

## **Creative imagination**

Vlad Petre Glăveanu

Aalborg University, Denmark

Maciej Karwowski

The Maria Grzegorzewska University, Poland

Dorota M. Jankowska

The Maria Grzegorzewska University, Poland

Constance de Saint-Laurent

Neuchatel University, Switzerland

## **Introduction**

There are few concepts in psychology that enjoy such fame as imagination and creativity do. Acclaimed by educators, pursued by managers, advertised by marketers, welcomed by politicians and celebrated by therapists, imagination and creativity are frequently at the core of social debates and developments within society. Taking just one recent example, in July 2015, the British daily newspaper *The Independent* announced that ‘Imagination Quotient tests could lead to smartphone app that boosts your creativity’ (Barrie, 2015). Reporting on research funded by the Imagination Institute in Pennsylvania, the newspaper was optimistic about the societal implications of a new ‘imagination app’. Without entering the debate of whether the “*Imagination Quotient*” is indeed achievable or useful, we can already pick up on a few key characteristics of imagination and creativity as reflected in popular media. First of all, both are topics of general interest and there is an implicit assumption that imagination and

creativity are deeply connected, sometimes synonymous. Moreover, their expression and enhancement concern individuals alone as they are, ultimately, individual qualities or abilities (hence the need for a personal Imagination Quotient). Finally, there is often an assumption that these mysterious personal qualities can be measured or, at least, *should* be measured, and that it is up to psychologists to produce the necessary tests. What is most often ignored here is the role society and culture play in both defining and encouraging us to pursue creativity and imagination. At a global level, our economies and societies are said to make the transition from ‘knowledge’ to ‘creativity’ (Dubina, Carayannis & Campbell, 2012). How does this culture of striving towards imagination and creativity impact our lives?

Such issues constitute the background of our present discussion. In this chapter we also start from the premise that imagination and creativity are related; however, a brief review of historical sources shows us that this association, often taken for granted, might be a child of our times. In this context, focusing on creative imagination as a concrete example of their ‘intersection’ sheds new light on past and present conceptions of imagination and creativity. More than this, a sociocultural approach to creative imagination makes us sensitive to the role culture plays not only in cultivating imagination and creativity but also in raising them to the status of defining features of our society. In order to discuss these issues, the present chapter includes three parts. At first we focus on imagination and creativity separately, starting from their definition and a brief historical overview of research. This allows us to better situate the interest for creative imagination and define it as an area of study within psychology.

Traditional research on creative imagination, focused primarily on imagery, is later contrasted with cultural approaches grounded in the notion of experience. Tracing their roots within Vygotsky’s scholarship, we then use material from a brief case study of children drawing Victory in order to illustrate the premises and application of three sociocultural approaches to (creative) imagination: the gap-filling model, the loop model, and the perspectival model. In

the end, we reflect on the ways in which the three perspectives complement each other and can be used to build a theoretical model of imagination that recognizes it not only as a cognitive but also as a social, cultural, and developmental phenomenon.

### **Imagination and creativity: Conceptual distinctions**

Despite the fact that, in everyday conversation, imagination and creativity are often used interchangeably, these concepts have different roots and were initially used to refer to distinct – even if related – phenomena. A quick etymological review shows that, for instance, the creative versus the imitative sides of imagination were separated in Antiquity. In Greek, the term *fantasija* (Latin *phantasia*) emphasized creational properties of imagination – a capacity to imagine something that is not a simple re-creation of perceived and remembered things. The imitative nature of imagination was rendered by the Greek term *eikasija*, whose Roman equivalent is *imaginatio*. Today, ‘fantasy’ and ‘imagination’ are often used interchangeably in defining our ability to create mental images, particularly of absent things, people or events (Khatena, 1979). On the other hand, the etymological roots of the word creativity are Latin, where *creare* meant bringing forth or producing and *crescere* arising or growing. The emphasis here is thus not on the creation of mental images but on materialised processes. Interestingly, the word ‘creativity’ is a rather late addition to the English language, appearing in late 19<sup>th</sup> century and becoming common in the 20<sup>th</sup> century (Mason, 2003). In contrast to imagination, the meaning of creativity in psychology tends to be wider, referring, at once, to creative people, processes, or products. When it comes to products, for instance, the most common psychological definition of creativity today includes the double criterion of novelty / originality, on the one hand, and appropriateness / usefulness / value on the other (Amabile, 1996; Weisberg, 1993). Interestingly, this definition considers creativity in positive terms,

something that distinguishes it from imagination (which, as part of the Romantic legacy, acquired also ‘darker’ overtones in, for instance, the Gothic imagination; Thompson, 1974); understanding this rich universe of associations requires us to adopt a historical perspective.

### **The long past of imagination, the short history of creativity**

It is not our aim in this chapter to offer a comprehensive historical account of imagination and creativity (interested readers can consult Kearney, 1988; Cornejo, 2015; Manson, 2003; Mayer, 1999). What we hope is to: a) clarify the similarities and differences between imagination and creativity; b) understand how and why they are associated in contemporary psychology; and c) better contextualize our discussion of creative imagination. Our potted historical account starts from the basic observation that imagination enjoyed a much longer past and had a broader conceptual scope than creativity. Nonetheless, the relation between these notions has been reversed in psychology with the notion of creativity, a newer addition to our vocabulary, attracting considerable research interest and being defined more broadly than imagination. As we will see later in the chapter, particularly in our analysis of creative imagination, sociocultural psychology has much to offer to this debate by challenging the reduction of imagination to imagery and re-defining its relation to creativity.

The tradition of associating imagination and images has a very long duration (see also Jørgensen, this volume). For instance, when referring to imagination (*phantasia*)<sup>1</sup>, Aristotle identified it as “that in virtue of which an image occurs in us” (*De Anima* 3.3, 428aa1-2). He defined imagination as the capacity that does not always align with truth, indicating (albeit indirectly) its creative function associated with producing images that significantly strays away from remembered reality, i.e., the so-called “false images” (*phantasma*). Perception is,

<sup>1</sup> Aristotle's *phantasia* is commonly translated as imagination, because of its historical connections. But Aristotle appeals to *phantasia* to explain visualizing and dreams (see Caston, 1996).

Aristotle claims, always true, whereas imagination can be false, false even in fantastic ways (*De Anima* 3.3, 428a5-16). However, Aristotle also recognized the key role played by the imagination in human cognition as a function that is both based on and provides material to perception, memory and thinking processes. The idea of images as an intermediary between senses and reason continued to be influential through the centuries with positive and negative consequences for the meaning and value of imagination itself. This intermediary position raised suspicion in the Middle Ages, where imagination was sometimes seen as transgressing the divine order and misleading the fateful – the *imaginatio profana* condemned by many theologians (Kearney, 1988, p. 117). On the other hand, by the 18<sup>th</sup> century, thinkers such as Kant and Goethe transformed our understanding of imagination by giving it a central role in how we relate to and acquire knowledge about the world. While we will return to Kant when we discuss further the notion of creative imagination, it is worth mentioning Goethe's developmental and holistic approach to fantasy (for a careful analysis see Cornejo, 2015). For Goethe, there was no opposition between fantasy / imagination and reason / reality; moreover, he argued for the importance of fantasy as a precondition for intuitively experiencing the world and observing nature's hidden relations. In this sense, not only fantasy and imagination are not deceiving reason but they become essential in the construction of any scientific theory of nature.

Early psychologists dealing with the topic of imagination, however, largely ignored this wealth of significations. Wilhelm Wundt and Edward Titchener, for instance, chose to focus on the analysis of imagery (Holt, 1964), going back to a restricted reading of Aristotle's definition. Francis Galton in the 19<sup>th</sup> century can be credited for conducting the first documented psychological study in this regard (for other examples of early systematic studies of the imagination see Zittoun, 2016). He was inspired by the observation that not all researchers he had talked to understood what he had meant by 'mental images'. This

encouraged him to analyze individual differences in the clarity of created imagery. The study went down in history under the name of ‘Galton’s breakfast table’, because participants were asked to imagine the table on which they had breakfast that day (Richardson, 1999, p. 10-12). A questionnaire was used for the first time to measure imagination (Holt, 1964). The assessment of imagery was based on three criteria: (1) illumination, described by the author as clarity, distinctiveness, and stability of the created image, (2) definition, referring to the accuracy of determining individual elements of the created image, as well as (3) coloring – clarity and naturalness of color representation. Based on these criteria, Francis Galton arranged respondents’ answers (100 men, including 19 eminent researchers; later on also a group of 172 boys) in accordance with the intensity of their imagery’s clarity. During the course of his analysis, he combined illumination and definition into what he called the ‘vividness of mental imagery’. With regards to this overall criterion, he did not spot significant differences between the groups except for the color depiction of imagery, in favor of the boys. Calling upon numerous examples, Galton then attempted to demonstrate that color depictions in adult men’s (including scientists) imagery was vague, inconsistent, rather neutral, and recalled with difficulty. He also noticed that colors in created imagery disappear earlier than form (Galton, 1880; 1883). A replication of Galton’s study with scientists and undergraduates did not replicate these findings (Brewer & Schommer-Aikins, 2006).

With the advent of behaviourism in psychology, however, even the interest in mental imagery faded (Guilford, 1967). In his polemic with the advocates of the introspective approach, John Watson (1913) argued that imagery is impossible to measure and to recognize intersubjectively. As a result, the problem of imagination was temporarily “banished” (Holt, 1964, p. 255). It is precisely the regained interest for mental imagery and its role in cognition that marks today’s ‘new wave’ of research into imagination following the cognitive revolution of the 1960’s and 70’s. Scholarly associations that specialize in this topic were created, such

as, for instance, the *International Imagery Association*, *American Association for the Study of Mental Imagery*; the *Journal of Mental Imagery* was established in 1976. Experimental methods were soon imported into this line of research and came to represent the norm, especially asking participants to rotate or assemble objects in their mind (Cooper & Shepard, 1975; Shepard & Feng, 1972; Shepard & Metzger, 1971). In parallel, Stephen Kosslyn (1973) began his studies of another imaginative operation – the mental scanning of visual images. Results of these experiments contributed to the discussion between advocates and adversaries of defining imagination as an autonomous, distinctive cognitive process. The literature defines this polemic as the ‘*imagery debate*’ (Sterelny, 1986). Nowadays, researchers look towards neuroscientific evidence of brain activities during imagery episodes for a clue. However, while psychometrics and cognitive neuroscience favored a revival of imagination studies in psychology, their methodological reduction and standardization procedures can make one wonder whether in re-gaining images we haven’t actually lost imagination itself.

Ironically, it is precisely psychometrics and cognitive approaches that firmly placed creativity on the agenda of psychologists and this interest has today diversified into a multitude of perspectives on the creative person, process, and product (see Rhodes, 1961). While notions related to creativity – such as emergence, novelty, innovation, genius, change, transformation – have been the topic of debate in theology and philosophy for centuries, the scientific study of creativity began in psychology. This interest is associated by many with Guilford’s Presidential Address to the American Psychological Association. In his speech, Guilford (1950) advocated for psychologists and educators to focus on creativity as a personal trait that can be studied scientifically and fostered within education. Moreover, he proposed studying creative potential in ordinary individuals, marking a shift from the almost exclusive focus, in the previous century, on celebrated creators. Guilford’s call can be seen as a prototypical example of the I-paradigm in the psychology of creativity – the view that each

and every person has (at least) the potential to be creative, and that creativity is an individual property associated with both cognition and personality (Glăveanu, 2010). In order to study creativity, however, as a cognitive or personality feature, psychologists needed to operationalize the term and create adequate measurement tools. Guilford's Structure of Intellect (SI) theory left its mark on creativity studies (see Sternberg & Grigorenko, 2010), particularly in relation to the notion of divergent thinking. According to Guilford, divergent thinking is a major component of creativity. Its most important features are: 1) fluency – the ability to come up with many ideas in a period of short time; 2) flexibility – the ability to develop qualitatively different categories of solutions; 3) originality – the ability to produce rare and unusual ideas; and 4) elaboration – the ability to develop ideas. The psychometric testing of divergent thinking might have signalled the beginning of the psychology of creativity, but its rise cannot be accounted for solely in terms of scientific developments; a broader societal view is necessary.

It has been repeatedly acknowledged that the concept of creativity and the positive value attached to it “might in fact be seen as hallmarks of our modern, secular, democratic, capitalistic society” (Weiner, 2000, p. 1). While the Renaissance brought us the ideal of man (unfortunately not women as well) as the prototype of the creator, displacing God, it was both during Romanticism and Enlightenment that our current conception of creativity, including in psychology, was forged (Glăveanu & Wagoner, 2015). Representations of the tormented genius, primarily in art, and the skilled innovator, primarily in science and technology, are prototypical images for a process that is supposed to be chaotic, mysterious, revolutionary, and profitable. Indeed, as Weiner above noted, contemporary discourses of creativity are rooted in ideas about free markets, competition, and economic value (see Glăveanu, Tanggaard & Wegener, 2015; also Glăveanu & Sierra, 2015). The very definition of creativity, including novelty and value, hints towards the role given to this process in the

political, social and economic area. And yet, in psychology at least, the focus remains largely individual and psychometric, often restricted to creative potential rather than achievement. It is the tensions between individual and societal creativity as well as between creativity as exploitation or as emancipation that make, today, creativity studies a dynamic, contested, and yet growing field.

The relation between creativity and imagination cannot be properly understood outside of this broader historical and ideological context. Possibly the first time the term imagination was used in association with creativity can be attributed to the physicist John Tyndall who gave a lecture titled "*Scientific Use of the Imagination*" in 1870. He recalled many examples of eminent scientists who changed their domains thanks to their imagination. Following his example, in 1878, Jacobus H. van't Hoff, laureate of the first Nobel Prize, gave an inaugural lecture at the University of Amsterdam and titled it "*Imagination in Science*" (see Brant, 2013). Since then, the number of works associating the two increased exponentially.

And yet, the question remains as to how can we theorize the relation between them. An easy and widespread assumption, derived from the above, would be to say that imagination contributes to the generation of images that can later inspire the creation of things. This understanding places imaginative processes at the core of creative production and implies a temporal dynamic whereby imagination comes first, creativity second. But why exactly don't we consider new and vivid images as creative products already? Should creativity always be materialized in a tangible product? (for a critique of this see Sawyer, 1997). And, more than this, why should imagination come first? Aren't we generating new mental images throughout creative work and, conversely, aren't the products of creativity a springboard for imagination itself? Then again, perhaps the real difference resides in the fact that creativity requires social validation while the products of imagination exist mostly in the 'inner space' of the person, outside the social gaze. This perspective enforces a too sharp (Cartesian) distinction between

the psychological (inside) and the social (outside) and does not account for the fact that our mind is already social, constantly ‘carrying’ the internalized views and evaluations of others. Then perhaps creativity is only about what is recognized by society as creative while imaginative processes are not subjected to such ‘institutional’ forms of evaluation? This claim excludes the creativity of everyday life from our understanding of what it means to create with negative consequences for imagination as well: if creativity is so useful for society, than imagination on its own risks being reduced to the flight of fancy and the production of ephemeral images with no or little practical relevance...

### **Creative imagination: A new/old debate**

What we can conclude from above is that, both historically and conceptually, imagination and creativity appear as two distinct yet interrelated processes. They are distinct in their scope and yet interrelated in the production of novelty. The increasingly popular notion of creative imagination seems to carry, on the surface, the potential to reconcile the two terms. However, as will be shown here, creative imagination itself is not a recent term and, more than this, it is far from unproblematic. The latter is due to the fact that, by postulating the existence of a ‘creative’ type of imagination an implicit distinction is being made between it and a ‘non-creative’ imagination. In defining one, we need therefore to address the other.

The distinction between a creative / productive and a mimetic / reproductive imagination goes back to the thinking of Aristotle and the relation he postulated between imagination and the senses. If our senses help us construct mental images of what is present in front of us, imagination conjures in us images of things that are absent. In fact, the relation between imagination and ‘reality’ has often been considered in terms of the distance between the two: the further imagination strays away from what ‘is’, the more it can delude us (by

creating ‘false images’ or *phantasma*). And yet, if imagination would only reproduce what we already experienced we wouldn’t be able to imagine also what we have not or, indeed, cannot directly experience (for example, the presence of a fantastic animal like the unicorn!). This realization moves us away from understanding imagination in terms of the senses alone and towards its connection to thinking. This is what Kant (1781/1998) did in acknowledging the synthetic function of imagination or fantasy (see also Jørgensen, this volume). For him, the synthesis of sensorial impressions fostered by the imagination is an indispensable process of our cognition, even if often we are unaware of it. In understanding how this synthesis is achieved, however, Kant instituted the distinction between a reproductive imagination, following simple laws of association, and a productive imagination, producing a transcendental type of synthesis (see Cornejo, 2015, and Jørgensen, this volume).

If, for Kant, both forms of imagination play a key role as mid-stations between sensibility and understanding, early psychologists of the 19<sup>th</sup> century accentuated their separation for methodological reasons. The empirical laws of reproductive imagination began to be tested experimentally, mainly as laws of association; meanwhile, productive imagination was renamed fantasy or creative imagination and relegated to the outskirts of science due to the difficulty of studying it. With the raise of creativity in psychology, as noted before, a new wave of interest in creative imagination emerged as well. Instead of reconstructive imagery, the emergence of new or creative imagery gained priority. This was considered all the more important since creative imagery was (and is) believed to play a significant role in the creativity of professional artists, scientists, and inventors (LeBoutillier & Marks, 2003; Morrison & Wallace, 2001; Rosenberg & Trusheim, 1989).

A pioneer of creative imagination, Théodule Ribot (1906) presented one of the first holistic psychological theories of this process drawing on associationism. Referred to as the recombination theory, his approach discussed imagination as continuum from reproduction to

creation. The dynamics of creative imagination were described in terms of association and dissociation – two intellectual mechanisms responsible for its functioning. Dissociation concerns the spontaneous distribution of imagery that had taken shape on the basis of remembered experiences and is a preparatory stage for the process of association thanks to which mental elements combine in accordance with the laws of association (contact in time, contact in space, similarity, and contrast). Interestingly, Ribot (1906) distinguished six types of creative imagination: (1) plastic, (2) diffluent, (3) scientific, (4) practical-mechanical, (5) commercial, and (6) utopian. In the case of plastic imagination, the images are bright, clear, and well defined in space. This type of imagination is mainly applied in art and poetry. Diffluent imagination uses hazy images that are loosely combined by association. Its appearance is evident in fantasies, reveries, dreams, as well as religious concepts, literature, and fine arts. Mystic imagination mainly refers to symbols and functions in religion and metaphysics. Scientific imagination is the most ‘demanding’, because it constructs an image of the future with the help of induction and deduction. Commercial imagination creates schematic images, practical-mechanical imagination develops inventiveness, whereas utopian imagination is used to solve social and ethical problems.

Ribot was influential for how psychologists in the early 20<sup>th</sup> century understood imagination, including Lev Vygotsky (to whom we return later in the chapter). His association or combination-based thinking resonates as well in the work of Sergey L. Rubinstein (1940), who proposed in turn a theory of *active imagination*. This term emphasizes the creative character of imagination that relies on the conscious transformation of remembered images. The author justified transformations of created imagery by, among others, the mechanisms of combination and amalgamation of mental elements, untypical categorizations and typizations (specific generalizations), emphasizing selected characteristics and properties of remembered objects, inverting or converting proportions, as well as

combining fragments of remembered experiences in a new and untypical way, otherwise known as agglutination. According to Rubinstein, the strength and degree of imagination is determined by the interrelation of two indicators: (1) reasonableness / objective value, and (2) newness / originality of created imagery, two criteria that, as we have seen, came to define, especially after the 1950s, the notion of creativity itself.

Unsurprisingly perhaps, several studies performed in the past few decades on the relationship between imagination (defined primarily in terms of creative imagery) and creativity (most often understood as divergent thinking) demonstrated, again and again, a significant relationship between the two. For example, Geraldine A. Shaw and Susan M. Belmore (1982/83) using correlational research showed that vividness of imagery was related with all dimensions of divergent thinking: fluency (number of ideas), flexibility (number of idea categories), and originality, both in verbal and figural tests. In another study conducted on a group of gifted children, Shaw and DeMers (1986) founds similar correlations between creativity and vividness; correlations between the ability to manipulate imagery and creativity were only slightly lower. Campos and Pérez (1989) demonstrated weak, but statistically significant correlation between imagery transformativeness measured with the Visual Elaboration Scale (VES) and the fluency and flexibility of creative ideation. Importantly, this relation was not noted in the case of the originality of thinking on the Torrance Test of Creative Thinking (TTCT-A) (Torrance, 1974 ). A next study (Gonzalez, Campos, & Pérez, 1997) showed that imagery transformativeness was significantly correlated with fluency, but also with originality and elaboration. The same researchers (Campos & Gonzalez, 1995) also concluded that imagination explains about 9% of the variance of creativity scores. More recently, a study that used the *Frank Drawing Completion Test* (FDCT) noted a moderate relation between creative imagination and divergent thinking measured with the use of the *Test of Circles* from the TTCT battery (Dziedziewicz, Olędzka,

& Karwowski, 2013). In yet another study (Dziedziewicz, Gajda, & Karwowski, 2014), the authors used these same instruments and obtained lower correlations that still confirmed positive, yet weak associations.

What most of the research findings briefly mentioned above point to is a weak to moderate positive relation between measures of creative imagery and divergent thinking. This can be taken to suggest that creative imagination and creativity are related, but that they are not one and the same thing; of course, this derives to a large extent from the rather restrictive operationalization of both in research. Is there more to imagination than imagery? Is there more to creativity than divergent thinking? A cultural approach to these phenomena starts precisely from this kind of interrogations and proposes an 'expanded' definition of both. Imagination, as we will argue next following sociocultural theory, relates primarily not to imagery but experience (which includes imagery). Equally, creativity is as much about processes of 'making' as it is about 'thinking' new and original ideas (again, without excluding thinking processes). Where does this leave creative imagination?

As we have seen here, traditionally, creative imagination has been defined as the generation of new images through various processes of association and combination. This understanding might prove adequate for current research interested in measuring different qualities of this 'new imagery'; however, it falls short precisely in terms of explaining where these images come from, how they are created and with what consequences. The task of sociocultural psychology, we argue, is precisely to shed light on these issues by proposing a relational and developmental theory of how and when we imagine.

Before outlining different cultural approaches to imagination, approaches that stress its creative quality, it is important to return to the difference between reproductive and creative imagination. From a cultural perspective, this distinction is inherently problematic since it considers 'creative' only those products of imagination that have never been experienced by

the person as such before. And yet, doesn't the 'reproduction' of images and experiences always involve some element of creativity? Does it not participate itself, in various ways, in creative processes? In a sociocultural psychological sense, all imagination becomes (at least potentially) creative, as it participates, one way or another, in the construction and renewal of the person's life and the life of culture. However, conflating imagination and creative imagination is not the solution, as it does not account for the use of imagination in other activities than creativity. Adopting a basic, pragmatic understanding of creative imagination, in this chapter we postulate that it designates *all those imaginative processes that participate in ongoing creative action*, where this action is considered 'creative' by the person engaged in it (through personal judgment, informed by the views of others) and/or the whole of society (through convention). It is this definition that will guide further our discussion of creative imagination.

### **Imagining Victory: A sociocultural analysis**

In order to introduce and discuss sociocultural approaches to imagination as it participates in creative action – what above we designated as creative imagination – we will start not from theory but from a few empirical examples. The case study we draw on is represented by the “Creative Compass” program in Poland, an intervention aimed at developing intercultural competences and creativity in children aged 6 to 12. The study of this intervention indicated that the program was highly effective in stimulating creative abilities (creative imagination and creative thinking) and moderately effective in developing children's intercultural skills, suggesting the two can be jointly stimulated through the use of appropriate educational activities. For the purposes of this chapter, we will not present the research itself (interested readers can consult Dziedziewicz, Gajda & Karwowski, 2014), but use some of the data

collected and (re)interpret it with the help of sociocultural theory. The premise of the program was to invite children to imaginatively experience different countries and get to know them. Creative Compass was based on the construction of various scenarios that guide children's imaginative engagement following the same pattern: a) raising interest; b) searching; and c) exploration. The particular example we focus on here has to do with a scenario in which children learned about the Louvre Museum in France and one of its main exhibits – the *Winged Victory of Samothrace*, a 2<sup>nd</sup> century BC marble sculpture of the Greek goddess of victory (Nike). The tasks included in this scenario are presented below.

### **PHASE I: Interest**

#### **Creative warm-up**

Casual conversation: What does it mean to win? What are the types of winning (examples)?

Who may be a winner? It is worth to end with a question about what the children themselves have won. The leader conveys to the children the basic information about goddess Nike, presents images of the Winged Victory of Samothrace and emphasizes that it can be seen in the Louvre museum in France.

### **PHASE II: Searching**

#### **The face of victory**

Children receive their work cards entitled “Victorious Nike”. Their task is to individually complete the drawing of the face of the Victorious Nike. They may also draw other elements to the sculpture's contour.

After completing their work, each child tells about the type of victory the figure they had created scored.

#### **The symbol of victory**

The leader divides the group into teams. Each team receives a large sheet of paper with the word “victory” written in the middle of it. Children, now in teams, create the star of associations for the word by writing their ideas around it. On the basis of the associations created, each team generates the symbol of victory on a separate, sheet of paper, using markers, pencils, etc. After finishing their work, the teams present the symbols to others.

### **PHASE III: Exploration**

#### **The monument of victory**

At the end of the session, the leader divides the group into teams of five or so individuals. The children's task in each team is to create a monument of victory with their bodies. Then, the leader and the group repeat the information about the Winged Victory of Samothrace.

In what follows, we will refer to three individual drawings (Figures 1, 2 and 3) made by children in phase two – completing the image of Victorious Nike. We take these images as examples of creative imagination as they satisfy our basic definition of this phenomenon, that is, the imagination processes involved in generating an image of Nike as part of a creative activity. It is not an issue here for us to decide how 'creative' the drawings below are, what matters is that they illustrate different imaginative processes that will be considered, in the following sections, through various conceptual lenses. It is also important to note that the analysis we propose in relation to these drawings is preliminary. This is due to the fact that our focus here is on presenting sociocultural theories related to (creative) imagination rather than reporting data and; also, the research we draw on does not include more qualitative material (i.e., children's explanations) that would allow for a more in-depth analysis. Before proceeding with the drawings, however, we need to cover the conceptual grounds of a sociocultural approach to imagination as it is reflected in the work of one of its pioneers.



Figure 1. "The Nike I created has won the race with a snail" (Victor, 8 years old)



Figure 2. “My Nike is the best warrior in star wars. He has won all battles in the future world”

(Chris, 8 years old)



Figure 3. “My Nike is a ballet master” (Susan, 7 years old)

***Creative imagination and experience: The legacy of Lev Vygotsky***

Vygotsky is widely acknowledged today as one of the founding fathers of sociocultural psychology (see Cole, 1996; Valsiner & van der Veer, 2000). His legacy for psychology and education has been extensive, particularly in the areas of language development, symbolic mediation of activity, play, and the psychology of art (Vygotsky, 1971, 1997; Van der Veer & Valsiner, 1994). Few know, however, that Vygotsky also made important contributions to the areas of imagination and creativity, particularly in two of his texts: ‘Imagination and

creativity in childhood' (Vygotsky, 2004) and 'Imagination and creativity in the adolescent' (Vygotsky, 1995), originally published in the 1930s. Here, he postulates the huge developmental role played by these two processes and the ways they draw on and, in turn, construct cultural resources (for a discussion is also Smolucha, 1992; Moran & John-Steiner, 2003; Pelaprat & Cole, 2011; Zittoun & Cerchia, 2013).

From the start, it is significant that Vygotsky used the notions of imagination, fantasy, creativity and creative imagination almost interchangeably, stating, for instance, that creative activity is called in psychology imagination or fantasy. In an often-cited quote, he remarks that "imagination, as the basis of all creative activity, is an important component of absolutely all aspects of cultural life, enabling artistic, scientific, and technical creation alike" (Vygotsky, 2004, p. 9). While it is an open question whether imagination is the basis for absolutely all creative activity, we can clearly see resonances between Vygotsky's interest in the topic and the ethos of his (and our) time: understanding "high level", historical creation. Specific for later cultural approaches, Vygotsky fought against a traditional view of imagination as opposed to reality, as something with no or limited practical consequences. In fact, he strongly argued for rethinking the relation between imagination and reality. Since he believed everything that is in imagination was initially in experience, and that (creative) imagination functions by combining old experience, the first law of imagination he formulated stated that:

the creative activity of the imagination depends directly on the richness and variety of a person's previous experience because this experience provides the material from which the products of fantasy are constructed. The richer a person's experience, the richer is the material his imagination has access to (Vygotsky, 2004, pp. 14-15).

This law thus postulates a strong relation between imagination and cultural experience and can inspire educators, for instance, to introduce children to multiple facets of culture in order to stimulate their imagination. The same law however makes Vygotsky conclude that children have a less rich imagination than adults precisely because they have less experience of culture. In his discussion of imagination in adolescence (Vygotsky, 1995), he further argues – drawing heavily on the work of Ribot – that it is during this particular age that imagination flourishes since, at this time in development, fantasy becomes closely linked with thinking in concepts. It is precisely the connection between imagination and abstract, conceptual thinking that makes Vygotsky critical towards accounts of imagination that reduce it to images, to the visual and concrete. It is, in fact, the movement from concrete elements, through abstraction, to another concrete form that characterizes imagination (see also Tateo, 2015).

In sum, Vygotsky's approach to imagination does not prioritize visual imagery but experience and the way imagination enriches it with the help of abstract concepts. In his words, "at the very start of this process, as we already know, there is always a perception of the external and internal, which is the basis of our experience" (Vygotsky, 2004, p. 25). This 'material' of experience provided by a particular cultural environment is accumulated and then reworked imaginatively through the association and dissociation of perceptual impressions. Using Vygotskian lenses to look at the drawings of Victorious Nike made by Victor, Chris and Susan, we can already start identifying elements of experience in children's lives. Races, snails, movies, weapons, ballerina skirts and awards are all part of the direct or mediated (through stories, television, etc.) experience of children as they read stories, attend classes, spend evenings in the family, watch performances or play outside with their peers. The image of Nike itself is part of ('high') culture and, in this case, an element of experience educators would like children to (imaginatively) appropriate. How this appropriation actually happens however remains an open question in psychology. Sociocultural psychologists,

building on the legacy of Vygotsky, have proposed new models to account for the processes behind creative imagination. As follows, we will briefly present three such models – gap-filling, loop, perspectival – and illustrate them with the help of children’s drawings of Victory.

### *Creative imagination completing experience*

In their 2011 paper “‘Minding the gap’: Imagination, creativity and human cognition”, Pelaprat and Cole advance a sociocultural psychological understanding of imagination as a process of ‘gap-filling’. Inspired by Vygotsky, the two authors consider imagination anchored in the ‘here and now’ rather than fantasy worlds disconnected from reality, “a basic, pervasive, and distributed faculty of materially embodied thought and action” (Pelaprat & Cole, 2011, p. 399). As such, imagination is not only involved in making present what is absent but, first and foremost, in perceiving what is actually present in front of us. Drawing on findings from fixed image experiments, Pelaprat and Cole point to the fact that our sensorial relation with objects is discontinuous (because of the constant movement of the eyes, a condition for actually seeing an object) and yet our experience of them is continuous. This is, for them, (part of) the work of imagination. Moreover, in order to understand the relationship between perception and imagination we need to take into account phylogenetic/biological and cultural constraints (e.g., the way our visual apparatus functions and the way culture guides the what we ‘see’ in the world and what we ignore). The ‘gaps’ left by these – often contradictory – constraints are resolved or ‘filled’ by imagination. Our direct contact (through inbuilt, biological processes) and ‘mediated’ contact (facilitated by culture and history) with the world offer us different types of information that need to be reconciled. Imagination allows us to form a stable image of reality by “resolving and

connecting the fragmented, poorly coordinated experience of the world” (Pelaprat & Cole, 2011, p. 399). In this sense, imagination is not a luxury but a clear necessity as, without it reconciling divergent pieces of information into a single, stable image, we would not be able to think and act in the present.

In their paper, Pelaprat and Cole focus on a range of concrete examples (i.e., the case of the blind-deaf, magazine covers, comic strip images, and even Twitter-mediated experiences). How would this theory apply to the drawings of the winged Victory made by Victor, Chris and Susan? First of all, we need to start from the ‘gap’ presented to the children by the task itself: that of completing a human body as a unified, stable image (here, a drawing). Helping them to imaginatively fill this gap was the story associated with the drawing – the fact that it is supposed to be a statue representing victory – which appeals to their own life experience – that of having been victorious or seen other people who were. Next, we need to consider the kind of phylogenetic and cultural-historical constraints that inform the drawing activity. On the one hand, we have the shape of a body that is offered to them on paper; a body that is not only incomplete but, in some ways, impossible (winged). On the other hand, the cultural experience of Polish children probably includes other winged entities such as angels or cartoon heroes. The strong cultural association between victory, flying entities and heroes is what might have prompted Chris to complete the image with reference to the Star Wars movies (Figure 2). Interestingly, for Susan, the idea of victory was that of a successful ballerina. This might be related to other cultural constraints such as the construction of gender, and the gendered activities children are exposed to as they grow up (see also Duveen & Lloyd, 1990). Still, the material shape of the drawing imposes its own constraints: the person represented there has a long dress and this is certainly not what ballerinas wear. Susan’s solution, evident in Figure 3, was to draw over the given model and offer her character a blue tutu. If both Chris and Susan filled the gap represented by the incomplete

statue in rather unconventional ways, Victor (Figure 1), built it followed more closely both the contours of the model and cultural conventions (the color of the clothes for instance reminds of previous historical times). In the end, it is interesting to note that the Winged Victory of Samothrace itself is a cultural icon not only because of the masterful depiction of the human body but also because, generation after generation, it stimulated our imagination, requiring us to ‘fill’ the gap left by the missing face and arms.

In sum, the gap-filling model proposes a view of creative imagination as a process that completes our inherently incomplete or fragmented experience of the world. Education often uses this kind of incomplete experiences precisely in order to activate children’s imagination and, through it, enhance their knowledge and understanding (here the Creative Compass program makes no exception). However, Pelaprat and Cole’s model accounts very well for how we use imagination as viewers or spectators but it leaves open how we actually construct new experiences as creative actors. In other words, what were the imaginative processes that made Victor think of winning a race, Chris of a hero from Star Wars and Susan of a ballet master? And why did they construct their drawings the way they did?

### *Creative imagination expanding experience*

In order to answer such questions we turn to another model of imagination put forward by Zittoun and Cerchia in their 2013 paper “Imagination as expansion of experience” (for a more elaborate discussion see Zittoun & Gillespie, 2015a; for the notion of expansion, see Jørgensen, this volume). Departing from similar Vygotskian roots and an understanding of imagination as a process, Zittoun and Cerchia criticize ‘deficit’ models that consider imagination primarily in terms of repairing human experience. In exchange, they propose a view in which, from both a developmental and cultural perspective, imagination expands our

experience of the 'here and now'. By focusing on "imagination as a form of enrichment, or expansion, of one's experience and understanding of the world" (p. 306), their theory is fundamental for understanding creative imagination. For them, imagination is primarily creative because its point of departure is generally a 'rupture', 'disruption' or 'misfit' between the given experience of the world and one's ongoing flow of thinking; such circumstances require new solutions and experiences. How are these acquired? The key concept here is that of 'loop'. In the words of the two authors: "imagination can be seen as an excursion; we will say that imagination, as process, create 'loops' out of the present, here-and-now of experiences connected to 'real' objects" (Zittoun & Cerchia, 2013, p. 306). As such, at the basis of this model stands the distinction between a proximal (here and now) experience of the world we are all immersed in, at every time, and a series of distal experiences accessible to us through the use of imagination (Zittoun & Gillespie, 2015b). What kind of distal experiences are we 'looping out' to with our imagination? For Zittoun and Gillespie (2015a, pp. 49-51), the space of imagination is defined by three key dimensions: temporal aspect, generalization and plausibility. In other words, with the help of imagination we can explore temporal moments other than the present, abstract matters not accessible to our perception, as well as (im)possible situations or events. All of this is granted by the possibility to 'decouple' from concrete experience, explore this rich imaginative space of distal experiences, and 'recouple' with the here and now in ways that inform our action in the present.

Although we do not have access to children's loops of imagination at the moment in which they created their images of Victory, we can still infer from their outcomes the complex processes that shaped their drawings. Zittoun and Cerchia (2013), in their analyses of using metaphors and fiction, raise three questions that can guide our own reading of these drawings. First, what is the rupture? This question takes us back to what we mentioned before in relation to Pelaprat and Cole's (2011) notion of gaps – children are confronted with the

challenge of an incomplete form and story that they are asked to appropriate and finish. This might be seen as a micro-rupture, designed as such by the Creative Compass program in order to stimulate children's curiosity, interest and their sense of questioning. Second, what is imagination nourished by? Victor was certainly inspired by the experience of races and, as any race, this one needed a competitor (Figure 1). The snail wearing a small crown (also a winner? or a worthy, royal opponent?) alludes perhaps to the well-known story of the rabbit and the tortoise. Chris, on the other hand, employs another clear cultural resource: Star Wars. He also enriches it with the use of what seem like medieval weapons, thus generalizing in order to construct the image of a warrior. Susan, in Figure 3, uses yet another experience that is not part of her immediate here and now of the classroom: dancing ballet. Adding medals to the figure emphasizes her own understanding of what it means to be successful in a competition. In the case of all the three children, the loops of imagination are shaped by 'distal' experiences they are arguably interested in from movies, television, stories and performances. Last but not least, what do these acts of imagination enable the child to do? At a surface level, we can say that they allow them to successfully complete an educational task and, in the process, learn new things about distant (spatially and temporally) cultural spaces. At the same time, children communicate with adults, express their own interests, learn about what interests others and, on the whole, participate to the fullest in their sociocultural environment of their school, family, and community. If they were not able, through the use of semiotic and cultural means, to decouple from the here and now and imagine not only what is but what could be, there would be no possibilities for them to understand and learn from tasks like drawing the face of Victory.

In conclusion, the loop model of imagination offers new insight into the processes and spaces of imagination. In doing so, it also connects creative imagination to human development throughout the life course (Zittoun & Cerchia, 2013). Indeed, in using this

model further in relation to programs such as Creative Compass, researchers should try to record the stories children tell about their drawings as well as observe, in a longitudinal manner, how their appropriation of new cultural material informs future loops of imagination in ways that expand their experience of the world. If we can agree that children access, through their imagination, experiences that are not accessible to them in the here and now, the question remains as to how they construct entire scenes that effectively transform precisely the here and now (in our case, the schematic image they are were presented with on a piece of paper). If a race is imagined, what makes Nike win again a snail? Or lose a shoe?

### *Creative imagination transforming experience*

The perspectival model, the third sociocultural account of creative imagination we propose in this chapter, starts from two basic premises: a) that reality is inherently perspectival (Schütz, 1945) and b) that every imagination is imagination of an experience (Vendler, 1984). The former implies that we relate to the life situations we find ourselves in through perspectives in both a factual way (i.e., seeing the world from a certain angle) as well as a psychological one (i.e., understanding the world in a certain way, dependent on both the physical and social positioning we have within it). The latter point, specific for experiential theories, argues against imagination as the simple production of separate, specific images. Instead, it postulates that all imagination is imagined experience such that, for instance, if one is to imagine swimming in cold water, that person would probably imagine the taste of salty water, the feel of cold waves slapping against his or her body, etc. In other words, as Vendler notes, to imagine means to evoke experiences, not only to conjure separate images. The perspectival model further adds that, in imagining, we actually evoke *perspectives embedded within experience*. There is accumulating evidence for this claim, including from language and

pretend play. Harris (2000, pp. 192-193), for instance, following research on how we understand narratives, proposes that children involved in pretend play imaginatively build situational models. In building such models, the child imagines an ongoing scene from a particular spatio-temporal locus, which Harris called a deictic center. In relation to this locus, people and events are organized in the foreground or background, depending on their relation to the protagonists of that situation; this allows children to understand, in pretend play, how the situation 'looks' both for themselves and their partners.

This possibility of taking the perspective of other people, fostered by imagination, has been argued to be a key engine of creativity (Glăveanu, 2015) and, for the purposes of this chapter, a prototypical form of creative imagination. Constructing a new perspective into a situation, such as the perspective of an other, is certainly an imaginative act, as one can never fully approximate how reality looks like from any other position than that of the self. And yet, in a world of experiences shared with other people, we often get to occupy various positions in relation to the same situation (think, for instance, about how children in games alternative between the role of doctor – patient, thief – police, hiding – seeking, etc.; Gillespie, 2006; see also Gillespie et al., this volume). In line with Vygotsky's hypothesis, and the two models discussed before, these experiences feed into what we imagine might be the case for other people or, more generally, how it would be to experience a new situation. And yet, we are not 'trapped' by our previous sensorial material in constructing this new experience; for example, imagining a policeman at work doesn't mean sensing and feeling exactly what we did when playing policemen or seeing policemen in movies. If it did, then imagination would never be creative but fixated by the exact reproduction of previous experience, which is never the case.

As Aristotle, Goethe, Kant and Vygotsky all noted, the material of imagination lies 'in-between' sensation and thinking, the concrete and the abstract, perception and concepts. Vendler (1984), in this regard, referred to perceptual concepts as the building blocks of

imagination. These perceptual concepts are infused with concrete, sensorial experience, and yet situated at a higher level of generality. As such, the images and experiences they produce 'in' us are fundamentally *non-committal* (i.e., not committing to specific details), something that makes them extremely generative when they need to be specified. For example, if you are asked to imagine a chair you can probably do it very easily and construct a schematic mental image, but that mental image will not be of any particular chair (unless I probe further with specific questions about the size, colour, material, etc. of the chair you imagine). In this sense, the chair as a perceptual concept is both grounded in previous experience (and thus perspectival, revealing the chair as 'seen' from a position and not, as a cubist painting, from all positions at once) and flexible in relation to it (as this chair can be moved, morphed, specified within our imagination).

How can we apply this incipient perspectival model to the drawings of Victory made by Victor, Chris and Susan? First of all, what kinds of perspectives on victory are being constructed by the children's imagination? From a multitude of ways in which someone can be a winner, children had chosen to depict particular perspectives on victory following a thinking process that cannot be recovered from the drawings alone. What the final products reveal is that Victor imagined winning a race (Figure 1), Chris winning a battle (Figure 2), and Susan winning a ballet contest (Figure 3). Each of these perspectives are close to children's lives in which running, fighting, dancing are activities they observe, get at times to participate in, and understand they can be rewarded for (even in the situation of violent fighting, Star War and similar movies glorify masterful fighters). Second, what is the experience each child constructs? In answering this we get to see how a perspective is developed into an image that goes, for each child, beyond the sculpture itself and its (incomplete) contour. Indeed, each one of the drawings constructs a dynamic scene that includes other objects (weapons, medals, crowns, tutu, etc.), other characters (like the snail),

and unfolding events (in Figure 1, the winner seems to have lost a shoe; in Figure 3, she receives a medal). There is thus suggestive evidence, at least, that children's imagination of victory doesn't have an image as an endpoint but a story that captures a complex, multimodal imagined experience. Finally, how did perceptual concepts participate in the construction of this experience of victory? In the absence of information about the process of drawing we can only speculate in relation to this point. To take only the example of Figure 2, Chris chose to depict a fantastic, scary looking warrior. His imagination in this regard was certainly constrained by the shape offered to him on paper. His perceptual concept of a warrior seems to include what looks like spikes coming out of the character's body. Typically, these spikes are placed on the back and head of the warrior (something children experience in many animated cartoons and other images such as dinosaurs, dragons, etc.). However, the number and exact location of these spikes is not specified within a perceptual concept. It emerges in the *interaction* between child and the concrete material arrangement he/she is faced with. In this case, spikes 'grew' out of all possible places including – as an original idea? – the hips.

In summary, the perspectival model of imagination postulates that, what imagination constructs are perspectives within a field of experience. These perspectives are built with the help of non-committal perceptual concepts that encapsulate previous (direct or mediated) experience and yet remain open to manipulation and change. This is the key to how imagination operates in both a constrained and yet free manner. For this reason we consider, from our perspective (pun intended), that creative imagination does 'more' than complete experience and 'less' than expand it – it transforms experience by building the past into the present, the abstract into the concrete, new perspectives into the ones already there. It gives our current experience the qualities of a new one, transforming it from within.

### **Towards the future of creative imagination**

We started the chapter by claiming that imagination and creativity are two distinct yet interrelated processes on the basis of their etymological roots, their intellectual history (within and outside of psychology), and the current uses of these terms in both science and lay thinking. This close – yet not simple – relationship makes the topic of creation imagination all the more interesting to study and reflect upon. Traditional approaches equate it with the construction of new, original, surprising and vivid imagery. Sociocultural psychology, however, finds this cognitive definition too restrictive. Instead, it proposes an ‘expanded’ view of creative imagination (and, as such, of both imagination and creativity) by relating it to the construction of experience. Inspired by the thinking of Vygotsky, cultural approaches try to recover the link between imaginative experience and the cultural experience of the person who imagines. If creative imagination is the old transformed, it is important to understand how and why this transformation takes place.

Using drawings of Victory by three Polish children who took place in the Creative Compass program, we presented and tried to illustrate (in a very schematic way), three cultural ways of understanding (creative) imagination represented by the gap-filling, loop and perspectival model. In such a short space, it is virtually impossible to do justice to the complexity of these frameworks, and readers are invited to explore further the key references associated with each. Important to note, by presenting them in a certain order we do not imply a hierarchy between them but rather consider the three proposals complementary. They all share an understanding of (creative) imagination as grounded in and acting on (cultural) experience. What they differ in mostly is their emphasis. Pelaprat and Cole consider carefully the conditions of possibility of human imagination and locate them within ‘gaps’ opened by our phylogenetic and socio-historical development. Zittoun and collaborators focus more on the processes of imagination and the different resources that feed into the loop of imagining.

Our proposal here is to add the notions of perspective and scene / situation to a cultural view of imagination. Indeed, we believe that imagination transforms experience by infusing it with perceptual concepts organised along certain perspectives.

In order to facilitate a future, comparative reading of the three models, we offer below a table summarizing what we believe are the source domains, paradigmatic forms, key notions and aims for imagining embedded within each conception (see Table 1). Since these views do not oppose or exclude each other, we envision as a next task for sociocultural psychologists, and all those interested in imagination and creativity, the construction of an integrative framework that builds on the strengths and insights afforded by existing formulations.

<b>Model of imagination</b>	<b>Source</b>	<b>Paradigmatic form</b>	<b>Key notion</b>	<b>Aims of imagination</b>
<b>Gap-filling model</b>	Perception	Problem solving	Biological and cultural-historical constraints	Complete experience
<b>Loop model</b>	Symbolic function	Daydreaming	De/re-coupling	Expand experience
<b>Perspectival model</b>	Perspective-taking	Scene construction	Perceptual concepts	Transform experience

Table 1. Three sociocultural models of imagination

In the end, we need to reflect on the future, particularly in the case of a future-oriented process such as creative imagination. We will spare the reader from trying to apply models to their own construction in a meta-analytical kind of move; instead, we offer a set of questions

that can inspire the work of researchers and practitioners within this rich, interdisciplinary area. If imagination participates in the functioning of almost all other psychological functions, from perception and thinking to emotion, how does this help us rethink current models of the human mind over-concerned with rational decision-making and ‘cold’ information processing (for a similar critique see Cornejo, 2015)? More concretely for sociocultural psychologists, already invested in finding alternative models of the mind grounded in affect and meaning-making processes, how can we theorize the relation between imagination and the symbolic function without collapsing one into the other? Critics of this approach will certainly not wait much to point out that if imagination is everything it might in fact end up being nothing... What are thus the limits of imagination in psychology and in everyday life? When is it most useful to study imagination and how? A persistent call from sociocultural theorists in this regard is to consider our phenomena of interest developmentally. What would it mean to study the ‘accumulation’ of imaginative loops within the life-course in a systematic manner (Zittoun & de Saint Laurent, 2015)? Such studies would certainly contribute not only to our understanding of imagination but also of experience and culture (Dewey, 1934). More than this, they would allow us to understand how the experience of others informs the experience of the self and, though this, give theories of inter-subjectivity a new grounding.

Finally, if we accept that imagination is fundamental for perspective-taking then new questions arise as to when we engage in such processes, what fosters them and what blocks them, denying us not only of creative possibilities but also of a better understanding of other people. In the end, if creative experience does ultimately transform experience, we should not forget that this experience is not one of the isolated self but, from the start, one of people living, acting and creating together.

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