Paradoxical Nature of Language in Terms of its Acquisition and Learning (Based on Plato's "Cratylus")

Pavlo Sodomora

Doctor of Philosophical Sciences, Associate Professor,
Lviv National Medical University (Lviv, Ukraine)
E-mail: pavlosodom@gmail.com
https://orcid.org/0000-0002-2006-1383

Oleh Yerchenko

Candidate of Philology, Assistant Professor,
Lviv National Medical University (Lviv, Ukraine)
E-mail: dampasabu14112002@gmail.com
https://orcid.org/0000-0002-2897-3205

The process of learning is analogous to the process of motion, as well as it resembles the progress from less to more perfect. Plato, combining two opposites, attempts at reconciliation of the theories of Heraclitus and Parmenides, providing us with his amazing theory of Forms. In light of this, he speaks of language as a means of cognizance of the Universe. In his own turn, and much later, Ludwig Wittgenstein, combining incompatible, speaks of language as the single subject which requires explanation. As well as it can be seen from the history of the development of understanding, those who dared to combine two opposites have come up with amazing discoveries. New discoveries in the field of gravity are likely to throw some light on the solutions to Zeno's paradoxes and, at the same time, reveal and explain to us the paradoxical nature of language acquisition. The article argues that the phenomenon of language possesses a paradoxical nature that seems not to be unambiguously explained by behavioristic theories. As a result, this view serves to the development and improvement of newer approaches to the learning of a second language, which is completely distinct from the process of primary language acquisition.

Keywords: paradox, understanding, perception, essentialism, linguistics

Introduction

The question of knowledge acquisition, regardless of its own remarkable age (about 25 hundred years), still has not been provided with distinct and clear definitions. The acquisition itself, as contrasted with learning, is generally assumed as a relatively unconscious process of mastering language skills while learning is treated as a rather conscious process of studying the second language (Krashen, 1981: 132). In fact, this is what Plato gives hints about in his theory of reminiscence. Although the process of language acquisition is referred to the unconscious acquiring of the first language in early childhood, some scholars (Dorsch, 2010) still claim the adults can study the second language similarly.

Hence, there have appeared the studies of the researchers aimed at finding both the differences and possible links between these two processes. Given the complexity of this question, some puzzles about knowledge, as it seems, are going to be discussed for the next 25 hundred years; this is why this article does not intend to provide firm solutions to this question. However, this approach provides us with important inferences on the nature of primary language acquisition and contrasts it with the process of learning second languages. Contrastive analysis of the two processes can provide us with important inferences on learning of the second language.

It is suggested that these two processes are completely distinct and share little in common regardless of their similarity at first sight. According to Aristotle, the learning process, being a certain motion from imperfect to more perfect, possesses its own paradoxical nature, similar to the Achilles paradox. It is credited that those who acquire the language proceed their own order in the process comparing to those who learn it. In this article, an attempt at studying the process of learning is made on the basis of learning the second language.

Language: Approaches to Language Phenomenon

The concept of motion that is perceivable by senses is substantial for Aristotle as well as for Aquinas as a leading proof for the existence of Prime Mower, and, consequently, God. But the concepts of space and time, and consequently of motion, are both paradoxical and vague, according to Zeno. Following Zeno, many thinkers have admitted the paradoxical nature of space-time and being, which is assumed to be difficult to explain. Despite the fact that Zeno's paradoxes seem to be ridiculous at the first glimpse, they still require sophisticated and perplexed calculations to be dissolved at least partially. This ancient Greek thinker established his own view on the nature of the Universe. This view questioned basic principles that served the basis for Aristotle, Aquinas, and other thinkers long before they had been created.

Since the controversy between Heraclitus and Parmenides, two approaches to the question of how the Universe is being perceived have been arguing through all four ages of understanding. The issue is far from being extinguished even today. In order to grasp the extent of disagreements between adherents of approaches, it might be useful to have a brief look at the philosophy of linguistics, including the most important recent theories (Akmajian, 2010). Basically, there are two basic approaches to linguistic theorizing, although this might be seen as too simple approach to the subject.

Regardless of the age of the controversy initiated in Antiquity, these two approaches are based on the criteria, similar to those of Heraclitus and Parmenides, although it can also be regarded as oversimplification or exaggeration. These approaches are usually referred to as externalism and essentialism. The distinction between the two resembles the Aristotelian

versus Platonic approach to epistemology, and not only and exclusively: this can be said about their views on the nature of being in general. Externalists basically claim that primary language phenomena depend on actual utterances produced by users, while essentialists, in contrast, claim that language phenomena are based on intuitions and abstract universal principles. The researcher's works apparently show that the dialogue between the two is extremely rare (Phillips, 2010).

The analogy between the aforementioned approaches and Aristotelian vs. Platonic systems needs to be clarified in more detail. It should be mentioned that the names given to the approaches are just descriptive, hardly resembling the nature of topics being described. Sometimes externalists are referred to as "empiricists," although this title is not accurate due to several reasons, not to be discussed here. On the other hand, essentialists are referred to as "formalists" because of their adherence to abstractions, and consequently, mathematics and logic. In addition to this, the adherents of the latter consider the possibility of an infinite set of expressions that are not evident from the experience of language use. Infinity is an important notion which is applied to a variety of concepts, including linguistic ones. Especially, Zeno's paradoxes deal with an infinite number of parts.

Generally, while Leonard Bloomfield is the intellectual ancestor of externalism, then Noam Chomsky is the intellectual ancestor of essentialism. For a huge majority of those who practice this approach, researchers in the tradition of generative grammar are associated with Chomsky, i.e., postulating universals of human linguistic structure, unlearned but tacitly known, that permit and assist children to acquire human languages (Scholz, 2020). It can be seen quite obviously, that the aforementioned features of externalists and essentialists in their own way resemble Aristotelian and Platonic approaches to epistemology (Mckee, 2008). Language acquisition, of which Noam Chomsky speaks, in fact, supports Plato's theory of reminiscence. As a continuation to the subject, second language learning versus acquisition has been discussed in academic circles (Krashen, 1981: 15-18).

Paradoxes in the Process of Understanding

Starting with Aristotle, the leading role in the process of acquiring knowledge has been assigned to experience, which is obtained basically from senses. Consequently, Thomas Aquinas, while developing his "Christian Philosophy" (Gilson, 2002), referred to Aristotle's conceptions on how knowledge is acquired. Even today, experience finds its place in the works of philosophers (Riegler, 2017). But this approach did not appear out of the blue: previous thinkers contributed significantly to the development of realism and other currents in philosophy. In fact, similarly to those of Plato, Aristotle's works were aimed at reconciling opposite theories of Heraclitus and Parmenides. Zeno of Elea, being a pupil of the latter, developed a series of paradoxes, or aporiai, which puzzled not only Aristotle, but all upcoming generations of philosophers. Even more, they triggered many thinkers to develop their own paradoxes.

In fact, aporiai do not exhibit their existence in the real world, that of Aristotle: but still, they are extremely difficult to refute. Saying just "no" is not enough, as well as such an answer is not going to eliminate the contradictory nature of paradoxes. This article is aimed at discussing ancient aporiai in the light of new discoveries in sciences and linguistics. It is worth mentioning that recent paradoxes, compiled by Russel and other thinkers, already possess distinct nature compared to those developed by Zeno. The newer paradoxes possess more abstract nature, which can be seen while contrasting an Achilles-tortoise paradox and that of Russel's barber one. This can be linked to the development of civilization, as it will be specified further on.

Paradoxes of Zeno, regardless of their first-glimpse ridiculousness, triggered the discovery of several methods in mathematics, including that of "calculus" (Grünbaum, 1967:

13-23), and aim at settling definitions of infinity, which in a certain manner resembles the approach to language suggested by Wittgenstein, and later by Chomsky. This is why the so-called "aporiai" force us to revise beliefs in a highly structured way. For instance, much epistemology orbits a riddle posed by the regress of justification (See Meno's paradox). The impossibility to reach infinity was a pivotal point in Aquinas' theology, as far as he speaks of God being an infinite Being, which is impossible to comprehend, i.e., to learn. Starting with Zeno, infinity has been widely discussed in a variety of subjects. There is a difference between the so-called "potential" and "actual" infinity, but this issue is analyzed elsewhere (Dowden, 2007), although any potential infinity presupposes the actual one. The concept of potential infinity can be applied to language, as it appears from the works of the aforementioned scholars (Tarski, 1924: 25-27). Bertrand Russel contributed significantly to the development of paradoxes (Kevin, 2003), but in a more abstract manner than those of Ancient thinkers, consider "barber's paradox," which deals with overlapping properties.

As it can be seen, paradoxes aim at settling questions about the most apparent phenomena of reality, which still have no explicit explanations, and are linked with non-traditional approaches to the most important questions, e.g., time, space, and language (Grünbaum, 1967: 4-5). Debates between adherents of rationalism and empiricism were settled on the basis of paradoxes (Sorensen, 2003: 12). Hegel deemed paradoxes to be proofs of his ideas on the inherent contradiction of reality. And, as it has been stated earlier, according to Plato, language is a way to the cognizance of the Universe and of reality.

Aristotle frequently referred to aporiai in his works, and in his "Topicon" Aristotle asserts that although paradoxes do not agree with common beliefs, they are difficult to repudiate (Palmer, 2013), which provides us with the possibility to assert that language is of paradoxical nature which does not undergo any rules, despite linguistics tries to attest this. In fact, humans possess everything in a set of innate primary grammar compositions, which are applicable to any language. Similar to recent discoveries in physics, namely that of gravitational waves and others, the paradoxical nature of language is being revealed in the new light. This is probably why Plato never stated anything clearly in his dialogues, never provided us with the answer on the conventional versus natural nature of the language. It is suggested that Zeno developed his paradoxes as a response to attempts of Pythagoras to link reality to mathematics. Apparently, aporiai point to a more exquisite mode of connections between reality, perception (Russell, 1919), and language. It seems that a theory of relativity questions not only Newtonian principles of gravity, but it can be applied to linguistics in terms of questioning language rules.

Paradoxes assert that many things, in fact, are not what they seem to be, i.e., either the things themselves or our perception of them is fallacious (Huggett, 2013). This is what has been recently proved by the experiments conducted at gravitational observatories (LIGO). Gravitational waves warp space-time (Kramer, 2017), which we take as fixed by definition: apparently, this is not necessarily so. "Experience is false," as Hippocrates claims, assuming that our senses can provide us with warped information. Later on, Descartes will support this point of view, providing more detailed proofs for the impossibility of obtaining proper knowledge from sense perception. In fact, this is what Chomsky speaks about today in terms of linguistics, with other scientists reflecting on the same ideas in a variety of applications. The illusory nature of motion from the point of view of Zeno still puzzles scientists even today: supposedly, if we can not see something, we can see something which does not exists (Phipps, 2020). Despite the fact that this phenomenon is very familiar to all of us, the principles of gravity are still to be explained. The same can be said about the phenomenon of language. But philosophy always settles questions, while other sciences provide answers (Deely, 2001: 238).

Language and Paradoxical Nature of the Universe

In order to be able to discuss broad questions about reality, there is a need for using a framework of some form. Again, in order to define a proper kind of framework, it seems appropriate to refer to the Antiquity. Thus, according to Heraclitus, the whole Cosmos is a well-organized system that resembles the language (Curd, 2016). This is why language can be used as a model we are using to communicate any other model, even those which are much wider, e.g., the Universe in general. Therefore paradoxical nature of the Universe is being exemplified in this research by the nature of language. But due to the abstract nature of language, it appears to be pretty difficult to define what is to be understood by the term "paradox." In order to clarify the meaning of the term, it would be useful to refer to Antiquity as well. Similarly to the process of studying at high school in particular, when kids are taught how to calculate, for example, apples, and only having learned this, they are taught how to calculate numbers (as far as no number by itself is linked to any object), humanity, in general, has been studying in the very same way.

Having started with materialistic views regarding the Universe, presidents triggered a more exquisite and subtle approach to understanding. As a result, Plato's theory of forms is closely connected with the nature of language which is discussed in "Cratylus." The most important question settled by Plato in this dialogue is the controversy between conventionalism and naturalism. Thereafter, these two opposite currents have been represented during all four ages of understanding in European thought and acquired their development in various fields. This is why St. Augustine, being a true Platonist, developed his theory of sign on the basis of some thoughts expressed in "Cratylus" (Plato, 1997). Finally, but not lastly, the theory of language acquisition acquired its continuation in the so-called "20-century debate" between nativism and empiricism represented by Chomsky and Skinner's theories of language, respectively. This is why the truth promulgated by Socrates as well as questions settled by his great disciple still remain valid in our post-modern civilization.

The basis for considerations of two main characters in the dialogue, namely Cratylus and Hermogenes, is language. Socrates, being a moderator of the discussion, strives to reconcile the two opposite views. The philosophy of language, which was initiated in this dialogue, still has not obtained answers to the questions settled by Plato. In fact, it just acquired various solutions among different approaches during all four ages of understanding, namely Ancient, Scholastic, Modern and Post-modern periods. Questions, risen by Plato in his "Cratylus" found their continuation in various nativistic theories of language, especially in recent works of Noam Chomsky (Chomsky, 2002). Plato, speaking in his dialogues on behalf of Socrates, his teacher, etymologically proves that stargazing is the unique ability of humans (Sedley, 2003). In fact, this is what can be seen even from the etymology of the Latin verb "considerare," which is common in the English language as well: consequently, humans stare at what is considered to be "beauty," or "cosmos," which exists in harmony and is opposite to Chaos, from which Demiurge created the world.

Despite the fact that dialogues possess a relatively easy and reader-friendly form of explanation, the interpretation of dialogues requires a deep understanding of questions settled by their author. Plato never strives to establish his authoritative solution to this or that issue that arises in the process of discussion: this is why it causes certain complications in grasping his precise point of view. Socrates, being the representative of Plato's positions in the dialogues, uses his well-known "Socratic method" of arriving to the proper solution, the most famous feature of which is avoiding direct indications of the correct answer. Apparently, Proclus (Proclus, 2007) provides us with a completely so-called "internal" meaning of Plato's text, similarly to what Swedenborg (Swedenborg, 2001) says about the internal meaning of the Word. This occurs due to the fact that Plato never expresses his exact

position on the discussed issue, namely the correlation between two opposite views on the nature of language (Sodomora, 2019), which are represented by contemporary notions of conventionalism and naturalism.

Being realist, Aristotle, in contrast to Plato, was convinced that humans could learn from experience only. Thomas Aquinas, Stagirite's follower, in his "De Veritate" (II, 3) says that "nihil in intellectu nisi prius in sensu" (Aquinas, 1970), which means "nothing in the intellect unless first in sense." The phrase eventually became the quiding principle of empiricism, accepted later by John Locke and others (Deely, 2001: 521). In such a way, Aquinas establishes the basis for empiristic theories. But the question of empiricism versus nativism underwent newer development in Descartes' theories, as well as those of John Locke, his contemporary opposer. The nativistic theories of Noam Chomsky are currently representing this point.

Plato strives to reconcile two opposite views not just because he wants to establish his own theory, but because he respects previous thinkers. He is convinced that we already know everything. Just proper recollection is required to arrive at a proper answer. His theory of recollection prompts him to reconcile the opposites, namely conventional and nativistic approaches to the theory of language. Modern science presents a variety of researches in conventional theories of meaning. For example, David Lewis suggested the first theory on the relationship between social conventions and linguistic meaning (Lewiss, 1969: 165-7). The author starts with the so-called "signalling" issues: in comparison with regular linguistic interaction, these so-called "signalling" issues, there is no need for speakers to make an agreement on special actions in certain situations.

Despite not actually being a follower of Plato, Ludwig Wittgenstein, in his attempt to combine uncompatible, initiated the process of studying language through the perspective of math. Similarly to the famous inscription at the entrance of Plato's Academy claiming "ageometretos medeis eisito," which is "Let no-one without knowledge of geometry enter," famous mathematician considers language as the only subject which requires explanation. Paradoxically, for Wittgenstein, exactly as it was for Plato, the totality of things, which is, in other words, the Universe, can be described in no other ways, but via linguistic expressions. Being a mathematician, he compares a linguistic expression to a projection in geometry. Consequently, similarly to a geometrical figure, which can be projected in many ways while remaining the same, each of these ways corresponds to a different language. This is what can be represented in the process of translation from one language to another, resulting in an infinite number of options (Sodomora, 2009: 749). Still, all these options resemble the primary linguistic "figure," or expression.

Consider a situation, when I ask for "blue" milk in the supermarket instead of "yellow" one, and I am given what I want without extra questions and without a preliminary agreement, as far as it is well-known known that low-fat milk is being sold in blue boxes. The conventionality of meaning was a subject to discussion in the works of many authors (Lepore & Stone, 2015). As a rule, today, the majority of scholars support the point of view of Hermogenes (Devitt, 2006: 45), namely conventionalism of linguistic meanings, but there is a disagreement about the role of social conventions (Rescorla, 2008). Such paradoxical nature of language resembles the paradoxical nature of the Universe.

It is apparent that Plato's dialogues are still underinvestigated in terms of solutions to the questions settled there. Actually, dialogues ask more than they answer. But this was the style of Plato's works in general. But still, Plato is considered to be one of the most penetrating philosophers in the history of understanding. His influence is still valid in various fields of philosophy, especially in epistemology. When one compares Plato with some of the other philosophers who are often ranked with him — Aristotle, Aquinas, and Kant, for example —

he can be recognized to be far more exploratory, incompletely systematic, vague, and playful than they.

Leaving the variety of theories aside, it is necessary to confirm that the idea of the dialogue, namely reconciliation of two distinct views on the nature of language, remains the same. The theory of language acquisition acquired its continuation in the so-called "20-century debate" between nativism and empiricism represented by Chomsky and Skinner's theories of language, respectively. This is why the truth promulgated by Socrates as well as questions settled by his great disciple still remain valid in post-modern civilization. Therefore, many of his works give their readers a strong sense of philosophy as a living and unfinished subject (perhaps one that can never be completed) to which they themselves will have to contribute.

The language paradox stating that all languages are easy to learn is true due to the well-known fact that every child is able to learn languages easily. However, when a person grows up, the statement seems to be false, as well as other languages are quite difficult to learn. Apparently, there is no technology in the world that comes close to the learning ability of a normal two-year-old learning a language: no one knows how it happens. Actually, the English word "infant" derives from the Latin word, which means "not speaking," but within a few short months, the baby begins to recognize the extremely complex structure of the language, understand the connection between sounds and meanings. Paradoxical apparent simplicity and hidden complexity of language contributed to the development of the nativistic theory of the language.

Conclusions

The survey presented shows that the phenomenon of language still requires further explanations. This becomes a more vital issue when it comes to the learning of the second language. Intriguingly, regardless of the larger mental capacities of adults comparing to those of kids, the former class finds learning the second language much more complex than the latter. Due to the impossibility for us to get back into childhood in order to learn the second language easily, it becomes more and more essential to administer newer approaches based on modern linguistic theories. In fact, as it can be seen from the experience of teaching foreign languages to adults, it appears that learning vocabulary as one set and grammar as another does not necessarily result in language fluency. As Wittgenstein suggests, we communicate not via words and grammar, but via images. This is why it seems to be more efficient for us to learn phrases or even chunks of text instead of disconnected words to be able to use our language material for communication.

Being native speakers, we usually use grammatical structures properly without even knowing the rules, which appears to be impossible in the process of learning the second language. In this case, only grammar patterns can help us construct a nearly infinite number of grammatically correct sentences. Thus, having learned a certain number of such patterns, even without knowing the rules, producing grammatically correct sentences becomes possible.

Paradoxically, second language learning is supposed to be closely connected with direct usage and application of it regardless of the lack of knowledge of grammatical rules and a significant amount of words. According to Plato, we cannot learn anything. We can recall only, which is why, being endowed with thinking, while learning foreign languages, we can produce an endless variety of examples of natural sentences while skipping artificial grammatical rules. The theory of Noam Chomsky, in fact, is seen as the theory which supports Plato's theory of reminiscence.

Finally, as a logical consequence of the research, it seems to us that regardless of the fact who was right or who was wrong, namely either Plato with his theory of reminiscence, or

Aristotle with his realistic approach to reality, still, it seems to us that Plato's theory appears to be more profound in terms of modern language theories than that of his best disciple. But that would be a great subject for the discussion in the next research.

📖 References

Aquinas, Thomas (1970) *De Veritate.* Editio Leonina. Available online: http://www.corpusthomisticum.org/qdv02.html

Akmajian, Adrian (2010) *Linguistics: An Introduction to Language and Communication.* Cambridge, MIT Press, 6th ed.

Chomsky, Noam (2002) *On Nature and Language.* Cambridge, Cambridge University Press.

Curd, Patricia (2016) Presocratic Philosophy. *The Stanford Encyclopedia of Philosophy.* Available online: https://plato.stanford.edu/archives/win2016/ entries/presocratics/.

Devitt, Michael (2006) *The Blackwell Guide to the Philosophy of Language.* Blackwell Publishing Ltd.

Deely, John (2007) *Intentionality and Semiotics.* Chicago, University of Scranton Press.

Deely, John (2001) *Four Ages of Understanding.* Toronto, University of Toronto Press.

Dorsch, Mattias (2010) *Second Language Acquisition vs. Second Language Learning.* Munich, GRIN Verlag. Available online: https://www.grin.com/document/181754

Dowden, Bradley (2007) The Infinite. *Internet Encyclopedia of Philosophy.* Available online: http://www.iep.utm.edu/infinite/#continuum

Gilson, Etienne (2002) *Thomism: the Philosophy of Thomas Aquinas.* Toronto, Pontifical Institute of Medieval Studies.

Grünbaum, Adolf (1967) *Modern Science and Zeno's Paradoxes.* Middletown, Wesleyan University Press.

Huggett, Nick (2013) Zeno's Paradoxes. *The Stanford Encyclopedia of Philosophy.* Available online: https://plato.stanford.edu/archives/win2010/ entries/paradox-zeno/

Kevin, Klement (2003) Russel's paradox. *Internet Encyclopedia of Philosophy.* Available online: http://www.iep.utm.edu/par-russ/

Kramer, Michael (2017) *What are Gravitational Waves?* LIGO. Available online: https://www.ligo.caltech.edu/page/what-are-gw

Krashen, Stephen (1981) *Second Language Acquisition and Second Language Learning.* Pergamon Press Inc.

Lepore, Ernie and Matthew Stone (2015) *Imagination and Convention.* Oxford, Oxford University Press.

Lewiss, David (1969) *Convention.* Cambridge, Harvard University Press.

Mckee, Patrick (2008) Plato's Theory of Late Life Reminiscence. *Journal of Aging, Humanities and Arts.* https://doi.org/10.1080/19325610802370720

Palmer, John (2013) Zeno of Elea. *The Stanford Encyclopedia of Philosophy.* Available online: https://plato.stanford.edu/archives/spr2017/entries/zeno-elea/

Phillips, Colin (2010) Should we impeach armchair linguists? *Japanese-Korean Linguistics,* 17. Stanford, CSLI Publications.

Phipps, Gregory (2020) Martin Heidegger and the Being and Time of Black Holes. *Philosophy and Cosmology*, Volume 25. https://doi.org/10.29202/phil-cosm/25/2

Plato (1997) *Cratylus.* C. Reeve, Transl. Indianapolis and Cambridge. Hackett.

Proclus (2007) *On Plato Cratylus.* Brian Duvick, Trans. London, Bloomsbury.

Rescorla, Michael (2008) Convention. *The Stanford Encyclopedia of Philosophy.* Available online: https://plato.stanford.edu/archives/sum2017/entries/ convention/

Riegler, Alexander (2017) *Building a Science of Experience. Neurophenomenology*. Available online: http://www.univie.ac.at/constructivism/ journal/12/2/131.editorial

Russell, Bertran (1919) *Introduction to Mathematical Philosophy.* London, George Allen and Unwin Ltd.

Scholz, Barbara (2020) Philosophy of Linguistics. *The Stanford Encyclopedia of Philosophy*. Available online: https://plato.stanford.edu/archives/sum2020 /entries/linguistics/

Sedley, David (2003) *Plato's Cratylus*. Cambridge, Cambridge University Press.

Sodomora, Pavlo (2019) *How We Perceive The Universe (Based on Plato's "Cratylus" and Proclus' "Commentary")*. 11 Zjazd Filozoficzny. Available online: https:// zjazdfilozoficzny.kul.pl/sekcja-gosci-zagranicznych-foreign-guest-section/

Sodomora, Pavlo (2009) *Synonyms and Identity of Denotation: a Problem in the Semiotics of Translation. Semiotics Society proceedings*. Legas, New York.

Sorensen, Roy (2003) *A Brief History of the Paradox*. Oxford, Oxford University Press.

Swedenborg, Emmanuel (2001) *Heaven and its Wonders and Hell from Things Heard and Seen.* Swedenborg Foundation.

Tarski, Alfred (1924) Sur les Ensembles Finis. *Fundamenta Mathematicae*, Vol. 6.