

Kazimierz Twardowski's conception of imagination. The early-analytical example and contemporary contexts

Rafał Kur

Jagiellonian University
rafalkur@yahoo.pl

Abstract A tribute to the early-analytical provenience of reflections on the phenomenon of the imagination is not only a historical reference. In the absence of a consensus in current theories of imagination, referring to Twardowski can be philosophically refreshing and methodologically inspiring. What's more, it seems that without establishing at least an overall topology of this mental phenomenon, we will not create a formal structure, necessary for logical machine inferences, which would also deal with other issues such as the interpretation of emotions. The problem is not trivial, because the mechanism of imagination is very complex. And that's what Twardowski noticed when proposing a comprehensive (interdisciplinary) approach, so similar at times to some of the current existing proposals.

Keywords: Twardowski, Lviv-Warsaw School, Philosophy of Mind, Cognitive Psychology, Imagery Debate

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0. Introduction

Images and concepts by Kazimierz Twardowski appeared in print in 1898 and is one of the first examples of proving mental representations using analytic concepts. Despite passing of time, it is puzzling to see a substantial convergence and validity between current thesis and Twardowski's. Perhaps this is not a coincidence. Twardowski was not only a philosopher, but also a psychologist, with both a descriptive and an empirical approach. His interdisciplinary approach resembled that of a modern cognitive scientist even though he did not have the experimental facilities of modern-day laboratories.

The following article is, on one hand, a tribute to Twardowski and his achievements in analytical philosophy in the context of the contemporary understanding of the imagination, and on the other, will highlight efficiency of methods of proof chosen by appropriate methodology.

What in the context of the contemporary multitude, often mutually exclusive scientific explanations, has an original meaning, and perhaps partly, is it due to an imprecisely defined problem? I am not suggesting an optimistic alternative. I only mark possibilities of approaching this subject while pointing out methodological assumptions in the analytical provenance developed at the Lviv-Warsaw School.

1. Twardowski's achievements

Twardowski's concept of imagination is above all astonishing by its timeliness which has motivated its recall and reinterpretation in this article. Even more so, as is the case of the contemporary lack of consensus on the interpretation of the phenomenon of imagination which additionally makes the research quite refreshing to present and because the theories of the imagination are treated as exemplifications of mental representations. Moreover, research disputes around the issue of imagination reveal a broader dispute about the mechanisms of formation of representation. This is important, because in the current various existing interpretations analytic typologies can help in ordering the methodological levels of the conglomerate of meanings of representation. Contemporary discussions offer detailed mechanistic solutions, which has additionally differentiated the explanations of the issue and even invited arguments for the non existence of representation (anti-representationalism). However, the complete exclusion of representation from cognition in humans (and some animals), would imply the lack of connection of the mental with the external world. Moreover, recently the term of representation is widely using in many theories, from humanities, until exact sciences. Therefore, this work supports the existence and the possibility of creation of various forms of representation.

The novel way in which Twardowski's teacher presented the nature of the mental representation of objects sparked his interest. Brentano moved away from Cartesian dualism in which the mind (perceived as thinking or consciousness) was a model reflecting reality. Brentano broke down the Kant's knowing process into representations and judgements. He introduced intentional acts which produce content, while content depicts objects outside of consciousness. Thus, he developed the notion the linkage of a subject with the world, and at the same time initiated a new field for speculation over consciousness. Consequently, Twardowski's original contribution was to distinguish the subject and its representation, thanks to the psychological development of the theory of intentionality and emphasis on the causative activity of the subject (activities/outcomes). These types of arguments were also further developed by his students at the Lviv-Warsaw School. On the other hand, phenomenology (Husserl and students) intensively addressed the philosophical approach to consciousness and intentionality. Mental representations (before known as mental imagery) have gained a new, deeper meaning, whose status by examining various exemplifications, is still a subject of dispute. Twardowski initiated this approach in his work, *Zur Lehre vom Inhalt und Gegenstand der Vorstellungen. Eine psychologische Untersuchung* (On the Content and Object of Presentations. A Psychological Examination, 1894), where he differentiated Brentan's transcendent from the immanent object of intention. The former denotes an object that is independent of our consciousness, for example a visible object. The latter views the object as a conscious product of this act, more precisely its content. This distinction is important, because content deepens the meaning of representation, for example when imagining an object no longer being perceived or an abstract form. Therefore, the distinction between 'imagination' and 'concept' was, a natural consequence of a refined understanding of content produced during visual (perceptions, representations) and non-visual (concepts, judgments) presentations.

2. The imagery debate

Twardowski's voice in the discussion on the nature of concepts resulted primarily from attempts to understand objects which we cannot imagine, and which can only be replaced by concepts (infinity, quant, round square, God, etc.). For this reason,

Twardowski needed to organise his theories and make a critical selection, then create a general and compact theory analysing types of concepts. A general enough theory to cover all cases of conceiving an object with the help of concepts. Accordingly, he tried to determine limits of 'the power of the imagination' beyond which concepts including abstract (rational) objects can exist. The analysis of the established boundaries led Twardowski to an interdisciplinary theory of representation emphasizing the interdependence of imagination and concept, a synthesis. However, «the concept is a representation of an object that consists of a similar imagined object and one or several imagined judgments relating to the imagined object» (Twardowski 1898: 154).

The research topics from the Lviv-Warsaw School resemble contemporary interdisciplinary research on mental phenomena. The certainty of some diagnoses of researchers from the School results mainly from the selection of specific methods of exact and natural sciences. It was also a good base for the then emerging psychology that inherited the philosophical issues/problems of the mind, developing and applying its methods, both theoretical (descriptive) and experimental (at the level of physiology). Twardowski's attempt to understand mental representations interestingly turned into a contemporary psychophysical dispute (the body-mind problem). Especially in cognitive psychology, this subject gained special significance due to empirical verifications. Described as the *imagery debate*, it concerns, in fact, the problem of representation and more precisely the mechanisms of coding information in the human cognitive system. As a result of this dispute, since the 1970s it has been cited by both philosophers of the mind and cognitivists. The best-known proposals oscillate around two major competing concepts. Admittedly, the two major competing concepts contain numerous complementary elements, accrued over decades of discussion and supported by advanced experiments. On the one hand, we have the image concept (i.e. analog, visual) postulating that mental images resemble images of real objects, perceived objects and concepts referring to them are represented in the mind in the same form (i.e. specific size and spatial position). These properties are captured directly in the image and not represented in a symbolic (semantic) manner. Representatives: Kosslyn (1981, 1994); Kosslyn, Shwartz (1977); Shepard, Metzler (1971); Francuz (2007). On the other hand, the proposition which indicates that mental representations are a collection of judgments (i.e. propositional) about the relations between symbols, encoded in the memory as tacit knowledge. Representatives: Pylyshyn (1973, 1981, 2004, 2007), Anderson and Bower (1973).

The main problem of the image approach lies in the unsatisfactory explanation of the abstract concept representation. Twardowski noticed this a hundred years earlier, but without sufficient tools, he consciously abandoned further analyses of this problem. He proposed, however, and presented possibilities of resolving this problem through sets of claims, beliefs, or judgments. Thus, his approach resembles that of Pylyshyn, the main opponent of the visual nature of representation. Twardowski draws attention, for instance, to the possibility of a double grammatical construction in which the word 'think' occurs. One could think about a certain event (imagining – using images and concepts) and think that an event was inevitable (expression of beliefs). Twardowski did not think that the representation itself is but a judgment. In order for the judgment form, it must include a mental act of recognition or rejection, confirmation/sanction or denial, also containing an emotional (internal sensations, physiological and behavioural component) correlations; see Damasio (1994); Le Doux (2000); Lubbard, Getz (1997).

3. Common parallels

It seems that imagery debate is nothing more than an expansion of Twardowski dilemma through experiments. The indirect placement of the Polish philosopher in this discussion results from the surprising accuracy of his analytic deduction, that led him to rationally suspend certain issues and assume an intermediate position. Due to the role of Twardowski's judgments, one could straightaway assume similarity with Pylyshyn's approach, but it should be noted that Twardowski attributed judgments a complementary role, rather than a primary one. Reinterpreting Twardowski in the context of contemporary theories of the imagination is also an indication of qualities of the epistemological tradition from which contemporary reductionist theories seem to be moving away. For instance, the unilateral view that perception is a cognitive act in relation to physical objects narrows the understanding of perception. As perception's building blocks (structure) consist not only of external sensations, but also of internal, resulting from e.g. fun, pain, sadness, love, etc. Twardowski, as the successor of Brentanism, and a witness of expanding behaviorism, did not accept only using 'hard methods' in the complex system that is cognition, which currently reflects eliminationism (Patricia and Paul Churchland).

Mechanistic (computational) interpretations of the representation are also not completely satisfactory. An interesting example is a recently created model of the Neuronal Turing Machine (NTM), which made us realize that the neurodynamics of the brain cannot be replicated merely by operationalizing data, because the human mind is more than a just a 'Turing Machine'.

In the absence of unanimity (unifying theory), nothing is more necessary than a sensible methodology and a moderate approach. Perhaps that is why, in cognitive psychology, Alan Paivio's dual coding theory is quite often invoked (cited). Though, in the wider cognitive view, it seems that the closest to Twardowski were the compositional and naturalistic concepts of the mind of Jerry Fodor.

Allan Paivio (1990, 2006) assumes the existence of two separate information processing systems. The non-verbal system responsible for coding information in the form of multimodal patterns of activation of the network of neurons associated with perception, which are then used to simulate the perception of objects. And the language system responsible for coding information in the form of relations between symbols of different strengths of association organized hierarchically as nodes in the semantic network, which can connect with each other and with objects represented in the non-verbal system. From the Twardowski point of view, an interesting fact is that knowledge coded in the language system is contained in the network of relations between symbols and not in the symbols themselves. A single node of such a network can often be identified with a single category, associated on one side with the corresponding word, and on the other with a certain class of objects encoded in a non-verbal (image) system. Behavioral experiments conducted by Paivio indicate that Twardowski assumption were correct. Due to some conclusions Canadian psychologist, for example in the case of too much of a categorical separation of coding content of specific concepts in both systems, the content of abstract concepts only in the language system, to counteract this, Twardowski's thesis, for example, on the fluidity between abstract and specific concepts becomes very useful. The dual coding theory does not contradict the results of experiments that support opposition positions, it also seems to be in line with the current state of neurobiological knowledge.

Why did Twardowski consider images and concepts to be the most important form of representation and treat them as complementary? In the light of today's research, can you keep his proposal? Probably yes. The achievements of cognitive science bring us closer to different proposals. Contemporary experiments in cognitive psychology do not

definitively admit any of the parties to the dispute, although it is currently noticeable that the 'visual' approach is more popular. Using Twardowski's work as inspiration, I would argue that the complex content (neuro-dynamic format of information) of presentations requires an interdisciplinary approach. Moreover, the mereological nature of Twardowski's assertions is also a methodological (formal) clue to the dynamic and diverse representational resources (Albertazzi 2001).

On the other hand, the inclusion of other correlations (e.g. emotional) emphasizes the proto-cognitive character of Twardowski's considerations. Twardowski wrote:

If the idea is not a renewed insight in general, nor a simple recreation of sensations, there is nothing else but to seek them in the very synthesis of sensations [...]. As a synthesis of sensations, an idea is based on sensations – whether immediate or refreshed – though it is not a simple recreation of them; it can therefore be based on any impressions, as long as a proper whole can be made of them. [...] Imagination, therefore, is to a sensation, like the whole to a part. One could ask what kind of synthesis is the one in which the sensations are arranged to create the images/imagination. But psychology has not been able to and probably never will be able to formulate an answer to this question (Twardowski 1898: 126).

The characteristic arguments concerning the synthesis and interdependence of elements of the representations presented by Twardowski resemble proposals of Jerry Fodor (1981, 1983, 1998, 2008; Fodor, Pylyshyn 1988), who postulates that the types of mental representations are of a compositional nature, dividing them into two basic types, i.e. linguistic (conceptualized) and iconic (conceptualized). In the case of iconic or 'visual', these need empirical evidence. Analyzing the differences and similarities between linguistic and iconic representations, Fodor arrives to similar conclusions as Twardowski's did a century ago. For example, the lack of a logical form of iconic representation, a characteristic relationship of parts to the whole that complement each other at a general level. Fodor's naturalistic idea derived from the criticism of the inferential position of Frege, who unnecessarily – according to Fodor – associated methods of presenting objects only with the meaning of language expressions. Fodor from the 1960s, while working with Noam Chomsky, he began opposing behaviorism, when it turned out that internal representations could explain many more properties of cognition – from the laws of perception to the cognitive foundations of logic and language. The content of the representation is a complex creation connected with the cognitive system with many causal links, including semantic properties. Associations of this type according to Fodor explain the productivity and regularity of our thoughts. The reference-based semantics makes it possible to refine (individualize) concepts. This type of inference is similar to Twardowski's method, whose conceptual apparatus seems suitable – after making some modifications – to the role of a peacemaker between reductionistic neuroscience and speculative philosophy of the mind. Additionally, Fodor argues that the computational nature of mental processes brings the philosophy of mind closer to cognitive science based on IT methods. Interestingly, Fodor has no commentary on the analysis of the factors defining concepts. He admits to lack some element in the theory representing the mind and suggests only a conceptual framework for a future theory.

4. Conclusion

It was obvious to Twardowski that the mind, the subject of the study of philosophers and psychologists, is associated with the biological brain. The problem he could not solve, and which, in fact, exists to this day, was the lack of obvious details of the relationship. This psychophysical dilemma Twardowski tried to explain, by introducing the concept of a function.

The mental activity is reliably a function of the brain in the first sense of the word, because certain changes taking place in the brain involve changes in mental activity. One can not call the atoll of the mental activity the function of the brain in the second of the meanings quoted. There is no evidence to suggest that mental activity is carried out completely and exclusively by the brain (Twardowski 1897/1927: 96).

Mental activities are not isolated from the brain, nor are they detached from external reality. Twardowski, through the analysis of various activities emphasizes how entangled we are with the world, and thus cognition is embodied. However, he could not study the source of the psychophysical. Nowadays, even neuroscientists are reserved in explaining these issues; numerous experiments usually further complicate the things. This is why cognitive science is developing so dynamically. On the one hand, it makes use of evidence from cognitive psychology, and on the other, extensively uses the theoretical assumptions of analytical philosophy of the mind.

Understanding the relationships between the neurobiological (physical) processes of the brain and mental reactions is still the body-mind problem. Among various approaches (reductionism, epiphenomenalism, dualism, etc.) Twardowski's proposals in light of contemporary research are an opportunity to recall some concepts of the Lviv-Warsaw School, including the moderate and interdisciplinary (also known as comprehensive, mixed, cross-domain) methodological proposals in the study of mental representations, as a reaction to the overly reductionist trends in cognitive science.

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