

# Studying Higher Mental Functions: The Example of Imagination

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Among the many objects of interest of cultural psychology is imagination. Imagination is a higher function of the mind, it is deeply cultural in nature, unique in the way it is experienced by a given person in a given time and place, and it plays a major role in individual and collective change. However, like many others higher functions, it cannot be studied directly: One cannot observe what or how someone is imagining. This is where psychologists have either the choice to give up, or to devise alternative ways to access to imagination. In this chapter, I first quickly define the imagination as sociocultural process. On this basis, I then review some studies allowing studying the phenomenon of imagination. Doing so, I hope to highlight, third, some of the methodological perspectives by which we can document imagination as complex psychological phenomena, and thus enrich theories of human experience.

## Imagination as Sociocultural Phenomena

Imagination is the process by which our stream of thought disengages from the here and now of our immediate, or “proximal” experience, in the shared, or “paramount reality” (Zittoun and Gillespie 2015a). Imagination can be triggered by boredom, such as one is daydreaming in the classroom, when facing a rupture in everyday life which calls for new solutions, such as the perspective of a geographical relocation, or by various cultural means, such as watching a movie. Imagination can be described as a “loop” of consciousness that allows exploring distal experiences in which the rules of physical time and of causality do not apply—imagining being on a sunny beach when we are in a snowy town, imagining how daily life would be on an island or on Mars, or enjoying traveling back in time to undo past events. Hence, using resources from present and past experiences, such as one’s actual trips, symbolic resources such as magazine and films, as well as diverse cultural and

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social representations, now recombined in new fashions, imagination allows us to explore the past, the future, or alternative realities.

Thus defined as a loop, imagination groups diverse phenomena often treated distinctly, such as dreaming, daydreaming or mind-wandering, fantasizing, engaging in an aesthetic experience, anticipating, regretting, planning, playing, or experiencing culture (Singer and Singer 2005; Singer 2000, 2014). These phenomena can be described as variations of the loop of imagination, which can be depicted in a three-dimensional space. The first dimension represents the time orientation of the imagining (whether it is about personal or collective past, in the present, or about the future—often moving through these); the second dimension designates the generality of the ideas involved (is it about fixing a chair, or about how to make the world a better place); and the third dimension designates the plausibility or implausibility of the imagination, in relation to the social and material rules of the paramount reality (Zittoun and Gillespie 2015a). Of course, imagination can be more or less active, deliberate, or conscious on any of the aspects just described.

Finally, the loop of imagination ends when the focus of consciousness is reengaged in the proximal experience. There, imagination has various outcomes, from the simple pleasure of having been disengaged from a given situation (Oppenheim 2012), to the complex emotional experiences that it may provoke; it produces new or alternative representations, which then might pave the way to concrete actions, to personal choices, or to personal or collective creations, from a new dish to a new political regime (Vygotsky 1994). In that sense, because it is a semiotic process, allowed by our experiences of the world, culturally guided and constrained, and for its consequences in ontogenesis, microgenesis, and sociogenesis, imagination is sociocultural in nature (Vygotsky 1994, 1997; Zittoun and Gillespie 2015a). Imagination is indeed a core feed-forward process in human life, in interactions and in the social world (Valsiner 2014a).

## **Studying Imagination: Observation, Introspection, and AutoEthnography**

Although many social groups have, over the ages, systematically cultivated the power of mind and imagination, our Occidental history is one of trying to restrain, or at least, concentrate imagination in some domains of social and private life only. Social scientists have, often for good reasons, great mistrust for imagination, which, with passion and fears, can lead to the most dramatic collective movements (Le Bon 2013; Moscovici 1976). For the rest, imagination has generally been tolerated in children and artists or in art-related activities, and otherwise, considered as confined to the madman and the deviant. In adult life, it is mainly creativity that has socially acknowledged outcomes, which is the object of attention (Glăveanu et al. 2015). Interestingly, in the past 150 years in psychology, it is often scientists with an

interest for the arts—whether painting or literature—who also tried to give a more central place to imagination, from Hermann Rorschach to Sigmund Freud and Lev Vygotsky.

Beyond the scarcity of empirical work, the redefinition of imagination proposed above allows to turn to various lines of studies that have examined one or the other of its occurrences: fantasy, daydream, memory, and experiencing or creating arts. In what follows, I identify some of the main methodological strategies that have been chosen to document these phenomena: case studies, the standardized approaches of projective tests and laboratory procedures, introspection in autoanalysis and auto-ethnography, and observation, before turning to more open approaches.

### *Case Studies*

A first range of studies that have documented inner lives and imagination are case studies of people considered as mad or deviant. Pierre Janet's substantial study of a woman suffering from delirium is a paradigmatic case of idiographic science, by which the French psychologist could develop many aspects of his theory of the automatism of mind (Janet 2003, 2005; Zittoun 2008). Freud's case studies of men and women haunted by non-real experiences became classic in the clinical literature and have been widely discussed (Freud 2001c). In such case studies, adults mainly talk in the therapeutic setting or are observed as they act in surprising ways. Similarly, case studies of children have been undertaken; here the emphasis is on children's talking and on observing their play, seen as a royal road to the unconscious since Melanie Klein and Anna Freud. Inviting children to play, it is they unfolding of imagination that is observed, and acted upon, by therapists. In these lines of studies, Winnicott's transcripts of psychotherapeutic treatment with adults and children (Winnicott 1994, 1996), or Diatkine and Simon's description of the evolution of the cure of a little girl (Diatkine and Simon 2005), give full access to the richness and complication of a person's fantasmatic life, through their plays, fears, anxieties, dreams, daydreams, reveries, transference relations, memories, and hopes. In other words, such case studies reveal the many facets of the work of imagination, and "pathological cases" illuminate more common experiences. Hence, Jerome Singer, a specialist of daydreaming and imagination, similarly based his first studies on the analysis of psychotherapeutic sessions (Singer 2005, 1976/2014). Here, language and observation are seen as access to the imagination, with arrangements of the setting to facilitate such externalization. In any case, such studies allow both for developing hypothesis about the experiential material used in imagining—memories of emotionally loaded events, important relationships, social norms, and discourses—and for developing hypothesis about the processes involved in their development, unfolding, and outcomes.

## *Projective Tests*

Against idiographic science, imagination has also been studied through more systematic, differential, or nomothetic approaches—studies attempting to systematize the collection of data about something per definition highly variable. On the one hand, an often forgotten route to imagination has been open by projective tests. In a surprising 1898 paper, American psychologist George Dearborn wonders how to capture in a systematic way the sorts of imagining in which people engage when they see shapes in the clouds. He thus devises a series of inkblots and invites people to tell what they see. The great diversity of replies is a first disconcerting:

Why one subject should see in a blot a “cabbage head” and the next an “animal with his mouth open,” or why a professor should be reminded by a blot of “half a sweet pea blossom” and his wife of a “snake coiled round a stick,” of course no one can at present pretend to explain. There is a temptation in such cases of association as these to call the results the choice of chance, but this means too little-or too much (Dearborn 1898, p. 190).

Interestingly, Dearborn continues:

it is clear that, as a general principle, the experience, and especially the early experience, of the subject has important influence. For example, study of the records shows that subject H., a purely domestic woman, is reminded most often of domestic objects; while subject O., who is an artist and student of mythology, sees in the blots many picturesque and fanciful things. The difference between the imaginations of the country and city bred is clear (Dearborn 1898, p. 190).

This beginning of analysis of people’s cultural resources for imagining however is not pursued much. The study of imagination has then followed different routes, whether authors were searching for general principles underlying psychological processes, or individual specificities (Sharp 1899).

On the one hand, projective techniques were further explored toward a differential approach. In France, after a first series of interviews with artists (Passy and Binet 1894), Alfred Binet with Victor Henri proposed a series of completion and projective tests to have access to people’s involuntary and voluntary imagination—people had to continue the beginning of a melody line or a sentence, or to comment on an ink shape—with the goal of developing a differential psychology (Binet and Henri 1895, pp. 443–445). Swiss psychologist Alfred Rorschach developed the inkblot technique further and more systematically, as a technique to evaluate people’s personality (Chabert and Anzieu 2005, p. 15). However, as Rorschach notes, most people who have to comment of the ink shape think that the task is about imagination (Rorschach 1987, p. 3). As a result, authors discussed on whether creative or surprising answers should be read as indications of creativity and vivid imagination, or, departing from the average, as pathology (Rorschach 1987; Schachtel 2013, p. 65). Note that this line of uses of projective test has been pursued in clinical practice, where projective tests are still often as offering an access to children and adults inner lives (Chabert and Anzieu 2005).

On the other hand, in England, Frederic Bartlett, knowing the work reported above, developed an inkblot test where people were asked to describe what they

were seeing when shown as series of abstract figures. As Dearborn, Bartlett finds the diversity of answers striking:

What to one was a 'camel' (blot 2) to another was a 'tortoise'; to another a 'dog worrying a table-cloth'; to another 'two dead ducks and an ostrich'; to another an 'octopus'; to another 'a baby in a cot with a doll falling out'; to another a 'picture of Sohrab and Rostum in a book of Arnold's poems.' The uninitiated would hardly suspect that the following are all attempts to describe the same object... (Bartlett 1916, p. 254)

In his commentary, Bartlett refers to studies proposing typologies of people according to their answers; yet, as he elegantly formulates, "separation into types, though it is of considerable practical value, solves no theoretical problem" (Bartlett 1916, p. 255). What he rather suggests is to engage in a developmental understanding of how people, through their trajectories of what we could call socialization—experience and learning—come to develop certain experiences and memories which they then use when imagining. This interesting genetic route has to my knowledge not been pursued with such techniques. However, it is true that accessing to imagination through projective test only gives access to the part triggered by the material—whether it is to engage into interpersonal comparison or an understanding of underlying processes.

### *Dream Laboratory Studies*

Also attempting to develop systematic approaches, further from the psychoanalytic tradition and more inspired by the natural sciences, experimental and cognitive psychologists have also been interested in variations of imagination. Research on dreams has defined a methodological paradigm, consisting in having participants sleeping in a laboratory, and being awoken on specific phases of their sleep, a few times a night; they are then interviewed about their dreams following a standard procedure—similar techniques have been defined for adults as well as for children (Foulkes 1999; Hobson 2002; Hobson et al. 2000). Such studies have led to strong debates on the nature of the material used in dreaming—mundane traces of the previous-day experiences (Hobson 2002), or older memories and experiences, internalized social and cultural norms and discourses (Freud 2001a; Nathan 2011)? Also, they have allowed to make hypothesis about the underlying processes, and their development (Foulkes 1999). Whether these narrated dreams can be considered as the dream itself or, precisely, as narration which transforms the dream experience into a text, is a matter of discussion since Freud (2001a, b and c).

Avoiding this problem, some recent studies directly enquire neurological activation; hence, studies suggest that the patterns of neurological work are very similar in dreaming and in mind-wandering (the label used for designating daydreaming in the current neuroscientific literature) (Fox et al. 2013). Avoiding the risk of naturalization of a psychological process, Paul Harris has on the other side worked experimentally to explore some of the properties of imagination in children as they

engaged in systematic tasks—yet emphasizing what participates to logical reasoning, rather than the uniqueness of disengaging from reality (Harris 2000). Here, of course, the material for imagining is of little relevance.

### ***Introspection***

On a different, yet complementary route, most researchers have realized, at some point, that self-knowledge might be a key process in understanding other minds. It has led to the whole tradition of introspection, which can be more or less self-directed, or addressed to, or guided by someone else, with all its variations and the debates it raises (Clegg 2013). Introspection is the process by which one examines his or her own thoughts. The history of self-observation methods has been done elsewhere, and here, I only focus on some aspects which are of relevance for imagination in psychology. To be short, Wundt is often considered as one of the authors that has asked his participants to use introspection to respond to his tasks; however, recent historiography shows that he actually trained people to translate simple perceptions (inner-perception) (Brock 2013; Danziger 2001). Introspection was nevertheless also used to give access to more complex states of mind, for instance in the USA, where William James was calling upon his own experience. If it is true that introspection was put in crises by the criticisms issued from behaviorism, which pursued however different goals (Danziger 1980, p. 255), it remained quite present in France. There, in effect, introspection was supported in psychology through philosophy, as the influence of the phenomenology of Husserl remained very strong (for an overview see Brinkmann 2013). It became notably a source of inspiration to Jean-Paul Sartre's enquiry, including his work on imagination (Sartre 1940, 1989). In more modern versions, phenomenology inspired the development of technique for eliciting the other's introspection, used mainly in the analysis of activity at work ("explicitation" in French) (Vermersch 2009).

### ***Autoanalysis***

Beyond classic introspection, two variations are worth mentioning here. First, autoanalysis is one of the specific techniques of access to imagination. The notion of "autoanalysis" stems from psychoanalysis; it designates a modality of observation of one's own psychic life, while admitting its unconscious underpinnings. For psychoanalysis, Freud's autoanalysis at the end of the nineteenth century is considered as foundational. It is through his introspective work, a year-long systematic observation and analysis of his inner life—reactions to others, lapsus, emotional states, and more importantly, dreams—together with his theoretical work and data coming from his patient that Freud elaborated the *Interpretation of dreams* (Freud 2001b) and all his theoretical work to come. Some commentators have noted that

this autoanalysis was not the product of a lonely, magically inspired mind; rather, it was also addressed to a friend, through a long correspondence with Wilhelm Fliess (Bonnet 2010; Roudinesco and Plon 2011, pp. 117–121). According to Bonnet, autoanalysis, which demands an attention to one’s inner life, fantasies, daydreams, emotional reactions to people and situations, and dreams, can be done alone. It can be practiced while walking or gardening, even though it is ideally done while writing, and with the distant supervision of someone else (Bonnet 2010). For some other authors, autoanalysis can be properly conducted only when someone had experience of a psychoanalytical treatment beforehand. In any case, its main outcomes are that it invites to recognize the plurivocity of the mind, the many contradictory motives which can inhabit a person, and the plurality or lives coexisting in her body and mind. Interestingly, Sartre himself seems to have used the occasion of writing on Freud’s autoanalysis to stimulate his own introspective work, which would, a few later, bring him to his own autobiographical writing (Pontalis 1984). In his own writing, clinical psychologist Jerome Singer reports his introspective analysis—quite close to autoanalysis—to propose developmental hypothesis on imagination (Singer and Singer 1992). The few instances of autoanalytical work hence suggest the importance of such approach for the study of the development, the resources, and the outcomes of imagination.

### ***Autoethnography***

Second, in social sciences, the notion of “autoethnography” was developed to account for the experience of the researchers in the construction of social facts and observations, a century after Freud, in the 1980s of the 20’s century. If autoanalysis is based on the hypothesis of a researcher’s unconscious or inner life, autoethnography is based on the fact that the researcher participates to the construction of the social reality in which he or she is engaged, and that this situation also constitutes personal experiences which are worth examining. Ellis thus writes that autoethnography combines autobiography and ethnography:

When researchers do autoethnography, they retrospectively and selectively write about epiphanies that stem from, or are made possible by, being part of a culture and/or by possessing a particular cultural identity. However, in addition to telling about experiences, autoethnographers often are required by social science publishing conventions to analyze these experiences. (Ellis et al. 2010, paragr. 8).

Its aim is, through appropriate and skillful use of the written form, to bring the reader to experience the quality of the situation or event researchers want to transmit, while also engaging with existing theories and observations in the social sciences, (Ellis et al. 2010; Wall 2006). Because of its openness to diverse aspects of social, cultural, or institutional settings and the researcher’s experiences in it, whatever his or her gender, belonging or body-ability, such method can give access to a wide range of experiences. In fact, it seems that autoethnography has mainly

examined the researcher's experience in work situation, migration, wars, social injustice, health issues—but not the actual experience of imagining.

### ***Observation***

A last methodological route is that of observation, which has also long been used to study fantasy and imagination: observation of children's play in therapeutic setting in the laboratory or in daily situation; observation of early interaction in everyday and laboratory situation; observation of people's reactions to images and films, again in different situations (Blumer and Hauser 1933; Hedegaard and Fleer 2013; Miller et al. 1993; Nelson 2006; Singer and Singer 1992, 2005; Taylor 1999; Trevarthen 2012a, b). However, because imagination is often considered as something internal in adults, it has less been addressed through such means. Adults are mostly asked to verbalize their experience, in natural or more controlled situations. Adults have been trained into quasi-experimental tasks in daily life, or to report on their daily experiences about daydreaming (Pereira and Diriwächter 2008); authors and artists have been interviewed about their imagination (Oppenheim 2012; Passy and Binet 1894); and adults have been interviewed on the basis of their filmed activity of painting, music playing, or martial art practice (Diep 2011; Gfeller 2015), using a technique inspired by “clinic of activity” (Clot and Kostulski 2011). These studies have allowed identifying many variations of imagination in play, imaginary companions, and daydreaming; they allow both not only to identify types and differences (e.g., in ages, gender), but also to give access to processes. The last series of studies mentioned—combining observations and different techniques of guided introspection—gave access to new and overlooked aspects of imagination, such as its embodied nature or its outcomes. We will come back to these approaches combining perspectives below.

### ***Everyday Life Enquiry***

Data do not need to be always strictly designed or created; often, it can simply be found where it stands. Coming back to more anthropological approaches, or simply, to the fact that the source of our theoretical amazement is in the world that surround us (Brinkmann 2012, 2014; Cohen and Taylor 1992), imagination can also be studied in everyday life. In effect, our theoretical work has allowed us to redefine imagination as the process of uncoupling from the here and now experience, to engage in a distal sphere of experience, with the use of diverse resources; as looping away, imagination always comes back to the ongoing situation, the imagining person's experience having temporarily been enriched. On this basis, instances of imagination become visible in many daily situations. We thus have documented people making decisions in their daily lives, children playing, or solving tasks at

school, adults in prison, adultery couples; as data, we have used documentary film, self-writings (diaries, letters); instances documented through clinic of activity as well as diverse research interviews; and secondary analysis (Gillespie 2010; Gillespie et al. 2008; Gillespie and Zittoun 2010a; Zittoun et al. 2012; Zittoun and de Saint-Laurent 2015; Zittoun and Gillespie 2012, 2015a). We have also considered drawings, paintings, musical pieces, poems, sculpture and films, media documents, both as triggers of imagination or as outcomes of other people's imagining (Gillespie and Zittoun, in press; Zittoun and Gillespie 2014, 2015a). Finally, we relied on our own experience, as former children, adults, parents, researchers, art spectators, and so on, which we analyzed reflectively, in an approach inspired by the two traditions of introspection described above.

Doing so, we did more than simply pile up evidence; our methodological ecumenism has an epistemological grounding. We follow thus as a pragmatist tradition initiated in early psychology and sociology (Freud 1963, 2001b, 2004; James 1890; Schuetz 1944, 1945), interestingly pursued by other researchers interested in our capacity to "escape" from the present (Cohen and Taylor 1992), and recently re-theorized (Brinkmann 2012, 2014; Brinkmann and Tanggaard 2010; Jacobsen et al. 2014; Zittoun et al. 2013, Chap. 12).

### ***What Now?***

These main methodological routes are not the only ones that can be devised for the study of imagination. They reflect theories or implicit assumptions about the nature of the phenomena pertaining to imagination—whether it is an expression of an internal disposition, caused by various factors, or whether it is a social and cultural phenomenon; whether it is a rough, primitive, and anecdotic process meant to lead to rationality, or whether it has a value on its own; and whether it is the expression of a predefined given, or whether it is a dynamic developing through the life course, with the rest of the psychological life. They have contributed to the understanding of imagination, at times keeping close to the researcher's ideas, sometimes open to the surprise of other people's experience. But how can we move through this diversity and reflect on methods beyond the case of imagination?

### **Perspectives in Methodology**

Studies in imagination are grounded in different theoretical and epistemological traditions. This, as a consequence, brings them to privilege often one perspective only on the phenomenon at hand. Adopting a more analytical stance will allow for a more complex view of imagination through the combination of various perspectives (Flick 1992; Gillespie and Cornish 2014; Zittoun and Gillespie 2015b). If imagination is always a very personal and a private phenomenon, it can be documented

from different perspectives. Classically, it can be documented from the person's perspective, or from the observer's perspective; yet each of these perspectives can be more or less reflexive (Brinkmann 2013; Gillespie and Zittoun 2010b). In addition, the clinical tradition has taught us that the observer is mostly affected by the participant's experience and invites us to consider such intersubjective experiences (Abbey and Zittoun 2010). Finally, theoretical elaboration demands the examination of these different levels of experiences in light of conceptual work (Valsiner 2014b, c; Valsiner et al. 2009). It is these different perspectives that I will now examine in turn, trying to highlight how these contribute to the understanding of imagination as a higher psychological function. These different perspectives and their relation are summarized in Table 8.1.

The first line focuses on the *first person perspective*, which is that of the researcher, or in some cases, that of a person, engaged in her experience as it goes.

**Table 8.1** Perspectives in the study of imagination

Perspective Reflexivity	Direct	Reflexive	Deliberate
First person	I am engrossed in an imaginary experience (possibly externalizing) <i>Daydreaming, imagining, doing arts, etc.</i>	I reflect on my experience and on how it affects or affected me. <i>Autoanalysis, introspection, autoethnography, diary writing, etc.</i>	I look for triggers or resources that can create such imaginary experiences <i>Using resources</i>
Third person	I observe S having an imaginary experience <i>Observation, interviews</i>	I observe S reflecting about his/her experience and how he/she was affected by it <i>Diary analysis, interviews, experimentation</i>	I invite S to reflect about his/her experiences <i>Techniques of elicitation, work clinic, forms of guided introspection, didactic situations</i>
Intersubjective	I interact with S <i>Interaction, collaboration, observation, interviews</i>	I reflect on how interacting with S affects S (transfer) I reflect on how interacting with S affects me (countertransfer) <i>Autoanalysis, introspection, autoethnography, etc.</i>	I reflect on how these mutual interactions construct the interaction (Abbey and Zittoun 2010) <i>Specific attention to the relational modality</i>
Analytical: abduction			I look for what is common in these various experiences, and how this corresponds or not to theoretical constructs

Explicitly or not, experience is an important starting point in psychological and social science: it is from our experience of everyday life that we have intuitions, questions, and gaps that we wish to pursue as researchers. Hence, imagination is present in experiences of dreaming, decision making, regretting, or daydreaming. Moving from experiencing imagination to a more reflexive stance demands a phenomenological movement (Brinkmann 2013), which can be done with the use more or less theoretical tools. This understanding of imagination can bring the person/researcher to deliberately provoke further experiences of imagination. In that sense, the first line of the table can be seen as potentially cyclical, where more reflexivity brings to more deliberate and conscious occurrences of imagining. Hence, the person can deliberately manipulate triggers for imagination, use resources, and orient the directions it takes, its outcomes, and their realization. Authors such as Freud (who experienced dreaming, cocaine and hypnosis), Sartre, Singer, and certain ethnographers and sociologists importantly relied on this type of experiences to develop their understanding of imagination.

Research starting with an attempt by the researcher to directly access to a *third person's perspective*, as in the second line, is the most common in psychology research. Observing people interacting in laboratory situations or in daily life, observing responses in a PET scan, seeing how people react to various stimuli (to words, cards, etc. as in cases of projective test), examining how people are engrossed in TV watching, painting, music playing or as they watch an art piece are such approaches. One can question where lies imagination, and on which basis it is inferred. Here, authors mostly rely on language—observing people talk is often seen as good-enough access to their imagination. But if we admit that imagination is, as any psychological experience, based on the internalization and new synthesis made out of internalized material; that it is affected by the conditions in which it occurs, where for instance an ongoing activity feeds-back in imagination (as in diary writing, or dancing), then we also have to acknowledge that imagination is displayed, or given off, by diverse forms of externalization. The TV viewer engrossed in a film or hiding his head in a pillow (Lembo 2000), the painter moving back a few steps (Glăveanu 2011), the aikidoka slowing down his or practice (Gfeller 2015), physically externalize some aspects of their process of imagining. Such variations have been widely described and analyzed in early infant and triadic interactions (Stern 1998; Trevarthen 2012c); however, we have much less a vocabulary for describing gestures, body postures, and nonverbal forms of externalization in adults. Multimodal studies have engaged in the description of these semiotic forms, but often without questioning the intention to communicate lying in there (Jewitt 2014; Kress 2009). Methodologically, much has to be developed on that line, also, experience shows that it would to gain to be combined with other perspectives.

A second common variation of that perspective is these in which the researcher more actively solicits the work of imagination of the participant. Asking people to realize a boring task and tell what comes to mind, or to report about episodes of mind-wandering (Pereira and Diriwächter 2008), waking up people and ask them to report on dreams (Foulkes 1999; Hobson 2002) are such examples. Here, the data

are generally the discourse of the person who is self-writing or thinking aloud. Here, it might be important to differentiate between the sincerity of an expression and the analytical accuracy of an interpretation (Brinkmann 2013). Imagination is an embodied, multimodal, often inconsistent experience; the very act of turning it into a narrative form flattens it out and submits it to the temporal and logical demands of communicable language. Too often, the researchers consider these reports as good-enough versions of the process of imagination itself, not questioning these process of transformation. Although some verbal expressions are sincere, they are not strictly reflecting—or not transparently translating—psychological process, many of which are not verbal and not fully conscious.

One possible way to overcome this difficulty is combining perspectives. In effect, admitting that imagination is often not conscious or deliberate for a person, yet that it can be visible to a theoretically informed observer that a person is imagining, the combination of inner and outer perspectives may allow to construct or to identify the process of imagination that does, or that did take place. The techniques using commented filmed activities, as in the “work clinic”, or techniques of elicitation, are techniques by which the researcher guides the introspection of the research participant. In terms of data, it allows the researcher to combine his or her observation—for instance, or a moment of hesitation in painting when the artists seem to explore possible ways to continue (Bertinotti 2014)—with what the person actually can verbalize. The observations themselves can become secondary stimulus to trigger the reflexion of the participant (Clot and Kostulski 2011). Altogether, the process searched can be constructed by triangulation of these diverse perspectives and semiotic modalities (Flick 1992).

The third line in the table designates a phenomena often overlooked in research, *intersubjectivity*, as imagination is often considered as private. However, interacting with others is one of the elements both triggering and feeding in imagination. When we interact with others, we of course intentionally verify that they understand us and we try to understand them; but also, we nourish questions about who they are, we think about who they remind us of, we feel toward them, and we read into their nonverbal language (body posture, silences, eye gaze, smell, etc.). This has been addressed differently in various domains in psychology (Grossen 2010; Rommetveit 1985) and has been very called countertransference by the psychoanalytical tradition. Transference is the process by which a patient reactivates memories of parents, friends, real and imagined figures, and projects them on the psychoanalyst. Countertransference is the emotional reactions the analyst has to the patient, what he or she does represents to him or her, how this patient reactivates in him emotional reactions, how she reacts to the projections put unto him or her. Transference and countertransference can thus be seen as the loops of imagination triggered by the relation itself; it is about the dialogicality activated by the intersubjective situation (Grossen 2010; Grossen et al. 2014). As a consequence, researchers who would observe their own imagination activated by interactions could usefully complement studies in which they ask someone else to recall instances of imagining. A closer analysis of how such inner gaze can be combined with the unfolding interactions demands a more microgenetic analysis (Abbey and

Zittoun 2010). Hence, Emily Abbey and I proposed to identify three semiotic streams within interactions: first, the “meaning stream,” where each participant tries to understand what the other is talking about, responds, etc.; second, the “sense-feeling stream” where “each person is engaged in sense making, which is directly following the participants’ changing emotional experiences, constantly triggered by the presence and the discourse of the other, or any atmospheric reason” (Abbey and Zittoun 2010, p. 7); and third, the “reflexive stream,” where “each participant can also draw on various other signs to synchronically reflect on the ongoing evolving situation” (Abbey and Zittoun 2010, p. 7). On this basis, the proposition is to focus on moments of breach or rupture, when the reflexive streams identify that these “sense-feeling” does not correspond to what is meant, or that the meaning is unclear, or that there is any other change in the intersubjective dynamic. The methodological proposition was then, rather to “let go,” to precisely focus on such ruptures; for it is in moment of breach of meaning that imagination may unfold (Zittoun and Gillespie 2015a).

Finally, the fourth and last line of the table designates the effort of putting any empirical evidence of the kinds seen so far, and others, in dialog with theorization—that is, abduction. To understand imagination, theoretical imagination is required, as it is about some phenomena which cannot be seen; and in such darkness, our only light are theoretical tools; yet whatever they illuminate, can transform them in turn (Peirce 1878; Valsiner 2014b, c; Valsiner et al. 2009).

## **From Imagination to Higher Psychological Functions**

This chapter explored some ways through which imagination has been and can be studied. These ways are diverse and reflect many epistemological and methodological traditions within psychology. This exploration showed some ways through which we can further the study of imagination, but mainly, it is an occasion to reflect on the study of higher mental functions.

### ***Studying Imagination***

This rapid overview allows underlining two main aspects for progressing in the study of imagination. Both are based on a theoretical reasoning: on the one hand, imagination is a process, which is nourished by semiotic resources and leads to certain outcomes; and on the other hand, it is multimodal. Imagination can only be inferred on the basis of traces of externalization, and these are multimodal as well. As consequence, imagination can be experienced by a researcher, or observed in others, or as self and other interact. Imagination is best observed when different perspectives are brought together—self and other, inner and outer, first and third, or different semiotic modalities (gesture and language, for instance). More specifically,

our small enquiry invites, first, not to limit any enquiry to verbal language; second, it privileges a theoretically justified methodological ecumenism; third, it suggests to counterbalance the simplicity of observation or discourse analysis with reflexivity, and more generally, with triangulation of perspectives. But why is that? This is where we have to come back to the more general question of studying higher psychological functions.

### *Studying Higher Mental Functions*

Imagination is here just one case of a complex phenomenon to be studied by cultural psychology seen as general psychology (Valsiner 2014a). Psychology can in effect choose to focus on very specific and local thinking processes, reactions, physiological processes related to human activity; or it can more ambitiously aim at understanding the more complex conduct in which people engage, as they are located in a complex world of culture, in which they find a unique expression—which is the goal of cultural psychology of the twenty-first century.

Higher psychological functions designate these human conducts which are only possible as people have internalized the complex semiotic organization of the social and cultural environment and are thus socially situated and culturally mediated. They demand the mastery of a semiotic system to be able to act in, and upon the world, often, through further cultural mediation (e.g., Vygotsky 1994, 2004; THIS VOLUME). Reflex, direct apperception, after-colors effect, rote remembering are not higher functions. Daydreaming about a better life, reading a novel, solving a mathematical operation, remembering a movie, acting in the name of a deity all depend on such higher psychological functions. Although the term has a normative connotation—something is higher than something else—here I use it with care, simply to designate the mediated, distanced nature of the processes involved.

Historically, since the origins of psychology as a science, there has been a divide between approaches considering, on the one side, that it is wiser to start to study simple operations and activities in human, and that complex conduct could then be understood through the sum or the recombination of its parts, and approaches which, on the other side, considered that it was certainly more accurate to start addressing complex phenomena for their own sake, as these were probably more as the sum of their parts. This divide is also deeply connected with the question, clearly appearing in this chapter, of whether one should first identify phenomena that allow interpersonal comparison, or the understanding of the complex conduct of a single person, as an access to more complex laws (e.g., Sharp 1899). These questions are well-known, but how deeply they have constructed methodologies and hold epistemologies captive is sometimes forgotten.

In this chapter, I have recalled that the same question addressed through different techniques brings about different data—which is redundant—and that these techniques reflect assumptions about the nature of the phenomena at hand. Typically, a method that respects the temporality of a phenomenon reflects assumptions on their

developmental nature (Gillespie and Zittoun 2010a). In addition, I wish to underlie the deeper underlying epistemological positioning of research implied in different methodologies. Higher psychological phenomena are actually theoretical constructs; people do things, remember, laugh, buy milk or imagine their holidays; psychologists make hypothesis about cultural guidance, structures of recognition, or uses of resources. This is why, epistemologically, the question of how to capture higher psychological phenomena necessarily demands the careful combination of perspectives. Elsewhere, we have shown that understanding how someone experiences the war demands also a careful documentation of how the war occurred around the person even if she could not see it—only elements connected to the paramount reality and its sociogenesis give shape to the ontogenetic conduct (Gillespie and Zittoun 2015a, b). Here, I have suggested that understanding of imagination, as sociocultural process, might require combining four perspectives: that of the one who experiences, that of the one who observes, that of the one who experiences the observation, and that of theories which only gives us the necessary support to hold these together, beyond the obvious.

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