable for multilingualism, as will be shown below. But first, let us look how edges are treated in the natural sciences.
Natural Sciences about Edge. Natural sciences have taken interest in edges since the middle of the 20th century. It was discovered that edges are not only mysterious places appearing and behaving differently from centers. They are not less important than the habitats, communities or ecosystems which they separate.

Centers of attention in biology, geography and ecology, and adjacent disciplines are natural edges, such as borders between forest and grassland or between ocean and continent (coast).

A coastline is a good example of an edge in nature. Geographers note that although coastal areas account for only 10 percent of Earth’s land surface, they serve as home to two-thirds of the world’s human population (http://www.scienceclarified.com/landforms/Basins-to-Dunes/Coast-and-Shore.html). Seabirds (about one-quarter of all bird species in North America) use coastal habitats for some part of their annual cycle (The State of the Birds 2013: Report on Private Lands United States of America, http://www.stateofthebirds.org/habitats/coasts).

Not only do beautiful landscapes attract people, animals, and birds to the coast, where dry land meets the ocean or other large bodies of water. Coasts are some of the most active environments on Earth. Wind and water gradually wear away Earth surfaces and the accumulation and building up of natural materials take place. Tides move over the surface of the Earth as it rotates with an average time between high tides of 12 hours and 25 minutes. But the time of tides is not regular and predictable, and variations in the depth of the oceans and the distribution of landmasses combine with other factors to produce highly complex tidal behavior.

There are many edges that are human-made, such as fences between estates or borders between countries. Some borders are impalpable, such as the equator, an imaginary line around the middle of the Earth, which divides the planet into the Northern Hemisphere and the Southern Hemisphere. Even borders that have no physical reality are very important for people in many different ways. For example, residents of Regina, the capital city of Saskatchewan, qualify for the Canadian Northern Residents Deduction for simply living in a zone located at 50° 46’N / 104° 61’.

Scholars claim that intangible borders deserve no less attention than visible, perceivable borders.

Ecologists become conscious of important things about edges. First of all, edges attract, harbor or trigger intensive activities. It is along edges that essential physical and biological activity takes place. Scientists note a twofold activity intensification: (a) much higher diversity of species than in ‘inner’ areas, and (b) intensity of biological and other processes in these places. The edge effect on the organic environmental level is further heightened by social commotion and bursts of activity. Consider continental shelf zones, abundant
in marine life. The sovereignty of the rich edge area of the Kuril Islands in the Sakhalin Oblast of Russia, originating from the events of 1855 (Treaty of Commerce and Navigation between Japan and Russia) is still disputed between the Russian Federation and Japan.

Edges are where the action is, claims the exhibition in the Boston Science Museum, April 2014, and therefore where discoveries are to be made. Taking a wider social perspective, we can find more illustrations for the claim that edges make for bustling places. Major urban cities and areas are often situated on the borders between continents and oceans and their populations are growing faster than those in inland areas. The average population density in coastal areas is about 80 persons per square kilometer, twice the world’s average population density (USSWE). Investments and infrastructure are often greater, too. One could ask what about those important, big cities that are not coastal, such as prominent Russian Federation urban industrial and cultural centers counting millions of citizens, such as Moscow, Niznii Novgorod, Novosibirsk, and Irkutsk. Those are not on ocean-continent borders, but they happen to be right on the perimeter bordering forest and grasslands (Encyclopedia, 1994). (The last examples recall the well-known fact that volcanoes ‘sit’ on geological borders. Huge, rocky tectonic plates separate, collide, and slide past each other, causing earthquakes, feeding volcanic eruptions, and raising mountains.) The Mediterranean region, situated on geological, historical, business, and political edges, has always been the hub of momentous events, conflicts, discoveries, and trade. In ecology such zones are termed ‘ecotones’—eco, from Greek oikos, house, plus tone, from Greek tonos or tension.

Intensified activity is not the only reason why edges matter. Geographers, biologists, and ecologists have discovered a number of important features which make edges a justified focus of scientific interest. When they looked at edges more carefully, geographers realized that they are not simply thin lines on a map. In fact, edges in nature are pieces of territory that separate areas, communities, and habitats and have ‘breadth’ and ‘width’. They are ‘transitional zones’ between two areas. It was discovered that transitional zones possess specific features. The first unique feature is that borders are both abrupt and gradual (sharp and blurry) at the same time. As we see them on a map, or from a plane, they appear as thin lines, but on coming closer, or being within the territory, the border ‘dissipates’, and loses its sharp form. In this case, on looking closer, we discover a transition territory, a strip which may be narrow or wide, like between a forest and a field, or forest and grasslands.

The transitional zones, the edges, turn out to differ considerably from non-edges in appearance and structure. The boundary habitat allows for greater diversity, and changes in population or community structure take place. For example, it has been noticed that the density of songbird populations is greater on estates, campuses, and similar settings, as compared with tracts of uniform
and that environmental features such as air temperature, soil moisture, and light intensity all change at edges. The ‘transition zones’ are dissimilar to any of the neighboring areas that they delineate; the features of adjacent territories ‘mix’ within the ‘transitional zone’. Many species of plants and animals favor edge zones, and do not live in the ‘inner’ areas. Often, the so-called exotic in biology, species that are non-typical for a given territory, can constitute up to half of the population. As a result of contact, the environment of the border strip becomes non-similar to any of the neighboring areas; in fact, it becomes unique. In addition, it was discovered that borders have considerable impact on the inner areas that they separate.

The above is not all that we now know about edges from the sphere of ecology. Borders, in fact, have at least two functions. They divide and isolate, and they also connect. Where edges meet, there is a meeting point for many species of plant and animal life, for physical and chemical materials, and therefore they create an interface for interactions, development, and change.

Boundaries are of at least two types. One type, the “threshold/limit boundary” is a boundary between two very different areas. For example, a forest edge separates a forest from a meadow. The existence of such type of boundary is the result of the difference of the neighboring territories that are separated. The forest edge exists exactly because the forest and the meadow are so different. Those borders have all the edge effects we cited above. The second type of boundaries distinguished by geographers, are those which separate very similar areas, such as two identical fields. Such boundaries are characterized by strong isolating qualities. They can effectively insulate, segregate a property, country, or community. The boundaries of the second type impart individuality and uniqueness to territories so separated simply by their existence. Thus on the one hand, boundaries divide and isolate, on the other, they connect. Thus boundaries often act as membranes, selectively allowing the passage of some things but not others.

**Philosophy on Boundaries.** The findings of natural sciences regarding physical, chemical, and biological features of edge regions, as well as their societal implications have been formulated in philosophical considerations on boundaries. Philosophical thought suggests that events also have boundaries, at least temporal ones. Moreover, even abstract entities, such as concepts or sets (e.g. imagined communities), are thought to have boundaries of their own. Multilingualism traditionally deals with processes, such as language acquisition, comprehension, or language change, but events and concepts are also essential for multilingualism, thus making philosophical concerns highly relevant for it.

Early intuitive definitions of ancient philosophers (e.g. Euclid and Aristotle) of the term ‘boundary’ gave rise to a number of puzzles philosophers deal with in our times (Politis, 2012). One of them examines the dilemma of defining
the exact point that divides spatial or temporal entities. When a boundary/line separates two adjacent entities, to which does it belong? Where is the last point of the one and the first point of the other? Leonardo da Vinci, in his Notebooks, expressed the question thus: what is it that divides atmosphere from the water? Is it air or is it water? (1938, pp. 75–76). Aristotle is credited with the classical version of the puzzle in regard to temporal boundaries: When a moving object comes to rest, is it in motion or is it at rest? Does the transitional moment belong to the motion interval or to the rest interval? (http://plato.stanford.edu/entries/boundary/).

Another philosophical concern regarding boundaries is the division between _bona fide_, ‘objective in some sense’ and _fiat_, ‘artificial, which are not so grounded in the autonomous, mind-independent world’.

Philosophers’ doubts about the concept of boundaries are reasonable, and Wittgenstein’s suggestion that the boundaries of our language are the boundaries of our world (1921, pp. 5–6) implies that boundaries might be just a result of the organizing activity of our mind, and might not therefore exist in the real world. These general philosophical questions are appropriate and are indeed central for multilingualism.

The following section will probe more deeply into edges in multilingualism and their types, and into how multilingualism itself is an edge.

**How Multilingualism is an Edge**

**Edges in Multilingualism**

This section will start with a brief reflection on the appropriateness of three main meanings of the concept of edge for the study of multilingualism (3.1). We then carry on with the inventory of some long-standing research topics in bi- and multilingualism, which, in effect, revolve around the idea of edge, boundaries, and borders. These include: Who is a bilingual? and What is a language? Other topics include interlanguage, multi-competence, mental lexicon, cross-linguistic interaction, and language distance. The final subsection of section three will discuss the physical-geographical and physiological boundaries of multilingualism.

**Multilingualism Can Be Conceptualized Through the Metaphor of Edge in Its Three Main Meanings.** The metaphorical analogy with the meaning of ‘edge’ as effectiveness, vigor, and superiority is obvious. Studies in psycholinguistics and applied linguistics give us plentiful evidence of certain cognitive advantages for an individual. The current consensus in sociolinguistics and
multilingualism studies is that both for an individual and as a community arrangement, multilingualism is mainly beneficial. It gives an individual a competitive edge in societal communication and in career and job seeking. Power is distributed through languages and their ordering.

As for the meaning of sharpness, danger, and edginess multilingualism can indeed be a sharp edge when ignored or mishandled (see e.g., Kramsch & Jessner, forthcoming). It is an edge for children who are in the situation of subtractive bilingualism. In a situation of subtractive bilingualism learning a second language interferes with the learning of a first language. Eventually the second language replaces the first language. This is commonly found in children who emigrate to a foreign country when they are young, especially in cases of orphans who are deprived of their first language input. On a societal level, deep disputes may take place in a society over the status of languages; one example is of protesters clashing with police in 2009 in Kuala Lumpur, an event which was ignited by the decision of the government to start teaching mathematics in English, instead of as previously in Malay (BBC News, 2009).

In the same way as the one word, ‘edge’, contains two somewhat opposing ideas of benefits and potential danger, so the phenomenon of individual and societal multilingualism is advantageous on the one hand, but on the other hand, also filled with potential and real challenges.

The third meaning of the notion ‘edge’ is the meaning of border, margin, limits, and boundaries. In this meaning, unlike in the two others, multilingualism has not been explored. To our mind, considering edges or boundaries of multilingualism and multilingualism as an edge has philosophical significance. Multilingual studies provide facts from various disciplines for philosophical considerations and can contribute to the discussion of long-disputed philosophical issues. On the other hand, exploring multilingualism through the metaphor of edge seems to us beneficial to the field of multilingualism.

In fact, multilingualism is all about edges. The crucial issues of linguistic, bilingual, and multilingual research revolve around boundaries. Major bilingualism and multilingualism discussions are exactly about boundaries and edges, although they may not be labeled like that. Even the lengthy disputes on terminology revolve around where the boundaries are set. Needless to say, linguists, educators, and other stakeholders in multilingualism research depend on decisions regarding borders for answers.

Some Decisive Pivotal Boundaries of Multilingualism. It appears that much of the thinking on multilingualism consists of considering and examining boundaries. Multilingualism studies describe recognizing and experiencing boundaries, fixing them, crossing them, and breaking them.

The bilingual stage of societal awareness in respect of language has brought some crucial notions important for multilingualism up to the present.
The term ‘bilingual’ has been discussed at length. The decades-long discussions have still not determined an exact answer for simple questions: Who is a bilingual? At which point does a monolingual become a bilingual? How can one distinguish between the two? There is no way to define an exact moment or level of skill to pinpoint this. Whether one can be eligible for being called a bilingual depends on where the border is set with regard to proficiency, fluency, frequency of using L2, and communicating successfully in it. The borders arbitrarily set by different scholars, institutions, and opinions assumed by laypeople as a default are extremely wide-ranging. If proficiency is considered a defining factor in placing the divide, the two polar views appear thus: “native-like control of two or more languages” Bloomfield (1933, p. 56); “active, completely equal mastery of two or more languages” (Braun, 1937, p. 115) and, at the other pole, the interpretation given by John Edwards: “if, as an English speaker, you can say c’est la vie or gracias or guten tag or tovarisch—or even if you understand them—you clearly have some command of a foreign tongue” (Edwards, 1994, p. 55). Contemporary views range between these extremes but where to put the dividing post remains unclear.

Should we reserve the label bi- or multilingual for persons whose proficiency is native-like and balanced across both/all their languages and across the range of language skills—i.e., understanding and producing speech, reading and writing—or should we be less demanding in our application of these terms? Might we, for example, be prepared to qualify as bilingual the Russian engineer who with fluency and understanding reads technical articles in English but is unable to pronounce what he reads? Can we conceive of attributing multilingual status to the Spanish opera singer who performs consummately in Italian, German and French but is unable to converse in any of these languages? (Aronin & Singleton, 2012, pp. 1–2).

In case the distinction is based on the criterion of frequent use, distinguishing between those who use both, or all, their languages frequently and those who do not, again presents a challenge. Frequency of use may be defined in different ways, and communicatively successful use of the languages depends on the point of view of the beholder-recipient or hearer of the message.

Perhaps, a quite unexpected ‘edge’ for a layperson would be the notion of language itself.

The most basic question: What is a language? is crucially bound up with establishing and locating boundaries. The notion of a ‘language’ itself is ‘a vast abstraction’ (Cook, 2013b, p. 28), a fiction. The facts are only exhibited in the actual performance of particular languages: English, Chinese, Navajo, Kashmiri (Strevens, 1982, p. 23). Kemp (2009) argues:
If the existence of ‘a language’ is fiction, researchers need to be clear and explicit about where they are drawing the boundaries between one language and another in order that others can recognize the fiction as meaningful for the purpose of the study. In practice, for both psycholinguistic and sociolinguistic research, this is often done by specifying boundaries in social and cultural usage. (p. 16)

As attention to bilingualism was growing in the middle of the 20th century, a number of concepts were accepted, that were fundamental for bilingualism, and later important also for multilingualism. Most of them, in fact, deal with phenomena that according to the established assumptions of that time can be considered edges. In the monolingual perspective, the traditional views on the degree of language proficiency deemed desirable for the second language learner was that it should match the level of a ‘native speaker’, that is, full mastery of all the skills. Thus, the expected proficiency in both languages (neighboring entities) was perfect L1 and perfect L2. The reality though, is that only a few individuals reach balanced bilingualism. The majority of language users normally do not attain this aim, but remain in between, in the transitional zone.

The edge on the interface between the skills in the mother tongue and another language is crowded with L2 learners-users. Therefore, a number of concepts, actually explaining the edge phenomena, were put forward and are now fundamental for bilingual and multilingual research and practice.

The concept of interlanguage associated with the name of Larry Selinker (1972), or, as termed in the earlier version of the notion put forward by Stephen Pit Corder in 1967, ‘transitional competence’, implies that while advancing in the target language (target system), a learner of a second language develops an intermediate system. The intermediate system draws on the learner’s first language (source language) knowledge and receives the input from the L2, (target language), but is a separate linguistic system, different from both his first language and the target language as it would be spoken by a native speaker (Tarone, 1979; Selinker & Douglas, 1985).

This interlanguage or ‘transitional competence’ is in a transitional zone, an edge between the two different entities of the first (mother tongue) and the second (target) language. It displays edge effects in being different from the neighboring entities, and having its own quality; it is systematic in its own way. Notably, the target language development can cease at any stage of proficiency, hence the interlanguage ‘solidifies’ in the stage it is at. In applied linguistics this phenomenon is called fossilization. Most of the second and additional language users more often than not stay in a transitional zone. This edge, thus, is a norm, including the majority of multi-language users, rather than an exception.

While interlanguage refers to language skills, the concept of multi-competence (Cook, 1991; 1992; 1993) treats language users more directly. It describes
the edge effect of when two (and more) languages meet in one person. These
edge effects are seen in bilinguals, who according to Vivian Cook, possess
a special quality distinguishing them from those who have mastered only one
language. Initially defined as ‘knowledge of two or more languages in the same
mind’ (Cook, 1991, p. 103) and ‘the compound state of mind with two gram-
mars’ (Cook, 1992, pp. 557–558), the concept of multi-competence reveals the
nature of bi- and multilinguals as essentially different from only-one-language-
speakers, in that ‘it assumes that someone who knows two or more languages
is a different person from a monolingual, and so needs to be looked at in their
own right rather than as a deficient monolingual’ (Cook, 2013a, p. 3768).

Both interlanguage and multi-competence brought into the limelight phe-
nomena that were different from what was then considered mainstream, and
made scholars and teachers recognize them as important.

There are, no doubt, many people who speak languages not like native
speakers. That is, they are in a transition zone; they are different from both L1
and target language speakers. These populations constitute a large proportion
of the people on Earth. The implication of using the metaphor of edge is that
we see these ‘transitional language users’ as comparatively stable, rather than
in a temporary brief stage of motion towards the target of perfect L2.

As for the special qualities of the edge populations being different from
the ‘regular’ ones, these are established by research in applied linguistics and
psycholinguistics. Bilinguals were found to have advantages in a whole range
of abilities (e.g. Hamers and Blanc, 2000, p. 89): enhanced executive control
(Bialystok, 2011, p. 229), sensitivity to semantic and grammatical relations and
regularities (see e.g. Bialystok, 2001; 2002), communicative sensitivity (Baker,
1993), and cognitive advantages in areas beyond the linguistic domain, such as
visual-spatial abilities, and the capacity to solve problems based on conflict and
attention (such as sorting cards by color, and then re-sorting them by shape)
(Bialystok, 1999). Bilinguals are ‘more attuned to the communicative needs of
those with whom they talk’ and have ‘two or more worlds of experience’ (Li
Wei, 2000, p. 23).

More recent hubs of scholarly attention are also primarily about edges, and
focus on debating the borders and boundaries between the language systems
in one speaker.

The issue of a bilingual and multilingual mental lexicon revolves around one
essential question of whether the mental lexicon of a bilingual or multilingual
consists of separate and distinct lexicons for each language, or whether the
lexicons of all the languages at user’s disposal are integrated. Evidence supports
both arguments for separation and those for integration (Cenoz & Jessner, 2003).

The line of research on Cross-linguistic interaction (CLI) is about the ways
in which different languages and their various aspects interact in the mind of
a multilingual speaker. Linguistic performance in the additional language and
further language development are seen as dependent on the influence of languages upon each other (Cenoz, Huifeisen, & Jessner, 2001; Kellerman, 1995). The outcomes of these interactions are seen in errors or, on the contrary, quick and successful mastery of various language aspects. A range of linguistic phenomena subsumes the notion of CLI transfer, interference, and borrowing from one language system to the other.

What are traditionally seen as cross-linguistic interrelationships are, in the first place, the crossing or not crossing of the borders between languages. Saying ‘languages in the mind of a user’, we mean not only the linguistic system of a particular language, but also cultural knowledge and assumptions, as well as experience, language learning techniques, and whatever else is connected to a particular language for a language user.

In the process of acquisition of their target language, L3 or Ln, multilinguals rely not only on their native and strongest language (L1), but also on other languages at their disposal. Cross-linguistic interaction between the non-native languages is the most recent line of investigation (see e.g. De Angelis & Dewaele, 2009). In bilingualism, the cross-linguistic interaction (crossing the borders of languages in our terms) can go only two ways, from the mother tongue (L1) to the foreign/second language (L2) and back, L2–L1. By contrast, the case of trilingualism furnishes more relationships (more borders to cross), thus giving the chance for ‘the influence of L1 on L2, L1 on L3, L2 on L1, L2 on L3, and L3 on L1’ (Jessner, 2003, p. 45).

Research shows that borders between three languages are complex, and the chance for the occurrence of crossings among them is not straightforward, but rather selective. It is not casual either. Influences and interactions between L1, L2, and L3 can go in all possible directions and configurations. Boundaries between languages in fact, operate as membranes, allowing for one kind of transfer, but not for another. Transfer is particularly common with lexical items, thus lexis seems to pass borders more easily than, for instance, structural elements of a language. The phonetic character of a language, on the other hand, seems to encounter obstacles that make it the component least able to cross the border, perhaps because it requires re-settling the basis of articulation (using the organs of speech in a new way) (Hammarberg & Hammarberg, 2005).

What are the ‘keys’ that open the borders, and under which circumstances do they perform better? This is the matter for further research. It is believed that language distance triggers transfer from non-native languages to L1 and other non-native languages more readily between similar languages. With that, not all language aspects cross equally well; for example, cross-linguistic similarity works differently for comprehension than for production, as Ringbom found in relation to the transfer in Finnish learners of English (Ringbom, 2005, p. 79). There is also evidence of transfer between languages with greater language distance, for instance, as described in the study of Schmidt and Frota (1986),
who reported instances of Arabic lexical influence, rather than L1 English, on L3 Portuguese (for the overview on research in CLI see De Angelis & Dewaele, 2009).

The notion of *language distance*, traditionally employed in the disciplines of linguistics and applied linguistics and SLA and TLA, is also a metaphor, explaining the differences between abstract and complex entities such as languages in spatial terms. It fits perfectly into the metaphoric approach of edges.

Other reasons believed to allow a language feature to travel from one language to the other are the recentness of using a language (the items are transferred to L3 from L2, because L3 was the most recent language a speaker used); psychotypology, which is perceived similarity (see, e.g. Sjöholm, 1995, study on Finnish and Finland-Swedish learners’ linguistic choices); and, the so-called foreign language effect (see e.g Hammarberg, 2001; Ortega, 2008; Ringbom, 2005; Williams & Hammarberg, 1998).

The borders seem to let through not only language aspects such as grammar or vocabulary items, but also experience, processes, and strategies associated with one particular language across situations with additional languages (Gabryś-Barker, 2009).

**Physical Boundaries.** The metaphor of edges in multilingualism is often literal. There are multiple limits, borders, and boundaries which are material, tangible, and perceptible for either humans or mechanical or electronic equipment.

The physical, bodily, and otherwise tangible/real borders in multilingualism are the ones we may call *bona fide* boundaries.

**Geographical boundaries.** Physical geographical borders separate countries. Less distinct, but also physically discernible boundaries may delineate areas in a city where minority languages are spoken. Consider the boundaries of Irish use in the Republic of Ireland that delimit the territories where the Irish language is spoken as a community language, called Gaeltacht.

The boundaries are visibly shrinking as time goes by. This physical border, and what happens to it, is meaningful for the country in many ways other than simply marking physical territory. This border is also symbolic, and concerns national and ethnic identity, history, and the current rise of the national aspiration to learn Irish better, and use it in more domains.

Sociolinguistically, the Gaeltacht areas and Irish language users may be thought of as displaying an *edge effect*, in the sense that they have their own distinctive properties which differ considerably from mainstream English speakers. This refers to those few who are fluent in Gaelic, and to the majority of Irish speaker-learners as L2 speakers of their own native language (which is not their L1). This territory and these people as marginal speakers of a minor-
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ty language represent individuality and uniqueness, indeed significant for the
country in many ways, especially in recent years when the importance of the
Irish language is coming to the fore in the discourse of the country.

It appears that in human society (1) **physical geographical edges are not
only physical, they are at the same time edges that indicate** and actualize
political, ethical, moral, and other divisions between people, and periods in
the life of a country. These latter divisions (edges) are invisible but noticeable
and significant.

We can also see that (2) **geographically and socially peripheral edges under
some particular circumstances take a central place** at least in some aspects.

From the natural sciences we learn that (3) **the influence of geographical
physical edges spreads to both the edge area itself or edge populations and
also to ‘inner’ or central areas and populations**. This two-way impact is well
illustrated by the studies which deal with borders in the most direct way, in one
of the major areas of multilingualism: the study of **language contact**.

Specialists in language contact focus on the connecting interface of edges;
they are interested in how languages come in contact, and what makes them
interact in various ways. Despite this traditional emphasis, the field of language
contact is clearly about limits and boundaries in the first place. Studying lan-
guage contact reveals how distinct territories or entities (e.g. groups of language
speakers) deal with the fact of division, separation, and borders, as well as the
impact of these, when it comes to managing or handling them.

The first edge effect on neighboring entities, in this case, languages in
contact, is illustrated by loan words, or borrowings. Words from Algonquian
languages, such as *skunk*, *moccasin*, and *wigwam* crossed the border between
the English speakers and Native Americans and were introduced to the English
language. Australian English received words like kangaroo and boomerang from
the Aboriginal languages of Australia through the borders (physical, historical,
and social) between English speakers and Aborigines.

The transitional zone itself, the ‘transitional entity’, appears in the form of
new languages and speakers of these languages. This social outcome of dealing
with borders would be called, using our metaphor, the result of edge effect,
or what biologists would call ‘exotic species’. The new languages, *pidgins*,
*Creoles*, and *bilingual mixed* languages, are clearly linguistically distinct from
both of their source languages. They might indeed sound exotic to the ear of
the source language speakers.

It is no wonder that they have not always been accepted as fully-fledged
languages. They have been considered marginal, as have been the people using
them. For example, we may cite Anglo-Romany, a bilingual mixed language
in which the grammar is fully English and the lexis includes many basic vo-
cabulary items from the original Romani language, an Indic ethnic-heritage
language of northwest India.
If the previous examples dealt with distance, the next one shows edge as a limit in time and resources. The European Union currently has twenty-three official and five semi-official languages (2011, http://ec.europa.eu/translation/index_en.htm). To what extent can time and financial limits be sensibly extended to accommodate translation, and other needs, and thus how many more languages could be accepted as official languages of the EU?

**Physiological boundaries.** Other objective edges would include physiological boundaries and limits of different natures. Human physiology is known to present limitations for language acquisition. Human abilities for memory, for retaining or retrieving vocabulary, are limited, and applied linguistics thoroughly investigates these limits. There exist physical, biological edges, boundaries within which, it is believed, languages are acquired.

Age is a limitation and boundary, extensively discussed in multilingualism for various purposes: age of first language acquisition, second and next languages acquisition; age in the context of the ‘Age Factor’ hypothesis.

Neurolinguists use brain-imaging methods, such as Positron Emission Tomography (PET) and Functional Magnetic Resonance Imaging (fMRI), with the aim of demarcating the brain areas involved in language production and comprehension. They also use the findings of neurosurgery performed in functional mapping cortical stimulations, intended to localize the precise areas of brain that are crucial for language.

**Theoretical Findings on Multilingualism Obtained with the Help of the Metaphor of Edge**

Analyzing multilingualism phenomena through the lens of edges we might suggest the following:

1. Physical geographical edges are not only just these [physical], they are at the same time symbolic edges that indicate, and carry out, political, ethical, moral, and other kinds of divisions between people and periods in the life of a country. These latter divisions (edges) are invisible but noticeable and significant.

2. In multilingualism, where physical and intangible human-imposed edges are often all in one, it is difficult to say which kind of border we are dealing with in each particular situation. Are they of a physiological, physical nature, or simply imposed by authorities, by our unconscious assumptions, or inculcated by history, culture and family? The answers to these questions
might assist in the solutions of particular sociolinguistic, political or ethical situations connected with languages.

3. Under some circumstances geographical and social peripheral edges play a central place, at least in some aspects.

4. As in the natural sciences we can discern that the influence of edges in multilingualism spreads through to both the edge area itself or edge populations, and also to ‘inner’ or central areas and populations.

5. In bilingualism and multilingualism, edges increasingly become accepted and treated as a norm.

6. There is a trend to accommodate the in-between edge zones. Tracing bilingualism and multilingualism research milestones, one can mark a trend towards less strict demarcation of borders between phenomena (that are meaningful for research and practice), such as native and non-native speakers of English. Instead of the criteria of earlier, essentially unattainable limits of proficiency as for a native speaker, the notions of ‘expert user’ or ‘L2 user’ as an active user of one’s non-native language in one’s own right are put forward. These terms suggest that it is enough to have fully operational command of the language with appropriate vocabulary and grammar, and accurate and fluent speech. Variants of English pronunciation, different from the Standard English and non-native English teachers are signs of attempts to accommodate the edges.

**Conclusions**

In this article we attempted to advance the theoretical understanding of multilingualism by engaging a philosophical mode of study. We presented metaphors as a method of thinking, and employed the metaphor of edge in order to gain insights into the nature of multilingualism. To this end, we first clarified the concept of edge in its glossarial meaning, and surveyed how natural sciences and philosophy treat this concept.

Then we turned our attention to the various edges of multilingualism and proposed a number of decisive pivotal boundaries that originated in the bilingual period of awareness of human languages (on the periods of societal awareness of language and languages; see Aronin & Singleton, 2012, pp. 19–32) and included initial and ongoing attempts to define terms, such as: language, bilingual, interlanguage, multi-competence, cross-linguistic interactions, and multilingual lexicon, in light of the inherent edge effects they display. The more tangible boundaries and edges, which concomitantly merge with symbolic borders, in the areas of sociolinguistics, language contact, applied linguistics, and neuro-
linguistics, have been evoked, in order to arrive at initial conclusions on edges in multilingualism. A number of theoretical findings about multilingualism have been put forward.

How does realization of edges (boundaries) in multilingualism contribute to our understanding of it? The implications of the philosophical conceptualization of multilingualism through the metaphor of edge lie in the domain of theoretical approaches, and also, in the long run, in practices dealing with multilingual reality.

The implications, from purely theoretical ones to more practically usable ones, are as follows:
1. First of all, the metaphor of edge provides one more way of understanding multilingual experience by suggesting a coherent structure. It gives a new meaning to the knowledge accumulated on multilingualism. Understanding the importance of edges in multilingualism re-directs researchers’ attention to yet unexplored edges.
2. Looking at multilingualism as edge, and thus moving the traditional angle of vision can reveal emerging trends in multilingualism, which could not be seen from another angle. This perspective will allow us to raise fresh questions in relation to a variety of old and new topics.
3. Among other things, the suggested vision of multilingualism as an edge explains why multilingualism is currently at the center of life and civilization, and is a space-time ‘where things happen’. Edges in multilingualism are the space-times to be investigated in the first place, as they contain and reflect the most important events and developments (Aronin, 2014).
4. Realization that boundaries are seen differently from the edge area, and from the ‘distance’, can help us account for the discrepancies in some experimental data gathered to date. Entities outlined by boundaries of different scales and natures would justifiably yield different results. Such results are unsurprisingly, not always compatible with each other, thus undermining the validity of a study when the characteristics of edges are not taken into consideration.
5. In multilingualism, where the disciplines of sociology, linguistics, ethnography, political thought, and others come together, accepting the ubiquity and ‘normalcy’ of edges in complex reality, eases the unnecessary tension of multiple lines of research trying to exactly define the undefinable, and encourages us to admit the reality of transitional entities. Those are not anomalous phenomena, but characteristic of the current sociolinguistic dispensation. Edges are paradoxical, for although they are transitional phases or entities, they are comparatively stable.
6. Lakoff and Johnson (1980, p. 131) pointed out that metaphors “sanction actions, justify inferences and help us set goals.” An understanding of languages as borders, which can divide or connect, might stimulate scholars
to set up nontraditional algorithms of study of previously investigated phenomena. For example, in language contact studies, the first task might be to establish whether a particular case presents an instance of contact, or of a barrier. Introducing such a metaphorical perspective gives us more detailed and clearer knowledge, as such a view stimulates differential treatment of edges, e.g., depending on whether they are fiat or bona fide; or allows one to explore the properties of membranes for effective regulation of borders of various natures.

7. Edges are recognizable to varying extents. Some, even significant ones, may be indiscernible. Therefore, drawing on the natural sciences, we might wish to search for signs of a meaningful divide. Specific indicators for edges in multilingualism (between communities and groups, between monolinguals, bilinguals and multilinguals) could be worked out. Further investigation into the ethics of multilingualism and language policy would open up if we were able to detect the invisible and symbolic edges.

We have offered a novel theoretical consideration of the way people use languages in modern times, and how this reflects on human practices, through the metaphor of edge. The edges of multilingualism call for further investigation in more depth.

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Die Metapher für den Rand bei Konzeptualisierung der Mehrsprachigkeit

Zusammenfassung