

---

## 14 Researching the microdynamics of intuitive experience

*Claire Petitmengin*

---

When an intuition appears, the interest usually focuses on its *content* and the exploration of its consequences. For example, in the scientific domain, even though an intuitive discovery can have considerable repercussions in our daily lives, very little attention is paid to the experience itself, to what the scientist has been living through at the exact moment of the intuitive breakthrough. Researchers focus their effort on understanding the process that, once the new idea has emerged, enables the scientist to prove or justify it, but very rarely on the process that enabled him to find it (Holton, 1972 [1998]). In the philosophical domain too, attention is focused on the theoretical elaboration of the content of the intuition into a coherent system, with very few pages devoted to exploring the unique and specific circumstances of its appearance. In the field of artistic creation, of psychotherapy, of managerial decision making, as well as in daily life, the absorption of attention into the content of the intuition and its implications conceals the lived experience of its emergence. Even researchers who focus on the intuitive process quickly slip from a description of the intuitive experience to an explanatory model, the most well known being that of unconscious inference (Berne, 1949; Reik, 1958), unconscious recognition (Damasio, 1994; Dreyfus & Dreyfus, 1986; Kuhn, 1962 [1970]; Reber, 1993; Simon, 1987) and association (Changeux & Connes, 1992; Poincaré, 1970) or ‘bisociation’ of ideas (Koestler, 1964). Even when they rely on testimonies, they are more interested in defining the conditions for the emergence of intuitions (personality traits, working conditions, lifestyle) than in describing precisely the experience that accompanies this emergence (Csikszentmihalyi, 1997).

Moreover, intuition is defined as immediate or direct knowledge, which cannot be reached through an intermediary deductive process: the content of the intuition appears all of a sudden, complete, and it surges forth unexpectedly, out of our control. While it might be possible to study and describe a process unfolding over time, what can be said about a sudden unpredictable surging? The conception of intuition as immediate knowledge thus precludes the awareness of its genesis, which remains usually

unnoticed. Becoming aware of this genesis calls for a specific interior gesture consisting of reorienting one's attention from the content of the intuition towards its process of emergence. To study this process, I used a specific interview technique, the 'elicitation interview', which helps the interviewed person to carry out this gesture. This interview technique enabled me to collect a set of fine-grained descriptions of the genesis of intuitions. Comparing these descriptions allowed me to detect a generic dynamic structure of this experience, made up of a succession of very precise interior gestures, with a surprising regularity from one experience to another and from one subject to another. After a description of the elicitation interview method applied to the intuitive experience, I shall give an overview of this generic structure and of the epistemological consequence of its detection.

## ELICITATION AND ANALYSIS DEVICES

The goal of an elicitation interview (Petitmengin, 2006; Vermersch, 2004a [2010], 2009) is to help a person become aware of the usually unnoticed part of a given cognitive process, and to describe it with precision. It is well known that individuals who genuinely and concretely try to describe their cognitive processes, as well as researchers who try to collect such descriptions, meet serious difficulties and usually only gather scanty descriptions. Fortunately, all of us are used to living the processes of remembering, taking a decision, reading or feeling emotions. Usually, however, we only have a very partial awareness of how we proceed. The main reason for this lack of awareness seems to be our absorption in the content, the object, the 'what' of our activity, to the detriment of the process, of the 'how'. We are a little like blind persons exploring objects with the tip of their cane, whose attention is entirely directed towards the objects, and who ignore the contact and variations of pressure of the cane in the palm of their hands. Like blind persons, we use this information in action, but usually it remains largely unnoticed, and as a result is not spontaneously described. Surprising as it may seem, we are blind to the dynamic dimension of our lived experience, and must learn to see it by carrying out specific acts (Bitbol & Petitmengin, 2013; Depraz et al., 2003; Petitmengin, 2006, 2009, 2011; Petitmengin & Bitbol, 2009; Petitmengin et al., 2013; Vermersch, 2009). The elicitation interview method aims at fostering these acts, through specific prompts and questions, in order to help the interviewed person become aware of the unrecognized part of the process being described.

### **Choosing and Describing a Particular Experience**

No one lives an experience ‘in general’. The first key to the interview consists of helping the subject to choose a particular occurrence of experience – in our case of intuitive experience – which is precisely situated in space and time. Each time the subject surreptitiously slides from this singular experience towards the verbalization of explanations, judgements or abstract knowledge about it, the role of the interviewer is to bring her back to this singular experience. The following quotation, taken from an interview about the emergence of a scientific intuition, illustrates this shift (shown in italics), which is often observed during interviews:

I have an image in my head at that point. *For I belong to the category that mathematicians call geometers, people with visual intuition, unlike algebraists. People like that need to construct a figure for themselves to solve the problem raised . . .*

After carefully reformulating the interviewed person’s words to show her that she has been listened to, the interviewer has to bring her back firmly to her experience by a prompt of the following type:

So therefore because you belong to the category of geometers, you have at that moment an image in your head. Let’s come back to this image. Can you describe it to me? What size is it?

### **Evoking the Past Experience**

In most cases, an intuitive experience cannot be described while it is unfolding, and there is a temporal gap between the experience and its description. The second key to the interview is thus to help the subject retrieve or ‘evoke’ the experience. Evoking a past experience is a very specific process. It falls within a type of memory that Husserl called ‘passive memory’ (Husserl, 1925 [2001]; Vermersch, 2004b, 2004c, 2006). We are always in the process of memorizing what we live, but involuntarily, without being aware of memorizing. For example, you did not voluntarily memorize the first thought you had when you woke up this morning. But you may be able to remember it. Passive memory has been little studied compared to voluntary memory, that which is mobilized, for example, for memorizing a list of numbers or a list of names. As this process of passive memory unfolds without our knowledge, we do not know what we know. This explains why at the beginning of an elicitation interview, people usually begin by saying, ‘I do not know what I did, I do not remember anything.’ But we can turn ourselves towards our past experience to make

this information reappear. However, interestingly, in passive memory the *recalling* of the memory is also involuntary: it does not occur on the initiative of discursive thought but spontaneously, usually through the intermediary of a sensorial trigger (Gusdorf, 1951). For example, to retrieve the first thought you had when you woke up this morning, you would probably have no way other than returning in thought to your bed at the moment when you awoke. Thus, the memory cannot be deliberately set off, but it is possible to prepare for its emergence by rediscovering the sensations linked to the experience. Therefore, to access the intuitive process, the interviewer helps the subject to retrieve precisely the visual, auditory, tactile and kinaesthetic, and possibly olfactory sensations associated with the very start of the process: 'What were you hearing, seeing, feeling . . . at this moment?' The subject is 'evoking' this moment when she recalls it to the point that the past situation becomes more present for her than the present situation. The following excerpt is taken from the interview already referred to, concerning the instantaneous emergence of a scientific intuition five years previously:

R. What I propose that you do is go back to this experience, in February 1997 in order to re-enact it as it was. So you are in your office, reading an article by Griffiths . . .

I. In fact I was not sitting at my desk, but at a small table located just under the window.

R. Just under the window then. What time was it, approximately?

I. It was in the evening, between five and seven. There was light . . . the lamp on the little table was on.

R. Was there any noise around you?

I. No, it is silent, I am alone. I am reading the article. I read it rapidly, fluently, without taking notes . . .

The transition to the present tense in the last part of the excerpt is a verbal clue that the interviewee is in fact going back into the past experience. Other verbal indicators are the use of the word 'I', specific context indicators of place and time, the concrete and detailed (as opposed to conceptual and general) character of the vocabulary used. An example of a non-verbal indicator is the shifting and unfocusing of the eyes, that is, the fact that the subject drops eye contact with the interviewer and looks off into empty space. At the same time, the flow of speech slows down, the words are often cut with silences and co-verbal gestures often appear: these para-verbal clues are the sign that the subject is retrieving her past experience and coming into contact with its initially unnoticed dimensions. It is only when, thanks to these clues, the interviewer verifies that the evocation state is sufficiently intense and stabilized that she can enable the

interviewee, with the help of appropriate questioning, to turn her attention towards her inner processes and describe them.

The interest of the work in evocation is that it makes it possible to go back several times to the initial experience, with a finer and finer temporal resolution. It also seems that the evocation state has the effect of ‘slowing’ in a way the intuitive process, giving access to early phases of the intuitive experience, which are usually occulted by its rapidity.

### **Reorienting Attention from the ‘What’ to the ‘How’**

The third key to the interview consists in helping the subject to redirect her attention from the content, the ‘what’, of her experience towards the involved process, the ‘how’ – in our case, from the content of the intuition towards the intuition process. To collect this diachronic description, the interviewer draws the interviewee’s attention towards the possible unfolding of the process, and notably the subtle implicit tests used to evaluate its progress, through questions such as: ‘At that time, how did you know that an idea was about to emerge? How did you know that an idea was in the process of emerging? How did you know that the idea was (not yet) complete?’ The same mode of questioning may be used to help the interviewee become aware of the inner acts she eventually carries out to foster or accompany the process, for example:

I. At that moment I am in a kind of availability, of expectation, and also a kind of curiosity, lucidity, I am present . . .

R. How do you know that you are present?

I. I am not in my head anymore, I am listening with my whole body.

R. How do you go about listening with your whole body?

This type of questions makes it possible to collect fine-grained descriptions of usually unrecognized micro-acts, for example:

I. I am concentrating.

R. How do you go about concentrating?

I. I am listening to what is happening inside me.

R. How are you listening? If you wanted to teach me how to do it, what would you tell me?

I. First, I’m going to place my consciousness much more towards the back of my skull.

R. How do you go about placing your consciousness towards the back of your skull?

This mode of questioning, which is dubbed ‘content empty’, is both non-inductive and directive. It is non-inductive because it draws the sub-

ject's attention towards the procedural characteristics of the experience being explored without suggesting any content or infiltrating presuppositions. It is directive because it soundly maintains the subject in the context of this singular experience, and guides her firmly in the exploration of its characteristics up to a very fine level of granularity.

This questioning mode is based not only on linguistic signals but also on non-verbal clues such as the gestures that accompany (or replace) words in a non-conscious way. For example, interviewing researchers about the process of emergence of their intuitions, I observed a great number of metaphoric gestures: gestures of loops, flows, springing out, opening, tightening, sometimes miming a consistency or a texture, such as solidity, fluidity or evanescence. These gestures often enabled me to help these researchers become aware of subtle inner acts or movements, thanks to prompts such as: 'What is happening there?', 'What is separated in this way?', 'What opens up like that?'

At certain points of the intuitive process, the description may become *synchronic*: the experience is no longer described in the form of a succession but in the form of a network of characteristics. For example, the mode of attention at a given moment of the process may be described synchronically in terms of its scope, source and direction.

The structure of an interview is an iterative structure that consists of bringing the subject to evoke again her experience several times, while guiding her attention towards a diachronic or synchronic mesh that is increasingly fine, until the required level of detail is reached.

### Detecting Dynamic Structures

Once micro-descriptions of singular experiences have been collected, analysis and comparison work is necessary (1) to identify the *structure* of these experiences, defined as 'a network of relationships between descriptive categories, independent of the experiential content', and (2) to detect any generic structures, that are gradually extracted from the initial descriptions thanks to a succession of abstraction operations. The method we used to detect structures (Petitmengin, 1999, 2001) includes four main stages as follows:

1. Resequencing the description. The chronology of the process of becoming aware of the intuitive process and the chronology of the initial experience are not identical. When the subject re-enacts the experience for the first time, she provides a quite coarse 'large mesh' description. She needs to go over it several times to successively become aware of all the dimensions of this experience in order to provide a fine mesh description.

2. Delineating and representing the diachronic structure of the experience: identifying its points of articulation – often under the form of implicit tests – so as to detect its main phases and sub-phases, down to the desired level of detail.
3. For each phase, identifying the experiential components that cannot be represented in the form of a succession (such as the mode of attention and the sensorial registers mobilized), and constructing a synchronic representation of it.
4. Constructing from structured representations of each experience, a generic representation that highlights their common structure, and possible variants, both from the diachronic and synchronic viewpoints.

## UNFOLDING THE INTUITIVE EXPERIENCE: A DYNAMIC STRUCTURE

Using these elicitation devices enabled me to help scientists, therapists and artists redirect their attention from the content of their intuitions towards their unfolding and to describe this. Analysing these descriptions allowed me to highlight a twofold generic dynamic structure of this experience.

### **A Specific Attentional Disposition**

Whatever its content, the emergence of an intuition is fostered by a particular inner disposition, more precisely a certain quality of attention, with very specific characteristics, which have been described to me at length (Petitmengin, 1999, 2001):

(1) It is a mode of attention whose center has shifted from the head (the eyes, the ears) to the body. (2) Unlike focused attention, which is concentrated on a particular content, this mode of attention is panoramic, peripheral, ‘floating’, ‘holistic’, ‘lateral’ (these are the adjectives most commonly used to describe it). This diffuse attention is, however, very fine, and sensitive to the most subtle discontinuities. Several persons described this opening as related to a subtle sliding of consciousness towards the back of the skull. (3) This attention mode is also described as being receptive and non-voluntary: the effort made to characterize and seize objects is relaxed in order to make way for an attitude of receptivity and welcome, of vulnerability in a way.

With the identification of this propitious attentional disposition, the intuitive experience stopped being simply reduced to the moment of surging forth of the intuition, it began to unfold in time. Gradually, a third

moment appeared: that of the inner gestures of loosening, of releasing, of letting go, that enable one to reach the favourable inner disposition. And finally, for a few experts, there are precise devices to prompt those gestures. This methodological chapter is not the place to enter into detail, but I would like to show how the work of elicitation first made the intuitive experience unfold 'backwards'. Focusing on the instant of emergence of the intuition and its content had somehow occulted the propitious disposition, the gestures enabling one to foster it and the helping devices.

### A Microgenesis

Gradually, over the descriptions I gathered, the instant of intuition also unfolded 'forwards'. It became apparent that instantaneity is not the most common mode of appearance of intuition, that intuition is not always a sudden 'illumination'. Often it first shows on the surface of consciousness as a line of force, a blurred and fuzzy feeling. In this case it is possible to describe the slow 'ripening' of the idea, with its definite stages, their recognition criteria and the internal attitude to adopt at each stage to facilitate the transformation of the initial sensation into a clear, distinct and communicable idea.

The early stages of this microgenetic process seem to share common characteristics (Petitmengin, 2007). The first is the *transmodality* of the emerging intuition. Most of the time, the intuition emerges as a fuzzy feeling that does not fall within a particular sensorial modality, but has transmodal submodalities. Unlike, for example, temperature and texture, which are specific to touch, or colour, which is specific to sight, transmodal submodalities, such as intensity, rhythm and movement, are not specific to a particular sense but are transposable from one sense to another. The emerging intuition takes the form of an inner direction, an inclination, a line of force that evolves slowly. This ripening is evaluated through subtle inner transmodal criteria such as the following:

It is not just a feeling of coherence, but a feeling of penetration: the impression that the subject is being enriched, that the idea is right in the sense that . . . it's difficult to describe, but there is this impression of going further. A feeling of depth and immensity, that there was something, a new field, which was opening up, which transcended the question I was asking myself, that I was meeting something considerably more vast.

The transmodality of the emerging intuition is often accompanied by a certain *permeability* of the border usually felt between the interior and exterior spaces. This feeling of permeability is itself associated with a transformation of the feeling of individual identity, which becomes 'lighter' and



even disappears. All the descriptions I collected of the emergence of an intuition mentioned a feeling of an absence of control: ‘It happens to me’, ‘It doesn’t depend on me’, ‘It’s given to me’, ‘It escapes from me’... In these instants, the ‘sense of agency’, that is, ‘the sense that I am the one who is generating a certain idea in my stream of consciousness’ is altered. Indeed, the person describing his or her experience does not say ‘*I have an idea, I see an image*’, but ‘an idea *is coming* to me, an image *appears* to me’. The ‘sense of ownership’, that is, the feeling that this idea is *my* idea, also seems altered, as the absence in many descriptions of the personal pronoun ‘I’ confirms. The person does not even say ‘an idea is coming *to me*, an image appears *to me*’, but ‘*there is an idea, there is an image*’. The experience is not felt as being immediately *mine*, as being *my* experience, it is not felt as something *personal*.

The structure of the intuitive experience is thus characterized by two closely related dimensions:

1. The emergence and maturation of the intuition, which is not an action but an event, or more precisely a microgenesis characterized by its transmodality and an alteration of the feelings of agency and ownership.
2. A set of attentional micro-acts that the researcher can nevertheless carry out to foster and accompany this unpredictable microgenesis.

## EPISTEMOLOGICAL CONSEQUENCE AND LINES OF RESEARCH

The detection of a generic structure of the intuitive experience, independently of the various intuitive contents, also has an important epistemological consequence: it allows the intuitive experience to become an object of scientific investigation (Bitbol & Petitmengin, 2013; Petitmengin, 2009; Petitmengin & Bitbol, 2009). Reproducibility is indeed the foundation of scientific validation. For a result to be regarded as scientifically valid, it must be verifiable, that is, reproducible. As intuitive contents vary indefinitely, their description is not reproducible and therefore not verifiable. On the other hand, any trained researcher could use the elicitation and analysis devices we propose, or any other devices, to collect, analyse and compare descriptions of intuitive experiences in order to identify their possible structure, and compare it with the structure we have detected. This structure is a reproducible and therefore verifiable result (see for example Remillieux, 2014). An experiential structure, once detected by a research team, constitutes a hypothesis that can be validated or invalidated by the empirical work of other research teams. This validation process is not

different from the process that is used in experimental sciences. An experimental model is indeed a set of invariants – that is, a generic structure – which has been highlighted through reproducible technological acts, acts which can be used by other researchers to validate or invalidate the model. In the same way, a generic experiential structure is nothing other than a set of invariants that has been detected through reproducible acts for accessing lived experience, acts that can be used by other researchers to validate, invalidate or refine this structure.

Further testing and refinement of the structure we have detected could be achieved through two types of investigation:

1. Describing and comparing the process of emergence of intuitions in distinct scientific, therapeutic, artistic and contemplative contexts.
2. Designing ‘experiential protocols’ specifically devised to help one become aware of the microdynamics of an intuition. Such devices could be inspired by the microgenetic method (Aktualgenese), which was designed by Werner (1956) and his successors to describe the early stages of a perception, usually concealed by its later stages. The principle of these protocols is to disrupt or interrupt the process before it comes to an end, and then ask the subject to describe what he sees and feels. Becoming aware of the experiential microdynamics of an intuition might also be fostered by the use of biofeedback devices. By giving subjects a real-time picture of given aspects of their neurophysiological activity, these devices may help them recognize subtle modulations of their experience they are not usually aware of (Petitmengin & Lachaux, 2013).

New methods enable us to study the microdynamics of intuitive experience in a disciplined way. The potential benefits of a refined knowledge of this microdynamics are considerable, from the epistemological and scientific viewpoints as well as in the pedagogical, artistic and therapeutic domains.

## REFERENCES

- Berne, E. 1949. The nature of intuition. *Psychiatric Quarterly*, 23: 203–226.
- Bitbol, M., & Petitmengin, C. 2013. A defense of introspection from within. *Constructivist Foundations*, 8(3):269–279.
- Changeux, J. P., & Connes, A. 1992. *Matière à pensée (Matter for thought)*. Paris: Odile Jacob.
- Csikszentmihalyi, M. 1997. *Creativity: Flow and psychology of discovery and invention*. New York: Harper Perennial.
- Damasio, A. R. 1994. *Descartes’s error: Emotion, reason and the human brain*. New York: Avon Books.

- Depraz, N., Varela, F., & Vermersch, P. 2003. *On becoming aware. The pragmatics of experiencing*. Amsterdam: John Benjamins.
- Dreyfus, H. L., & Dreyfus, S. E. 1986. *Mind over machine: The power of human intuition and expertise in the era of computer*. New York: Macmillan.
- Gusdorf, G. 1951. *Mémoire et personne (Memory and person)*. Paris: Presses Universitaires de France.
- Holton, G. 1972. *The scientific imagination*, reprinted in 1998. Cambridge, MA: Harvard University Press.
- Husserl, E. 1925. *Analyses concerning passive and active synthesis: Lectures on transcendental logic*, reprinted in 2001. Boston, MA: Kluwer Academic Publisher.
- Koestler, A. 1964. *The act of creation*. New York: Macmillan.
- Kuhn, T. 1962. *The structure of scientific revolutions*, reprinted in 1970. Chicago: University of Chicago Press.
- Petitmengin, C. 1999. The intuitive experience. *Journal of Consciousness Studies*, 6(2–3): 43–77.
- Petitmengin, C. 2001. *L'expérience intuitive (The intuitive experience)*. Paris: L'Harmattan.
- Petitmengin, C. 2006. Describing one's subjective experience in the second person: An interview method for the science of consciousness. *Phenomenology and the Cognitive Science*, 5: 229–269.
- Petitmengin C. 2007. Towards the source of thoughts: The gestural and transmodal dimension of lived experience. *Journal of Consciousness Studies*, 14(3): 54–82.
- Petitmengin, C. 2009. Editorial introduction: Ten years of viewing from within. *Journal of Consciousness Studies*, 16(10–12): 7–19.
- Petitmengin, C. 2011. Describing the experience of describing? The blind spot of introspection. *Journal of Consciousness Studies*, 18(1): 44–62.
- Petitmengin, C., & Bitbol, M. 2009. The validity of first-person descriptions as authenticity and coherence. *Journal of Consciousness Studies*, 16(10–12): 363–404.
- Petitmengin, C., & Lachaux, J. P. 2013. Microcognitive sciences: Bridging experiential and neuronal microdynamics. *Frontiers in Human Neuroscience*, 7: 617.
- Petitmengin, C., Remillieux, A., Cahour, B., & Carter-Thomas, S. 2013. A gap in Nisbett and Wilson's findings? A first-person access to our cognitive processes. *Consciousness and Cognition*, 22(2): 654–669.
- Poincaré, H. 1970. *La valeur de la science (The value of science)*. Paris: Flammarion.
- Reber, A. S. 1993. *Implicit learning and tacit knowledge: An essay on the cognitive unconscious*. Oxford: Oxford University Press.
- Reik, T. 1948. *Listening with the third ear: The inner experience of a psychoanalyst*. New York: Farrar, Straus, and Giroux.
- Remillieux, A. 2014/in press. Une description expérientielle du processus d'invention technique (An experiential description of an innovative process technique). *Intellectica*.
- Simon, H. 1987. Making management decisions: The role of intuition and emotion. *The Academy of Management Executive*, 12: 57–64.
- Vermersch, P. 2004a. *L'entretien d'explicitation (The elicitation interview)*, reprinted in 2010. Paris: ESF.
- Vermersch, P. 2004b. Modèle de la mémoire chez Husserl. 1. Pourquoi Husserl s'intéresse-t-il tant au souvenir (Husserl's model of memory. 1 Why is Husserl so much interested in memory). *Expliciter*, 53: 1–14.
- Vermersch, P. 2004c. Modèle de la mémoire chez Husserl. 2. La rétention (Husserl's model of memory. 2. Retention). *Expliciter*, 54: 22–28.
- Vermersch, P. 2006. Rétention, passivité, visée à vide, intention éveillante: Phénoménologie et pratique de l'explicitation (Retention, passivity, awakening intention : Phenomenology and practice of elicitation). *Expliciter*, 65: 14–28.
- Vermersch, P. 2009. Describing the practice of introspection. *Journal of Consciousness Studies*, 16(10–12): 20–57.
- Werner, H. 1956. Microgenesis and aphasia. *Journal of Abnormal Social Psychology*, 52: 347–353