

What's 'inside' the prepared mind? Not things, but relations

Vlad P. Glăveanu

Webster University Geneva, Switzerland

University of Bergen, Norway

This chapter examines the notion of the 'prepared mind', popular in serendipity and creativity studies, in ways that advance and defend the ontological position that mind and context are co-constitutive or interdependent. From this standpoint, it makes little sense to ask what is 'inside' the mind but, rather, what happens in-between mind and world in moments of creative serendipity. As a consequence, instead of intra-psychological 'things', we are invited to contemplate the kinds of relationships established at the encounter between person and environment and, instead of cognitive processes like divergent and convergent thinking, consider more closely the movement between experiences of familiarity and unfamiliarity. There are three ways of relating to the world that are proposed as essential for serendipity and, more broadly, for creativity: surprise, curiosity, and wonder. Surprise is the most basic experience of the three, indicating the emotionally charged discovery of something new or unexpected. It doesn't guarantee the further exploration of novelty but, at the same time, without it, there would be no possibility for curiosity or wonder to emerge. Curiosity makes this unfamiliar familiar by applying categories that ultimately explain novelty away, while wonder takes another route, accentuating unfamiliarity by questioning what we considered familiar in the first place. The ways in which surprise, curiosity and wonder shape our experience of serendipity is discussed in the end with a view towards expanding the prepared mind into a system of open and dynamic relations between self and other, mind and culture, person and world.

Keywords: creativity, serendipity, the prepared mind, surprise, curiosity, wonder

'Chance favours the prepared mind' is a well-known phrase attributed to 19th-century bacteriologist Louis Pasteur. It captures a more general understanding that people who are knowledgeable and pay attention to chance events have a greater likelihood of making the most of them, including creatively. Given that "chance," by definition, refers to the unexpected, the 'prepared mind' needs to be constantly alert, which is close to impossible. Beyond receptivity, this mind also has to know a lot and

be able to quickly analyse what is happening, select what is relevant from it, and make the necessary connections with current needs, requirements and preferences.

It is easy and tempting, therefore, to place all these processes – analysis, selection, association, etc. – *within* the individual mind and to consider them largely invisible to an outside observer. This is how the inside–outside divide became an organizing theme within serendipity research and, more broadly, creativity studies (e.g., Boden, 2004; Corneli et al., 2014). Chance events and the environment are readily observable but mental processes have to be inferred, most often post factum. This leaves researchers with basically two options: a) to study supposed processes and traits in abstract terms, as a hovering potential that is expected to become manifest later on; or b) to consider the creative outcome and ‘decide’ on what constituted (or not) serendipity in a retrospective manner. Only recently have new methodological proposals emerged based on the micro-genetic analysis of creative action as it unfolds (Ross & Vallee-Tourangeau, 2020, in preparation).

A key challenge faced even by these more recent studies goes back to the dichotomy mentioned before and the difficulty of connecting cognition, affect and motivation (internal) to behaviour (external), either post factum or in vivo. What is problematic here is the *logic of connecting*. Instead of considering the ‘elements’ above as interdependent, a lot of serendipity and creativity research is based on the – frequently implicit – assumption that cognition and behaviour, person and environment, the prepared mind and chance events are two inter-related yet distinct entities (for a critique of this epistemological approach, see Marková, 2003). This all makes it normal, then, to ask causal questions such as how thoughts and emotions shape behaviour or how chance events impact the mind.

In this chapter, I will try to overcome this deep Cartesian-like split (Jovchelovitch, 2019) by discussing the ‘prepared mind’ as a system of relations that cut across person and world and, in doing so, recognise the basic fact that the person (and, by implication, the mind) are *already* part of the world in its material, social and cultural constitution. As such, instead of placing more things – traits and/or processes – inside the creator’s mind, it makes more sense to distribute them within the in-between space of on-going *person–world encounters* (for more details about this conceptual attempt see Glăveanu, 2014, 2020a). This is not to deny the fact that individual minds do exist, ontologically, as well as a world of chance events, accidental happenings and, more generally, of people, things and symbols whose

existence is independent of said mind. However, trying to make clear-cut distinctions between the 'inside' and 'outside' is futile here, especially for a phenomenon like serendipity premised precisely on active encounters, not mere connections.

There are ways of discussing the 'prepared mind' that recognize individual psychological activity without separating it from everything beyond the border of the skin or of one's skull. We just need to follow other analytical distinctions that are more fruitful. The ones I will be building on here have to do with expectation and the unexpected, the familiar and the unfamiliar, knowing and not knowing, certainty and uncertainty. These states are decisively *not* internal to the person. Getting to know, forming expectations, dwelling in the unfamiliar or experiencing uncertainty are all processes that require the world as much as they require the self. And, I propose as well, they are all essential for understanding serendipity. In particular, I will examine and largely contrast the dynamic of curiosity and that of wonder as ways of 'moving' in-between familiarity and unfamiliarity and, ultimately, recognizing their union.

The prepared mind of serendipity and creativity research can be one of internal 'things' like conceptual combinations, imagined scenes, private insights, divergent ideas. But this is an impoverished view of it. Instead, let's consider curious and wondering minds existing *in and through* relationships. Minds constituted by the movement between knowing and not knowing, familiarizing and defamiliarizing, minds that both anticipate and are surprised by the world they're already part of. In what follows, I will focus in turn on the experiences of surprise, wonder and serendipity – their definition, characteristics and implications – in order to substantiate and defend the ontological position that self and other, knowing and not knowing, mind and context are co-constitutive and interdependent. The chapter ends with concluding thoughts regarding the implications of this position for our understanding of 'the prepared mind,' and, indeed, for serendipitous creativity.

The experience of surprise

Jerome Bruner (1979) noted that creativity results in effective surprises. This was his way of reappropriating the more widely used criteria of novelty and effectiveness (Runco & Jaeger, 2012) and relating them back to the person of the creator and his or her audience. Indeed, there would be little creativity to talk about if its processes or outcome didn't surprise anybody, if they were not – at least initially – unfamiliar and strange. It is a strangeness that gets to be 'tamed' through meaning-making and

the socialisation of the new within the old or what already exists (Glăveanu, 2011). And yet, creativity (and serendipity) don't just end in but *originate* from surprise.

On the one hand, the effective surprise caused by the creative outcome can inspire further insights and creative processes in the creator him/herself. This is why, for example, artists make several prototypes before the final work or produce multiple versions of it. Each one makes them aware of some unexpected quality they are looking to cultivate. And this is why it is often very hard to decide when the artwork is done (Glăveanu et al., 2013), when it has no more surprises to offer that could help take it further. On the other hand, unexpected or surprising events can lead to new ideas and fuel creative action. This is not always the case, however, given that the novelty of surprise can be either ignored or speedily made sense of and familiarized, losing its potency and capacity to stimulate further thought.

Surprise is often studied in psychology as an emotion. More than this, it is assumed to be a basic emotion, together with happiness, sadness, anger, fear and disgust (Darwin, 1998). This means that reacting to unexpected stimuli with surprise is a natural, unlearned reaction. What we make of this surprise though, and how and when we allow ourselves to express it, remains highly cultural. Another important observation for our discussion here has to do with the *locus* of surprise as an experience. It's easy to assume that being surprised is a purely individual matter. In the end, the facial expressions of surprise, studied by Darwin, clearly belongs to distinct individuals. There are also other studies focusing on the qualities that make a stimulus surprising and on how surprise is cognitively processed (Lorini & Castelfranchi, 2007) given that specific stimuli quasi universally trigger this emotion.

In an attempt to extend the 'prepared mind', I want to propose that surprise is, already, a distributed phenomenon. That it is the specific *relation* between person and stimulus, within a wider socio-material and cultural context, that's the basis for surprise as an experience (and any creative or aesthetic experience, for this matter, see Dewey, 1934; and for abductive processes, Grinnell, 2019). This is not solely because one needs both a surprising stimulus and a mind ready to be surprised by it. It is because, ultimately, the experience of surprise builds on a wider dynamic between familiarity and unfamiliarity, the known and the unknown. The latter that trigger surprise, especially whenever they 'irrupt' from within the familiar or the known. How do we know something is familiar or unfamiliar for us? There must be a much longer history of actions and interactions at play, helping us determine which

one is which (see also Arfini, Bertolotti & Magnani, 2018). The acquisition of knowledge never takes place in the isolation of 'private' minds but requires the active manipulation of objects (Piaget, 1952) and mediating social relations (Vygotsky, 1980). What is known and unknown cannot be, therefore, explain by focusing on the person alone. They require us to explore the wider ecology of 'person within his or her context'.

And so, to properly understand what it means to be surprised, one has to recover the holistic relations between person, stimuli and context. In this sense, the experience of surprise points both ways, towards person and world, and it is fundamentally grounded in the temporal interlinkage of the two. It is only when considering things systemically and developmentally that we get to comprehend the continuous movement between familiarity and unfamiliarity, the manner in which the unfamiliar becomes familiar through exploration and appropriation and, at times, it emerges from within the familiar and helps us consider it anew (Heidegger, 2010). Equally, the unknown is gradually turned into the known and yet, each known opens up the possibility of grappling with ever more complex unknowns (see Plato, 1903).

In what ways is, then, the 'prepared mind' surprised? It does not become so through an internal processing of knowns and unknowns but through the continuous relating of old and new experiences. These experiences either took or are taking place in-between person and world and intimately reflect their temporal co-evolution. For serendipity, surprise remains an essential first step (even if it can occur throughout; see also Makri & Blandford, 2012). Without surprise there would be no awareness of what is new, unfamiliar and unknown. And, as I argued before, this awareness would be impossible, in turn, without references to the old, the familiar, the known. The key question is how exactly novelty is handled once detected. Ignoring it takes us outside the realm of serendipity and creativity. Acting on surprise is what describes curiosity and wonder, two interrelated yet contrasting processes I go on to focus on next.

The experience of curiosity

Curiosity is often seen as a prerequisite of serendipity (Åkerström, 2013) and, as such, as one of the key markers of the 'prepared mind'. This is how, for example, curiosity has been consistently studied as a trait or state (Naylor, 1981), all directing our attention towards the individual and his or her mental properties. Whether

associated with emotion and personality (through its proximity to interest; see Kashdan & Silvia, 2009) or with cognition (especially under the guise of epistemic curiosity, Berlyne, 1962), this phenomenon shared, in psychology at least, the same individualizing fate as surprise, with which it stands related (Fisher, 1998).

It is the case that, most often, curiosity is born out of encountering novelty, unfamiliarity, and the unexpected. It is also the case that, as a process, it primarily directs us *from not knowing towards knowing* and *from the unfamiliar to the familiar* through a series of symbolic and embodied actions such as raising questions, tinkering, reflecting, formulating hypotheses and testing their feasibility, etc. But what is essential about all these actions – and the experience of curiosity itself – is that they are much more distributed in nature than we usually consider them to be.

Starting from the definition, we can see that the dictionary tends to refer to curiosity as an eagerness or wish to learn about something rare or unusual¹. This reflects well the ‘internalisation’ of curiosity as a need or wish, even if its trigger often lays outside the curious mind. However, a quick look at the etymology dictionary² shows that this meaning emerged from the 17th century onwards. In late 14th century, the notion brought to mind a ‘careful attention to detail’, ‘skilled workmanship’ and the ‘desire to know or learn or inquisitiveness’. In Latin, *curiositatem* (nominative *curiositas*) meant ‘desire of knowledge, inquisitiveness’, while *curiosus* meant ‘careful, diligent, inquiring eagerly, meddlesome’, from *cura* ‘care’. A different picture thus emerges, one in which the curious individual is not only epistemically motivated but engaged, a personal way of relating to the world and akin to caring. Reducing the scope of curiosity to ‘wanting to know’ opened it up to severe criticisms across time.

For instance, Edmund Burke in the 18th century labelled it as the first and simplest emotion we discover in the mind, describing whatever desire we have for, or pleasure we derive from, experiencing novelty (Burke, 1958). The restlessness of the curious mind was perceived in particular by Burke as a sign of giddiness and superficiality, of always changing one’s interest and of being easily satisfied with whatever knowledge comes to replace the initial surprise (Llyod, 2018). A similar critique was formulated by Heidegger, closer to our time, when he noted that curiosity, at least when contrasted with wonder, ensures that we know just for the

¹ Cambridge Dictionary <https://dictionary.cambridge.org/dictionary/english/curiosity>

² Etymology Online Dictionary <https://www.etymonline.com/search?q=curiosity>

sake of knowing. It is also unstable given that, as soon as it obtains sight of something, it almost immediately looks away at what comes next (Heidegger, 2010).

It is not my aim here to assess the 'giddiness' of curiosity. Like any other experience relating us to the world, it can be passing or enduring. What is more interesting for my purpose here is the 'direction' taken by curious minds – from unfamiliarity to familiarity. In other words, from not knowing to knowledge as the end point at which one's curiosity can be said to be 'satisfied'. Sometimes knowledge is easily obtained, for instance by asking others and getting a suitable answer, other times it can be difficult to come about, involving months or even years of passionate research (fuelling sometimes long-term projects that define one's life purpose; see Wallace & Gruber, 1989). In each case, the curious mind doesn't exist within itself but extends into the world through information seeking and exploratory behaviours. That is why the classic image of a curious child, for example, is not one of solitary mental pondering but of actively doing things – asking, reading, manipulating objects, trying out – until a solution is in sight. This is also the reason why curiosity relates so closely to creativity (Hagtvedt, Dossinger, Harrison & Huang, 2019) as an open and explorative process taking place in-between self, others, and world.

Given curiosity's propensity to know and discover, how does it contribute to serendipity? As a direct way of following up surprising ideas or events and striving to understand them more fully, it can be argued that curiosity is an essential *movement* for the prepared-mind-in-action. This movement takes the person from an initial state of unfamiliarity and not knowing to one in which the novelty has been properly digested and becomes, all of the sudden, 'normal', even anticipated (in retrospect). The danger for serendipity – and creativity for this manner – is whether the end point of curiosity doesn't take the person back towards the safer ground of what is already known and familiar. If this is the case, then the initial novelty and surprise become incorporated, without much change, within past experience. But this doesn't have to always be the case. Curious explorations of novelty can help us discover new ground and, as such, transform our sense of the unfamiliar *and* the familiar. This is because productive, more enduring forms of curiosity make us question not only the unfamiliar but also what we initially assumed to be familiar and known. In this way, the curious mind becomes a wondering one as well, and this changes the nature of our experience altogether, including our relation to the world and to knowledge itself.

The experience of wonder

The movement of wonder is different than that of curiosity as it takes the mind from the familiar to the unfamiliar or, better said, it helps it discover the unfamiliar within the familiar. More than this, it has a more symbiotic relationship with the unknown. The use of 'symbiotic' here goes beyond the metaphorical and it stresses that both these phenomena *require* each other. Wonder's central characteristic is a feeling of not knowing and wanting to know, a wanting to know that doesn't just do away with not knowing but actually maintains it. In this sense, a new meaning and a new value of not knowing is revealed to us through the experience of wonder. Instead of searching for its replacement with knowledge, a wondering mind dwells within the unknown, to use a Heideggerian term (see Heidegger, 2010), and it finds this experience transformative. It is, after all, the old Socratic basis for inquiry. For Socrates (Plato, 1903), philosophy was born in wonder in the sense that emerged from a systematic practice of doubting and questioning what was taken for granted in society. This is certainly a useful practice for creators who are looking for moments of serendipity in their practice but, in order to truly experience wonder (and not moments of wondering within an otherwise curious search for knowledge) he or she needs to accept not knowing and to patiently learn from this very experience.

This is not as easy a goal as it sounds. Not knowing can easily lead to anxiety and even to anger, whenever the possibility of attaining certain and final knowledge is refused. This is why, after all, Socrates was condemned by the Athenians to death for seemingly perverting the minds of the young, making them doubt everything and, in doing so, become incapable of decisive action (Lloyd, 2018). And yet, there are clear benefits associating with engaging in wonder, key among them being the capacity to defamiliarize the world and, in this manner, discovering completely new perspectives on it. This is why wonder has a close connection to creativity (see Glăveanu, 2019), closer perhaps than curiosity. It places the mind within a meta-position from which multiple ways of relating to one's reality become possible. Wondering is an essential part of becoming aware of and starting to explore an expanded range of possibilities, a central part of any creative process.

And, just like surprise and curiosity, wondering cannot be reduced to intra-psychological processes alone, even if there is a great temptation to do so. For instance, Carlsen and Sandelands (2014) identified four key 'moments' of wonder including arousal (the moment of surprise and appreciation of something as new,

strange or beautiful), expansion (the moment of questioning and seeking new forms of understanding), immersion (the moment of empathic resonance with the world), and explanation (the moment in which a new understanding is reached through a sense of beauty, harmony or truth). Not only do these stages assume an 'end point' to wonder which, as mentioned above, goes against the Socratic-Heideggerian tradition of thinking about it, but they also place wondering firmly within the head. In contrast, recent accounts (Glăveanu, 2020b) connect this phenomenon with the encounter between self, others and world and recognize the importance of embodied action – from playing to tinkering – for wondrous explorations of the unknown.

Reducing wonder to its psychological dimension or to its behavioural facet is equally limiting. What defines this process is precisely the articulation between activity and passivity, immersion and detachment, and between what has been identified as wondering at and wondering about:

“The first, a receptive and inward type in which the feeling of surprise or excitement is dominant and the signifying element more or less disappears; the second, an active and outward type which brings to the fore a creative, signifying interest and subordinates the receptive element. The expressive ‘wonderful’ and the ‘ah!’ of pure excited joy illustrate the first type of wonder experience, whereas ‘wondering’ in the active voice indicates the formative, intentional force that aims at putting into meaningful form the relative disorder of the emotional experience” (Parsons, 1969, p. 93).

The kind of relations that constitute a ‘prepared mind’ that wonders are those between being receptive to a surprising world and, almost simultaneously, acting on this world in order to grasp the nature of the surprise it presents. The goal is here understanding (process), not having understood once and for all (outcome). Wondering therefore marks a specific way of relating to oneself and one’s environment in which both the wonderer and the wondrous become open, indeterminate and, as such, are placed firmly in the realm of the possible. This is the reason why wonder is an ever-present companion of creative processes. Creativity can take flight from wonder (Rothenberg, 2014) and return to it every time uncertainty and open-endedness become dominant features of the experience. Creative outcomes themselves are triggers of wonder both in the creator and his or

her audience. In other words, they reveal, for both makers and those who get to see of experience what has been created, a new way of knowing the world that, by necessity, opens up new unknowns. Every act of creativity constructs the world, for self and others, and, in doing so, invites both to consider its other, possible *re-constructions*. When audiences especially get to wonder, the work itself becomes re-interpreted, re-discovered and, in symbolic or physical ways, created anew (see the notion of user innovation, von Hippel, 2005; also the ‘open work’ of Eco, 1989).

The experience of serendipity

The history of the word serendipity is as interesting as the phenomenon it came to represent and, intriguingly, it is reflective of it. *Serendip* was the Arabic name for Ceylon, today the island of Sri Lanka. An old Persian fairy tale, *The Three Princes of Serendip*, depicted the adventures of three traveling heroes who made several discoveries by accident and sagacity. Translated in the 16th century from Persian to Italian, then from Italian to French, it was read by Horace Walpole who, in a later to his friend, Horace Mann, coined the English term serendipity (Ban, 2006). A term invented by chance – the fortuitous reading of an old story translated into multiple languages – came to capture the essence of chance in our lives. But chance and accidents are only one side of the serendipity coin. Sagacity, or the general capacity of the ‘prepared mind’ to make something out of chance events, is the other.

To fully understand the experience of serendipity as a system of relations, and not as a reified set of intra-psychological process, we need therefore to recover the interdependencies between events and mind and to understand the broader context of both. For instance, we need to consider what the person who experiences serendipity had been doing before (and after) encountering the chance event. Also, how his or her relations to the world – reflected in needs, wants, thoughts, actions – had come to ideally position this person vis a vis the potential of chance. We need, in other words, to understand what prepares the ‘prepared mind’ and this understanding should take into account a long, personal and sociocultural history of entanglements (Latour, 2005; Ingold, 2010) between self and other, mind and world.

The fortuitous discoveries discussed by both serendipity and creativity research require us to look both ways, as it were, and, more importantly, to integrate chance and mind within a broader ecology. Even the individual or psychological facet of this phenomenon – sagacity – cannot be constructed as a quality of the isolated mind

(for social and cultural discussions of wisdom see Sternberg, 2003). Being wise is not just a personal quality, it is a *relationship* we establish between the state of the world as is and the world as it should be, if considered through the prism of sensible knowledge and universal ethical principles. Being sagacious is, then, a way of relating rather than a way of being. And there is yet another important detail to take into account. The three princes of the old tale were making discoveries they were not in search of. This means, naturally, that they were animated at the time by other goals and other forms of engagement with the world (in this case, the world within the fairy tale). What accidents 'did' was to trouble these settled engagements and relationships. Accidents led to surprise and surprise, as argued here, was responded to with curiosity or wonder and sometimes with both.

Serendipity is therefore much more than the inter-relating of 'external' events and 'internal' minds, of accidents and sagacity; it is, first and foremost, a way of interrelating the new and the old, the familiar and the unfamiliar, the known and the unknown. What we often find in moments of serendipity is that the unfamiliar and the unknown irrupt within the familiar and the known and trouble it, disturbing the course of one's initial action and intent. Of course, we call this serendipity when the outcome of this disruption is unexpected yet positive, useful, creative in some way; the label is thus always applied retrospectively (Copeland, 2019). But if we were to approach a forward-way of looking at serendipitous acts (see Ross & Vallee-Tourangeau, 2020, in preparation) we would discover that the familiar and the unfamiliar are defined in relation to each other in a dynamic, recursive manner. What we start off with as familiar is contrasted with the unfamiliarity of chance happenings (i.e., we notice the difference between what we intended and what emerged or what else happened). This helps us defamiliarize the familiar itself (i.e., we get to understand more about our initial doing) or start familiarizing the unfamiliar (i.e., we try to align the new with the old, to see if it can be used to achieve an existing, overarching game) or, most often, do both (i.e., engage in a quick back and forth movement between the two).

The 'paths' of curiosity and wonder largely map onto the dynamic discussed above – from unfamiliar to familiar and from familiar to unfamiliar – but it is the *movement* between them and the ultimate integration of familiarity and unfamiliarity that give serendipity its unique creative potency (Simonton, 1999). Unfortunately, the process of serendipity is rarely discussed in the literature in these terms. The 'serendipity pattern' is either reduced to the fortuitous discovery of by-products

(Merton, 1968) or classified with the help of historical illustrations (e.g., Columbian, Archimedean and Galilean serendipity; Friedel, 2001). In these accounts, the chance event and the 'prepared mind', although connected through by-products and revolutionary insights, remain largely separate from each other. What the mind 'does' with or 'makes' of chance is internal to it. How can we think about it differently?

Concluding thoughts

In this chapter, I argued that we should envision the 'prepared mind' less as a depository of different things (such as cognitive mechanisms, affective reactions and motivational orientations) and more as a network of relations and entanglements with objects, ideas, people, places, institutions, and cultural practices. In other words, the 'prepared mind' expands well beyond the border of the skull or skin and becomes transformed through this. The study of serendipity makes the perfect case for distributed cognition and creativity (Glăveanu, 2014). It invites us to consider the inter-relation between the world's chance and accidents, on the one hand, and the mind's sagacity and receptivity on the other. But, for as long as these two 'terms' are kept separate and the focus placed largely on how the individual mind is capable of serendipitous insights, we will fall short of this phenomenon's epistemic promise.

What I proposed further is to go beyond reinterpreting the 'prepared mind' as a relational entity and consider more specifically what is being related to what. My conclusion is that it is not events or ideas that get connected as much as experiences of knowing and not knowing, discovering the familiar and the unfamiliar, encountering the unexpected within an otherwise mundane set of results. These categories should not be defined in dry or mechanistic intra-psychological terms. What we need is an account of how unfamiliarity is positioned vis a vis the familiar and how serendipity allows us to dwell in newly created spaces between the known and the unknown. Ultimately, the relations that constitute the 'prepared mind' can be best understood as general *movements* from one type of experience to another. And the three phenomena I found essential for serendipity and, more broadly, for serendipitous forms of creativity, are surprise, curiosity, and wonder.

If surprise as an emotion is a natural response to the detection of novelty, then the experience of surprise reflects the entire history of relations between person and world, individual minds and culture. Something is new or surprising only in contrast with what is already known and what is anticipated to happen. And these grow out of

actions and interaction in and on one's environment, both individually across the life-span (ontogenesis) and collectively across the evolution of society (sociogenesis). As such, the 'prepared mind' being surprised is, from the start, a distributed state.

What we make of this initial surprise marks, however, the existence (or not) of a serendipitous encounter with the world. Overcoming the tendency to either ignore the new or immediately 'tame' the unexpected with the help of easy and automatic explanations, the person can initiate the gradual transformation of the unfamiliar into the (newly made) familiar – the path or movement of curiosity – or he or she can, conversely, start from the familiar and, using the sense of surprise, change it into something even more unfamiliar – the movement specific for wondering. The first builds up knowledge, the second one questions all forms of knowing.

In the end, choosing to portray the sagacious 'prepared mind' as *a mobile system of relating the familiar and the unfamiliar through a close interplay between experiences of surprise, curiosity, and wonder*, can have long reaching consequences. First, it helps us go beyond questions about serendipity and creativity that start from the premise of mind–world separation (and connection) and of pre-defined spaces 'inside' and 'outside' these interacting yet distinct 'entities'. Second, and related to the above, this approach encourages us to develop, theoretically and methodologically, tools that help us make better sense of entanglements, distributed action and eminently human forms of experience. Even if surprise is widely present in the animal world, and many animals also display more or less complex types of curious behaviour (Kaufman & Kaufman, 2015), wonder remains the defining feature of thinking beings (della Mirandolla, 1994). Surprise, curiosity and wonder are seen here as eminently human because they capture a specific kind of movement that results in widening our horizon of possibility (Glăveanu, 2020c). Finally, the question emerges as to how we can conceptualize and study a 'prepared mind' that restlessly tries to surpass its own limits, that travels freely between the known and the unknown. How do we describe a mind that, especially in the context of serendipity, reveals itself not as *having* things but as *being* in movement, existing in and through relationships? Last but not least, if all the premises above hold, what movements and relationships help the 'mind' not *prepare for* but simply *be create*?

References

- Åkerström, M. (2013). Curiosity and serendipity in qualitative research. *Qualitative Sociology Review*, 9(2), 10-18.
- Arfini, S., Bertolotti, T., & Magnani, L. (2018). The antinomies of serendipity how to cognitively frame serendipity for scientific discoveries. *Topoi*, 1-10.
- Ban, T. A. (2006). The role of serendipity in drug discovery. *Dialogues in Clinical Neuroscience*, 8(3), 335–344.
- Berlyne, D. E. (1962). Uncertainty and epistemic curiosity. *British Journal of Psychology*, 53(1), 27-34.
- Boden, M. A. (2004). *The creative mind: Myths and mechanisms*. London: Psychology Press.
- Bruner, J. S. (1979). *On knowing: Essays for the left hand*. Cambridge, MA: Harvard University Press.
- Burke, E. (1958). *A philosophical enquiry into the origin of our ideas of the sublime and beautiful*. London: Routledge & Kegan Paul.
- Carlsen, A., & Sandelands, L. (2014). First passion: Wonder in organizational inquiry. *Management Learning*, 46(4) 373–390.
- Copeland, S. (2019). On serendipity in science: discovery at the intersection of chance and wisdom. *Synthese*, 196(6), 2385-2406.
- Corneli, J., Jordanous, A., Guckelsberger, C., Pease, A., & Colton, S. (2014). Modelling serendipity in a computational context. *arXiv preprint arXiv:1411.0440*
- Darwin, C. (1998). *The expression of the emotions in man and animals* (Edited by Paul Ekman). London: Fontana Press (Original work published 1872).
- della Mirandolla, P. G. (1994). *De hominis dignitate (On human dignity)*. Trans. Eugenio Garin. Pordenone: Studio de Tresi. (Originally published in 1486).
- Dewey, J. (1934). *Art as experience*. New York, NY: Capricorn Books.
- Eco, U. (1989). *The open work*. Cambridge, MA: Harvard University Press.
- Fisher, P. (1998). *Wonder, the rainbow, and the aesthetics of rare experiences*. Cambridge, MA: Harvard University Press.
- Friedel, R. (2001). Serendipity is no accident. *The Kenyon Review*, 23(2), 36-47.
- Glăveanu, V. P. (2011). Creativity as cultural participation. *Journal for the Theory of Social Behaviour*, 41(1), 48-67.
- Glăveanu, V. P. (2014). *Distributed creativity: Thinking outside the box of the creative individual*. Cham: Springer.

- Glăveanu, V. P. (2019). Creativity and wonder. *Journal of Creative Behavior*, 53(2), 171-177.
- Glăveanu, V. P. (2020a). A sociocultural theory of creativity: Bridging the social, the material, and the psychological. *Review of General Psychology*, early view
- Glăveanu, V. P. (2020b). *Wonder: The extraordinary power of an ordinary experience*. London: Bloomsbury Press.
- Glăveanu, V. P. (2020c). *Mobilities and human possibility*. London: Palgrave.
- Glăveanu, V. P., Lubart, T., Bonnardel, N., Botella, M., de Biais, M.-P., Desainte-Catherine, M., Georgsdottir, A., Guillou, K., Kurtag, G., Mouchiroud, C., Storme, M., Wojtczuk, A., & Zenasni, F. (2013). Creativity as action: Findings from five creative domains. *Frontiers in Educational Psychology*, 4, 1-14.
- Grinnell, F. (2019). Abduction in the Everyday Practice of Science: The Logic of Unintended Experiments. *Transactions of the Charles S. Peirce Society*, 55(3), 215-227.
- Hagtvedt, L. P., Dossinger, K., Harrison, S. H., & Huang, L. (2019). Curiosity made the cat more creative: Specific curiosity as a driver of creativity. *Organizational Behavior and Human Decision Processes*, 150, 1-13.
- Heidegger, M. (2010). *Being and time* (J. Stambaugh, Trans, revised by D. J. Schmidt). Albany, NY: State University of New York Press. (Originally published in 1927)
- Ingold, T. (2010). Bringing things to life: Creative entanglements in a world of materials. *World*, 44, 1-25.
- Jovchelovitch, S. (2019). *Knowledge in context: Representations, community and culture*. London: Routledge.
- Kashdan, T. B., & Silvia, P. (2009). Curiosity and interest: The benefits of thriving on novelty and challenge. In S. J. Lopez, C. R. Snyder (eds.), *Oxford Handbook of Positive Psychology*, 2nd ed (pp. 367–374). New York, NY: Oxford University Press.
- Kaufman, A. B., & Kaufman, J. C. (eds.) (2015). *Animal creativity and innovation*. Cambridge, MA: Academic Press.
- Latour, B. (2005). *Reassembling the social*. Oxford: Oxford University Press.
- Lorini, E., & Castelfranchi, C. (2007). The cognitive structure of surprise: Looking for basic principles. *Topoi*, 26(1), 133-149.

- Llyod, G. (2018). *Reclaiming wonder after the sublime*. Edinburgh: Edinburgh University Press.
- Makri, S. & Blandford, A. (2012) Coming Across Information Serendipitously: Part 1 – A Process Model. *Journal of Documentation*, 68(5), 684-705.
- Marková, I. (2003). *Dialogicality and social representations: The dynamics of mind*. Cambridge: Cambridge University Press.
- Merton, R. (1968). *Social theory and social structure*. New York, NY: The Free Press.
- Naylor, F. D. (1981). A state-trait curiosity inventory. *Australian Psychologist*, 16(2), 172-183.
- Parsons, H. L. (1969). A philosophy of wonder. *Philosophy and Phenomenological Research*, 30(1), 84-101.
- Piaget, J. (1952). *The origins of intelligence in children*. New York, NY: International University Press.
- Plato (1903). Theaetetus. In *Platonis Opera*, edited by John Burnet. Oxford: Oxford University Press. Perseus Digital Library.
- Rothenberg, A. (2014). *Flight from wonder: An investigation of scientific creativity*. Oxford: Oxford University Press.
- Ross & Vallee-Tourangeau (in preparation). *Kinenoetic analysis: Unveiling the material traces of creativity*.
- Ross, W., & Vallee-Tourangeau, F. (2020). Microserendipity in the creative process. *Journal of Creative Behaviour*
- Runco, M. A., & Jaeger, G. J. (2012). The standard definition of creativity. *Creativity Research Journal*, 24(1), 92-96.
- Sternberg, R. J. (2003). *Wisdom, intelligence, and creativity synthesized*. Cambridge: Cambridge University Press.
- von Hippel, E. (2005). *Democratizing innovation*. Cambridge, MA: MIT Press.
- Vygotsky, L. S. (1980). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Wallace, D. B., & Gruber, H. E. (Eds.). (1989). *Creative people at work: Twelve cognitive case studies*. Oxford: Oxford University Press.