Intuition, Creativity, Innovation

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Intuition, Creativity, Innovation

Henri Samier

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Introduction

The current paradigm shift is bringing about a new era of meaning, connection and agility that affects the societal, ecological, political, economic and technological environment. Now more than ever, the classic rationality approach is showing its limitations and the intuition approach seems a possible complementary approach. Intuition can make it easier to move on to this new era and provide collective, connective and individual help.

Initially, what motivated this work was contradictory research on intuition. The goal was to demonstrate scientifically that intuition does not exist, that it results from random coincidences and therefore that it could not be proved. Scientific, literary and practical studies and lines of thought led us over the course of more than 7 years to research the existence of connections between these fields, such as acoustics and medicine, which on a basic level were unrelated.

The results of our research have shown that intuition was an actual and unexplainable phenomenon, and because of determination, perseverance and scientific insight, we can demonstrate that intuition does indeed exist and that it takes different shapes.

The original assumption that intuition was a random phenomenon was therefore false and its non-existence could still be proved. Step by step, we have accepted its "unscientific" existence and then, experiment after experiment, we have established an approach associated with exercises whose goal is to accept to feel and develop one's intuition. After extensive studies and several experiments involving different audiences in France and abroad, we have discovered the connections that account for the phenomenon of intuition as vibratory, observable and reproducible. Based on this observation and the significant change in the way we dealt with intuition, we then attempted to convey and teach intuition. After a series of experiments, we have been able to establish a way of approaching intuition whose goal is to allow anyone to feel and employ it. Everyone can intuit, even those who still think they cannot. Intuition is definitely not reserved for the so-called "more sensitive" individuals.

In this respect, we wish to thank the individuals who attended our seminars and courses on intuition, which we organized in France and Asia in the sphere of higher education and in companies.

This work is intended for anyone who wishes to discover, develop or amplify his or her intuition, creativity and innovation ability. The triad of intuition, creativity and innovation will be developed from a human and methodological perspective, revealing the rich connections between these three fields.

Based on the scientific foundations of intuition, and in particular on cymatics, we put forward a method that makes it possible to feel the perceptible signs of one's intuition. The exercises included in this method allow us to mix our rationality with our intuition by listening to music, kinesthesia and paying attention to our own body, among other things. The exercises lead us, on the one hand, to

understand the phenomenon of intuition and, on the other hand, to change our attitude toward the phenomena that science can or cannot explain. If a phenomenon cannot be explained, it is perhaps due to a lack of measuring tools, physical models or mathematical theories.

This work puts forward a series of exercises whose goal is to minimize the opposition and lessen the obstacles involved in our relation to intuition. The awareness reached due to the recommended videos, breathing and feeling exercises, as well as exercises involving body language in music allows us to dig deeper and affects personal changes in the long term. The blocks or barriers to intuition mainly manifest themselves as fears and beliefs that must be rejected to be able to intuit.

This objective resulted from the question we asked: how can the creativity and innovation of students, engineering students and business executives be improved? Thus, we carried out experiments in different educational and research environments, such as the ISTIA Innovation, the University of Angers, Cholet and Saumur, and schools like the Arts et Métiers ParisTech in Paris, AUDENCIA, the ECP in Paris, the CESI in Saint-Nazaire and the INSA in Rennes.

We observed through these experiments that some individuals substantially developed their creative abilities and filed for patents, whereas others mastered creative techniques without, however, being able to reach concrete results. The difference in creative potential depended on the individuals' profile and their way of receiving and implementing creative approaches.

Let us compare human beings to a car. This is an interesting metaphor. A car will be faster and sturdier, and it will perform better, if we improve and optimize its engine power, the aerodynamism of its body, the rigidity of its

chassis and the grip of its tires, the speed remaining constant. This holds true regardless of the car model. On the other hand, this does not work systematically for human beings, as human factors are much more complex than mechanical parameters. Therefore, we decided to work on the human factor in creative processes and we developed new methods that allow everyone to be truly creative.

In the context of our research, we tested some levers to make individuals more creative in their thinking and behaviors because of the "hybridizations" between creativity, intuition and innovation, and we can now present our results in this work.

However, intuition is a complex and thorny subject, questioned by the scientific community to which we belong. A phenomenon that does not follow the observer's independent observation, measurement and modeling steps cannot be reproduced for now. What cannot be reproduced each time is excluded from a scientific outline, where experiments must be reproducible regardless of the observers. Thanks to cymatics, we will explain the causal and vibratory phenomenon of intuition.

Our passion for teaching has always led us to explore different ways of passing down knowledge; today, neuroscience gives us the opportunity of testing new innovative pedagogical approaches.

With a scientific and pedagogical background, we have attempted to dig deeper than disciplines and things. We have developed our analysis starting with mechanical engineering in fields such as new product design, technological watch, Internet watch, creativity and innovation to end up today focusing on the concept of intuition. We were always firmly convinced that we would find more effective, efficient and rapid solutions. This led us

to ask ourselves questions from different points of view in order to explore new avenues.

Thus, our quest for knowledge led us to co-write works on fields such as information searches on the Internet, cybertechnologies in companies, business intelligence on the Internet, web creativity, innovation in the age of networks, etc. [CHE 98, COR 06, RIC 03, SAM 98, SAM 99, SAM 00, SAM 02, SAM 07, SAM 14a]. Now, with this work, we wish to share the results of our experimental research and provide a way for everyone to be able to intuit.

The first four chapters of this work make it possible to understand, explore and release intuition. Based on theoretical, neuroscientific and acoustic foundations, we will explore intuition by referring to philosophers (Socrates) and scientists (Einstein, Poincaré), and by relying on recent theories about intuition. After explaining the causal and vibratory phenomenon of intuition, we will explore how intuition is felt. If this feeling is still not perceivable, we will explain how the blocking phenomena operate and we will put forward exercises aimed at removing these barriers so that intuition can be felt. Once this is possible, we will be led to explore and develop our new intelligence.

Chapter 5 reveals the connections between the creative process and intuition with, among other things, usable creative sources and the avenues and approaches employed to become more creative because of a method based on the human sphere. The exercises will make it possible to master a new intuitive creativity.

Chapter 6 develops the “seven-I’s” model, which constitutes the foundation for an innovative and collaborative method drawing on inspiration, imagination, intelligence, insouciance, intuition, illusion and the invisible.

Chapter 7 points out the role of intuition for business executives and managers and how they can put it to good use in relation to their position.

Even if this work is scientific, it has a practical vocation; as it is interactive, it requires being connected to the Internet. The theoretical contributions explain the phenomena, the videos presented help us become more aware, and the exercises lead us to release, explore and practice intuition. This work calls on many of our senses and develops our views and beliefs on intuition.

Once intuition is truly felt, it will become a new ally and provide precious aid in our daily choices.

1

Understanding Intuition

We will start by exploring intuition from the point of view of etymology, history, and philosophy in order to explain it later based on current scientific knowledge. Once intuition has been justified scientifically, we will put forward some practical exercises that can test and prove these hypotheses. Explaining rationally the intuition process, which is *a priori* and essentially irrational, is perhaps a paradox, which will be dispelled in this work.

The etymology of intuition, *intueri*, *intuitio*, *intuitus*, *intueor*, reveals that intuition can be seen as a spontaneous gush coming from within, an ability to see all at once and a type of immediate knowledge that does not derive from a rational process or logical thinking. The process incorporates a double notion of a series of steps and complexity [HAL 11], so that intuition can then be defined as an intuitional process [HAL 17].

Man's intuition emanates from within, from his mind and from his unconscious. It is a movement, an inner process that gushes outwards. Intuition is an unconscious[1] process that springs up in our consciousness and requires constant work, like Poincaré's "intuition effort" [POI 08].

1 "Un-conscious": the inner consciousness.

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Intuition can be defined as a process, an apperception and an immediate type of knowledge that does not belong to either a cognitive process or an intellectual reflection. According to Kuhn, intuition depends on abnormal experience, in keeping with and acquired through an old paradigm. There is no logical connection between intuition and an interpreted experience. An "intuitive interpretation" corresponds to intuitive insights through which a new paradigm is born [KUH 62].

Is intuition merely an impression, a sensation or a feeling? If an individual has the impression that something has already happened before, is this a feeling or an unvalidated type of knowledge? If someone has the impression that something is going to happen, is this an anticipation, a premonition or a prediction? These are all questions that humans have asked themselves in the past, are asking themselves today and will perhaps ask themselves in the future. Some questions cannot be answered scientifically today, let alone yield rational models or equations that could account for the intuition phenomena.

Teilhard de Chardin [TEI 56] agrees with the idea that intuition comes from within: "Man, in whom the existence of a *within* can no longer be evaded, because it is the object of a direct intuition and the substance of all knowledge".

According to Laborit [LAB 93], intuition is at the root of the irrational and constitutes the source of our creativity. The method guiding Henri Laborit's exploratory research was based on intuition, analogy and boldness.

Throughout history, scientists, philosophers and experts in the "psyche" have debated the term intuition, its genesis and the way it functions. We can now find a substantial amount of literature on the topic, while questions are being asked about how intuition can be accessed or the development of related methods [CHO 18, GAW 18, GEE 10,

KLE 03, MYE 02, OHA 11, STR 17]. Bergson established a relationship between intuition and inner experience on which consciousness was founded. He pointed out that intuition was possible only after a sustained intellectual effort [BER 38].

Hodgkinson defined the verb "intuit" as the complex set of interdependent cognitive, affective and somatic processes that include no deliberate intervention of rational thinking [HOD 08].

Intuition could then be considered as the missing link in the notion of exformation established by Nørretranders [NØR 99]. According to him, exformation is "the missing information" in communication.

For Jacques Fradin, "the concept of intuition can cover widely different realities. Can prefrontal intelligence use the form of 'epiphany' or insight illustrated by the famous *Eurêka*? This form naturally meets the prefrontal criteria that we will define later on. Conversely, intuition can originate in emotion, the association of ideas or feelings, and even instinctive emotions, such as the assessment of the danger posed by an individual or a situation (involving, for example, the limbic amygdala)" [FRA 10].

In this work, we will build on scientific foundations in order to explain how the intuition phenomenon manifests itself, we will put forward a method for developing intuition and systematize it and, therefore, for turning it into an "intuitive process".

More than 300 doctoral theses have so far been written in France on the topic of intuition in its broad terms. This research has been carried out in such disparate fields as philosophy, psychology, linguistics, cognitive sciences, neuroscience, economics, management science, bioengineering, medicine, arts, social sciences, sociology,

science education and language sciences. All these works of epistemological, psychological and philosophical analysis reveal the interest in the topic. Among these studies, Claire Petitmengin's work demonstrates that the emergence of an intuition from the consciousness is an ineffable, subjective experience [PET 01].

The hard sciences and "scientific reasoning" are now based mainly on the three steps of the following approach:

– step 1: observation and measurement: the observation step of the phenomenon is carried out with invasive measuring tools that do not modify the environment measured;

– step 2: modeling and understanding: the modeling step resorts to mathematical, physical or thermodynamic models, among others, to understand and explain the phenomenon and the static and dynamic way in which it works;

– step 3: synthesis and reproducibility: the synthetic step aims to demonstrate the limitations of the phenomenon and its modeling in order to show that the phenomenon can be explained and reproduced and, on the other hand, to put it into perspective with the aim of developing new research.

These three main steps are essential for the development of basic and applied sciences. However, they also raise the issue of scientific limitations in terms of measuring tools and mathematical models. For example, one of the difficulties faced by quantum physics involves measuring tools that in practice modify the "quantum" environment measured.

If we adopt the same approach employed by scientists who believe that intuition is a process springing up from within outwardly, we can then refer to the measuring tools called "internal" and non-invasive.

For example, to observe cerebral phenomena, we could refer to magnetic resonance imaging (MRI) and measuring tools: to measure blood pressure, heart rate, temperature, pulse and breathing rate; to observe changes in the states of consciousness and, why not, to measure emotions physiologically[2].

1.1. The types of intuition

The definitions of intuition certainly indicate that this is a process rather than a skill, ability or aptitude. If its etymology tells us the truth, then anyone can intuit, and intuition is not reserved for specific individuals or women in particular.

Throughout history and over time, intuition has been tackled in different ways. In the 19th Century, intuitive teaching in Germany was based on the sensory observation of appearances, whereas in Francel, Buisson had developed from teachings on "the mind" and "the soul" notions also associated with sensory exercises. It is thus that he defined his intuitive method [UBR 14].

Descartes [DAM 95] described "intuitive knowledge" as a direct vision of the mind, whereas for Bergson [BER 69] intuition is "an immediate consciousness, a vision which is scarcely distinguishable from the object seen, a knowledge which is contact", and the principal function of intuition is "the direct vision of the mind by the mind".

The human nature of intuition is undeniable for Kant: "time is a subjective condition of our human intuition" [KAN 04], whereas Spinoza regards intuition as "divine" or

2 Based on the analyses of facial expressions carried out by Paul Ekman, on which most tools, such as Affectiva, Facereader, Emotient, Eyeris, Noldus and Nviso, rely.

of otherworldly origin. For him, intuition is knowledge just like reason or imagination.

According to Plotinus, intuition is a rational activity: "The perception of external things is actually the image of an inner contemplation…, that of the intelligible forms… which constitute the source of three rational activities specific to humankind: reasoning, opinion, and intuition" [AUB 04].

Fritjof Capra shows that Tao focuses on the careful observation of nature. This observation, combined with a strong intuition, led the Taoist sages to profound ideas confirmed by current scientific theories. "When the intellect is reduced to silence, intuition produces an extraordinary state of consciousness: we apprehend what surrounds us directly without the screen of conceptual thinking" [CAP 75]. Intuition develops through the silence of the mind and thanks to a development of the introspective look of the self. Intuition is a "direct, immediate, gushing, and spontaneous form of knowledge independent of will, which does not involve reasoning and constitutes the result of an unconscious work". Intuition begins where knowledge stops.

According to C. G. Jung, intuition is a superior force: "What some people call intuition is nothing other than that voice inside us which tells us what to do and what not to do. In other words, … we become aware that it is a superior force" [HUL 95]. Intuition belongs within humankind: "Consciousness uses some functions to orient itself in the external space: sensation, thinking, intuition, and feeling" [JUN 87]. These are defined as humankind's four psychological functions:

– Intuition: this is what conveys perceptions to us through the unconscious. It enables an immediate and spontaneous understanding without the need for logical reasoning.

– Thinking: this is defined as the ability to understand reality, analyze it logically and intellectually, and the ability to create concepts.

– Feeling: this is what attributes an emotional value to events and allows us to distinguish between what is pleasurable and unpleasurable.

– Sensation: this is what conveys the information coming from our five senses (sight, smell, sound, taste and touch).

These four functions (intuition, thinking, feeling and sensation) generate typical profiles of introverts or extroverts. These profiles allow us to describe the conscious and unconscious types of personality that constitute the foundations for the MBTI[3] model, which defines 16 types of personalities [CAI 03].

Starting in the 1960s, the Remote viewing program in the United States aimed at finding out information remotely, only through mental concentration, producing in some ways a type of remote viewing. The works that Puthoff and Targ, affiliated with Stanford University, carried out with Swann, as well as those of McMoneagle, an intelligence officer, have made it possible to obtain concrete results for experimental military programs and the CIA in the "Cold War" context of the period [BIS 79, MAR 86, MAN 97, TAR 80, TAR 94]. The result of these works, which are of significant interest, depends among other things on the individuals' brain abilities and cannot be reproduced *a priori* for every individual. From our point of view, *Remote viewing* is not primarily related to intuition, so we will not carry out this type of research.

On the other hand, our exploration involves intuition meant as a "small voice coming from within" and, according to Gounelle [GOU 16], "it is necessary to pay attention to

3 The Myers–Briggs Type Indicator. Available at www.myersbriggs.org.

what comes from deep within ourselves. Understanding the messages that our soul whispers. However, our soul is like an angel that whispers so sweetly and low that we need to listen carefully. How can we expect to perceive it in this constant hubbub?".

Therefore, how can intuition be described and then be scientifically described? Which approaches, tools and methods could shed light on intuition? This is exactly what this work intends to find out.

1.2. The scientific foundations of intuition

What science discovers about intuition evolves over time. In the 19th Century, Henri Poincaré, a scientist and academic educated at the École Polytechnique, claimed that:

> "Logic teaches us that on such and such a road we are sure of not meeting an obstacle; it does not tell us which is the road that leads to the desired end. For this, it is necessary to see the end from afar, and the faculty which teaches us to see is intuition. Without it, the geometrician would be like a writer well up on grammar but destitute of ideas. […] It is by logic that we prove, but by intuition that we discover" [POI 08].

According to Poincaré, "such an external world, even if it existed, would always remain inaccessible". Therefore, intuition teaches us how to see. Gladwell demonstrates that intuition is like blinking and works as a type of unconscious automatic pilot [GLA 05]. According to Damasio, intuition is a rapid cognition where emotions play a part, as the knowledge required is partially swept under the rug [DAM 05]. Some neuroscientists regard intuition as an "adaptive subconscious", since intuition is linked to our sensory, adaptive and dynamic "database". They also show

that part of the "sensory information grasped by our brain […] does not reach our consciousness" [ZEK 10]. The research carried out by Cleeremans and co-workers measured, among other things, the reaction time in stimuli/responses tests. For Cleeremans and co-workers, intuition is a type of rapid short circuit that goes beyond subconscious learning [CLE 91, CLE 98].

According to a study carried out by the University of Leeds, intuition results from the way our brain stores, processes and uses the information of our subconscious. In the study conducted by Hodgkinson's team, "individuals feel an actual intuition in situations where analysis is difficult or even impossible, namely when they face significant time constraints, information overload, or danger" [HOD 08]. Here, intuition is the most effective solution, as reasoning and rationality provide no rapid answer.

For Pierre Buser, "the individual's intentional behavior may be affected by the identification of a signal whose subject remains unaware". For the brain, intuition does not constitute a mathematical heresy [BUS 09]. Connections between consciousness and the brain have by now been established. Dehaene and Sergent defined a "neurological model of consciousness" [DEH 06]. According to Claude Bernard, intuition has nothing supernatural about it, it does not represent an innate talent and it is not mystical, constituting instead "a type of revelation" [DEB 92].

Some research avenues tend to show that, on the one hand, there are subliminal signs that individuals perceive when they communicate verbally and, on the other hand, that the brain unconsciously receives information from other individuals. Two brains can synchronize because of the electrical oscillations of neurons [DUM 10, MU 16, WIL 05], and communication from brain to brain (interbrain) exists even if the individuals are not necessarily aware of this [PER 17, TAN 18]. The research and debates about the links

between consciousness and intuition are significant. For example, Bloch thinks that the state of consciousness grasps intuition through perception and leads this "intuitive knowledge" to consciousness [BLO 11].

One of the paradoxes pointed out by Bachelard has to do with the fact that scientific education trains brains for a type of reasoning that discards intuition. "In real life, what we think we know clearly offends what we should know. Our mind is never young when it is introduced to scientific culture. It may even be old, as it is as old as its prejudices. Gaining access to science means becoming spiritually younger and accepting an abrupt change that must contradict a past. Let us all break with the pride of general certainties and the greed of specific certainties. Let us mutually brace ourselves for this intellectual asceticism that extinguishes all intuitions, slows down all preludes, and wards off intellectual premonitions" [BAC 71].

When intuition "springs up", we can locate the area of the brain affected. According to Wan [WAN 11, WAN 15], who is a doctor, studies involving MRI and carried out on chess players in Japan reveal that intuition springs up in part in the posterior precuneus[4] and in part in the caudate nucleus[5] [GOU 77]. In other terms, intuition springs up imultaneously in a first inner area and in a second peripheral area of the brain.

1.3. The three neuronal centers

The brain has fascinated scientists and philosophers for centuries. Neuroscience allows us today to get a better grasp of the way it functions. Several works have marked the knowledge on the topic over time.

4 The posterior precuneus is a posteromedial part of the parietal lobe of the brain.

5 The caudate nucleus is the part of the striatum located under the cortex.

For example, more than 50 years ago Roger Sperry established the model of the two hemispheres "left side of the brain/right side of the brain", where each side possessed specific abilities and skills [SPE 64]. The functions of the "left side of the brain" (rational and analytical) included logical thinking, reading, writing, counting and speaking. The right side of the brain was more based on creativity, the perception of space and intuition. This simple model later revealed its limitations, as the brain also includes three large parts: the reptilian (the center of survival instinct, fear and pleasure), the limbic (the center of emotions, memory, etc.) and the neocortex (the center of intelligence, creativity, solidarity and more broadly of what is "associative") [MCL 90].

Scientific research now indicates that in reality the situation is much more complex, and it highlights the existence of different lobes (frontal, parietal, temporal, occipital), the cerebellum and the brain stem, as well as tens of functional areas. The main functions of the prefrontal area are reflection, relativity, curiosity and adaptation, whereas the limbic area is more based on repetition, certainty and empiricism.

Based on scientific works, we can discard the idea that the brain alone controls everything. In reality, in our body, the brain is not the only organ to have neuronal cells, as there are two other neuronal centers, namely the stomach and the heart.

The brain is so complex that each month scientific articles present new aspects contributing to our understanding of cerebral areas, their functions and their interactions. Currently, the number of neurons in the brain is estimated at 100 billion (10^{11} neurons) [YOU 12]. There are around 46 $\times$ 10^3 neurons/mm^2 and one 1 μm^2 cell can store 25 bytes of information, so that the brain is equal to a square meter

surface area of cells. Therefore, the brain's memory storage ability is estimated to be 25×10^3 Go[6] (25 To[7]).

The stomach, and especially the intestine, contains 100 million neurons, namely 10^8 neurons. These neurons have been identified in our digestive tract (enteric nervous system) because of the research carried out by Michael Gershon [GER 99] in the United States and Michel Neunlist [NEU 07] at Nantes' Inserm in France. The research conducted since 2007 by Neunlist's team on neuronal cells has shown that, if biopsies are carried out in the digestive tract, the samples contain neuronal cells. Analyzing these cells will allow us to make a prediagnosis on the development of neurological diseases. The neuronal cell damage taken from the digestive tract reacts in the same way as that affecting neuronal cells in the brain. The intestinal surface is of around 200 m^2 (namely 2×10^{14} μm^2) and, taking into consideration that there are 25 bytes/μm^2, the intestine has a memory storage ability of 5×10^6 Go of information (5 Po[8]).

The heart, which can be regarded as a "small brain" [ARM 97], has long been considered in functional terms. Since then, some discoveries have revealed that there are around 40,000 neuronal cells in the heart. It is no longer possible to isolate it and thus reduce it to the function of a mere pump. The heart has around 3×10^9 cells, namely a surface of 15×10^{12} μm^2. Given that there are 25 bytes/μm^2, the heart has a memory storage ability of 40×10^3 Go, namely 40 Po.

These three centers are linked and interdependent. They work together and communicate, whether we are aware of this or not. In order of significance in terms of information storage volume in Go, the intestine is in first position (5 ×

6 Go: gigabyte (106 bytes).
7 To: terabyte (109 bytes).
8 Po: petabyte (1012 bytes).

10^3 To[1]) with 10^8 neurons, the heart is in second position (40 To) with 4×10^3 neurons and the brain (25 To) is in third position with 10^{11} neurons.

We should also notice that the operating frequency of the heart ranges from 1 to 2 Hz with an electromagnetic field of 100 pT (10^{-12} T). The brain's operating frequency ranges from 0 to 32 Hz with an electromagnetic field of 100 fT (10^{-15} T); finally, the operating frequency of the intestine ranges from 0.05 and 0.3 Hz [LIN 79].

Organ	Number of neurons	Memory (Go)	Frequency (Hz)	EM field (T)
Brain	10^{11}	25×10^3	0–32	10^{-10}
Heart	4×10^4	40×10^3	1–2	10^{-15}
Intestine	10^8	5×10^6	5×10^{-2}–3×10^{-1}	–

Table 1.1. *Characteristics of the "three brains"*

Table 1.1 summarizes the number of neurons, the memory capacity, the operating frequency and the electromagnetic field of the brain, heart and intestine. Let us recall that the brain has the largest number of neurons (10^{11} neurons) and that the intestine stores the largest amount of information (5 Po). Our digestive tract is also autonomous: it communicates with our brain based on a bidirectional relationship because of the sympathetic system and the parasympathetic system [BON 10]. There are unconscious inner relationships between the three neuronal systems and our physical body. As evidence, we can easily remark that intense stress can cause intestinal disorders or diarrhea, revealing a causal effect of the psyche on our physical body.

Let us recall that the three neuronal centers function and communicate with the central nervous system (brain, spinal

9 1 To = 103 Go (1 terabyte equals 100 gigabytes).

cord) and with the peripheral nervous system (the sympathetic and parasympathetic nervous systems and the peripheral nerves including the vagus nerve). The vagus nerve is the main means of communication between the brain and the neuronal center of the intestine.

Therefore, these scientific discoveries confirm the traditions that described the existence of "three brains", namely the rational, the intuitive and the instinctive one. The rational one corresponds to the head, the intuitive one to the heart and the instinctive one to the stomach.

Besides, we will recall that the rhythms of the brain in relation to its activity are classed based on five types of waves:

– delta (from 0 to 4 Hz): deep sleep or very deep meditation state;

– theta (from 4 to 8 Hz): sleep or deep meditation state;

– alpha (from 8 to 13 Hz): state of consciousness, calm;

– beta (from 13 to 30 Hz): state of concentration, intense activity, or anxiety;

– gamma (from 30 to 60 Hz): information processing state.

In relation to the electromagnetic field of the earth (3–30 Hz), Schumman had predicted the existence of low-frequency resonances due to the electric discharges of lightning in the atmosphere. These frequencies have been measured. They start with the first harmonic at 7.83 Hz and then globally spread out with a difference of 6 Hz. Therefore, Schumman's seven frequencies correspond to 7.83, 14.1, 20.3, 26.4, 32.4, 39 and 45 Hz.

Hainsworth's research has demonstrated the effects of the electromagnetic field on human health [CHE 02, HAI 83].

1.4. The triad of intuition: vibratory phenomena

Intuition is situated at the center of the triad including vibrations, emotions and music (Figure 1.1). In 1948, Reik attributed the third eye to intuition that, according to him, represents an "unconscious vibration" corresponding exactly to the instinctive rhythm of the other… Intuition is perceived as a moment of emptiness and absence for a second [REI 48].

We will elaborate on this triad so as to become aware of the phenomena that play a part in intuition in order to accept them, test them and then incorporate them into our own daily practice. We will explain the triad of intuition based on the study of vibratory phenomena and their effects on the human body.

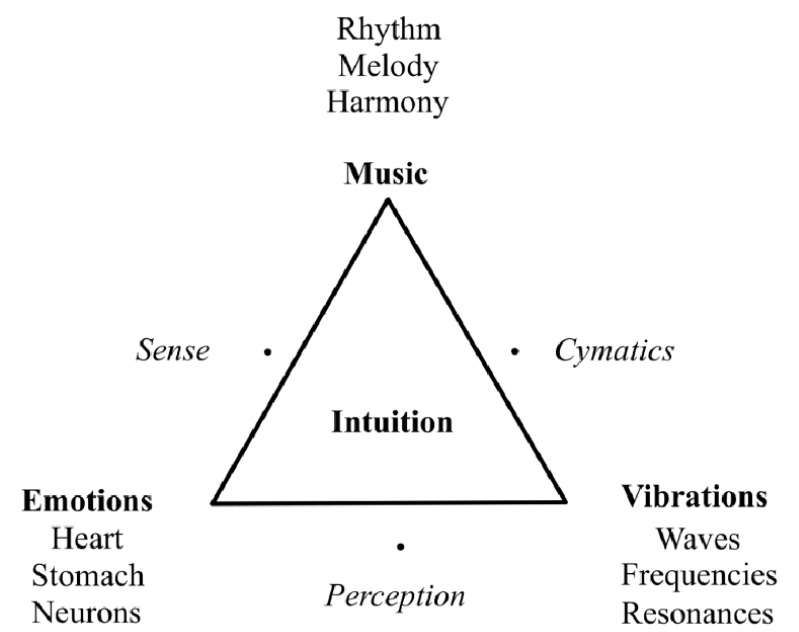


Figure 1.1. *The triad of intuition*

To explain Figure 1.1, we will first show the relationship between music and emotions. Later on, cymatics will allow us to visualize the wave phenomena generated by music. Once this has been demonstrated, our heightened awareness will enable us to understand the actual effects of music on the body. Finally, we will discover the vibratory phenomenon generated by emotions and we will elaborate more specifically on the radial pulse phenomenon with the perception of the "vascular autonomic reflex".

1.4.1. *Music and emotions*

Music (musical chords, rhythm, melody[10], harmony[11] and acoustic vibration) has been proved to create emotions. Listening to music can induce feelings of joy, sadness or melancholy. Medical imaging and neuroscience allow us to understand the cerebral mechanisms set off by listening to music. Here is a short summary of the main works in the literature.

Music activates the brain's "emotional areas", changes the blood flow [BLO 99], affects emotions [JUS 01, JUS 08, JUS 10, KOE 06] and lessens negative emotions, which cause a change in time perception [KAM 10] and regulate our mood [NOR 03]. Music gives us pleasure and makes us happy, as it initiates a biological and physiological process that releases dopamine and oxytocin[12] into the brain [BLO 01, SAL 11].

Music has actual effects on memory and learning [KOE 05] as well as on cognitive development, as per Rauscher's "Mozart effect" [RAU 95]. Music modifies heart rate, breathing, body temperature and skin conductivity [SAL 11].

10 Melody: length ratio.
11 Harmony: frequency ratio.
12 Dopamine and oxytocin are neurotransmitters.

According to Platel, “music can increase brain plasticity and bring about changes at the level of synaptic connections” [PLA 16]. Finally, music has a positive effect on health as long as it is chosen rather than forced [MOR 18, RAG 15].

All of this research reveals the actual influence that music has on our brain, emotions, body and heart rate.

1.4.2. *Music and vibrations*

The hypothesis we are developing is based on the fact that intuition is a vibratory phenomenon. How can it become visible and more understandable, so that we can accept and sense this vibration?

To explain the phenomenon involving the body, vibration, the perception of this vibration and its influence on the body, we will employ the sound wave phenomenon, especially cymatics. Cymatics visualizes the effects of vibrations on liquids and makes them visible in order to explain the effect of a vibratory phenomenon on the body. Our body is situated in an environment of constant inner vibrations. It has its own vibrations and inner frequencies (heartbeats, blood circulation and breathing movements).

The main types of waves are electromagnetic waves and sound waves. Electromagnetic waves include electric waves, measured in volt per meter ($V \cdot m^{-1}$), and magnetic waves, whose density is measured in Tesla (T). These waves coexist with a phase difference of 90° and cannot exist without each other.

Sound waves have two main parameters, namely frequency, measured in hertz (Hz), and amplitude, which indicates the sound force. Sound waves compress or dilate particles, and then propagate spherically more or less

rapidly in relation to the environment, namely through air, water, or in a vacuum. As a vacuum has electrical impedance, it is characterized by its permeability and permittivity. Electromagnetic fluctuations constantly propagating themselves run through the "vacuum" of space. On the basis of this, a vacuum is not empty according to quantum physics.

Cymatics reveals the effects of sound waves on sand, water and more recently on non-Newtonian fluids. In the 18th Century, Dr. Ernst Chladni[13] (1756–1827) was one of the first to study forms created by vibrations. On a horizontal steel plate covered in sand, a violin bow makes the sand vibrate by moving along the edge of the plate. The grains of sand move according to the law of the vibratory field and gather and form a stable geometric shape depending on the frequency.

A dynamic, unique and repeatable geometric shape corresponds to each fixed frequency. For some harmonic frequencies[14], the geometric shapes obtained are symmetrical, whereas for other frequencies they are asymmetrical. Ernst Chladni created a catalog of figures (Chladni's acoustic figures). Some shapes resemble tortoise shells, the spotted fur of leopards or Hindu Mandalas.[15]

In Figure 1.2, the vibrations carry the sandy areas called "bellies" toward linear areas named "nodal lines" and create an acoustic figure in stable dynamic equilibrium.

The equation for Chladni's figures can be defined in the following terms: let us consider a rectangular plate with fixed edges whose length is Lx and Ly, a point of coordinates

13 Ernst Chladni had earned a doctorate in law and philosophy.
14 Frequency: defined as the number of vibrations per second.
15 See: "Vibration is at the source of any shape": www.youtube.com/watch?v=B1EBRPDHzb0.

(x, y, t) subject to a vibration of frequency F, and let U be the vertical displacement of the plate:

$$U = Umax.\sin(m\pi.x)/Lx.\sin(n\pi.y)/Ly.\cos(2\pi.ft)$$

and $(m/Lx)^2 + (n/Ly)^2 = (2f/c)^2$

where:

– m and n: two integers;

– c: the acoustic velocity of the plate.

Chladni's acoustic figures can then be modeled by mathematical equations and understood in simpler terms.

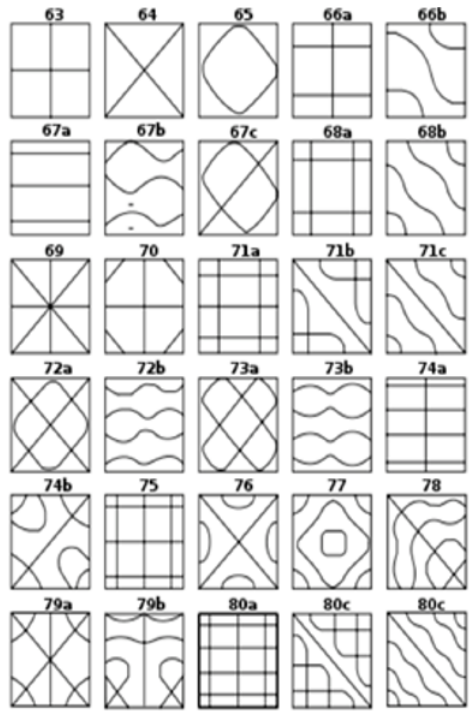


Figure 1.2. *Chladni's acoustic figures (source: https://upload.wikimedia.org/wikipedia/commons/7/77/Chladini.Diagrams.for.Quadratic.Plates.svg)*

On the basis of Chladni's research, Hans Jenny and Alexander Lauterwasser worked with iron filings, aqueous solutions, colloidal solutions, and Newtonian and non-Newtonian fluids. Several representations and pictures of the phenomenon can be found on the Internet.

Cymatics[16] has been defined as the study of visible sound [JEN 67, JEN 69, JEN 74]. It demonstrates that everything is in a state of vibration, oscillation and pulsation. Sound waves, electromagnetic waves and supersonic vibrations exist in the universe on both an infinitely large and an infinitely small scale down to atoms.

Lastly, NASA has managed to record the Earth's waves[17], and it has shown the recordings of solar activities[18], supersonic winds, Neptune's waves[19] as well as the electromagnetic waves sent by the planets of the solar system. These have been converted into sound waves so that humans could hear them[20]. Science has demonstrated that in the upper atmosphere of the Earth, there are geomagnetic storms caused by solar winds, among other things. They can be heard and seen in a video made by Ruth Jarman and Joe Gerhardt[21] called "Sound of the Sun"[22]. The frequency variation makes it possible to see and hear simultaneously the sounds and interferences naturally limited to the audible spectrum of human hearing, namely from 20 to 20,000 Hz.

Cymatics visually reveals the three elements that constitute the phenomenon, namely vibration (represented by the shape obtained), dynamics and kinetics. Cymatics demonstrates that a wave is a vibration, a rotation and a

16 "Cymatics" comes from the Greek word "kyma", which means wave.
17 See: "Earth's Song": https://svs.gsfc.nasa.gov/11073.
18 See: https://svs.gsfc.nasa.gov/vis/a010000/a011100/a011168/index.html.
19 Consult: https://svs.gsfc.nasa.gov/11349.
20 See: www.youtube.com/watch?v=undXzK0jM5Y.
21 Consult the site: semiconductorfilms.com/art/20hz/.
22 See: "Sound of the Sun": www.youtube.com/watch?v=ZZQcLJjpdrI.

structure determined by laws of symmetries and harmonics proceeding in arithmetic series of 3, 4, 5, 6, 7, etc. A cymascope is an instrument that makes it possible to see the effect of vibratory waves on water[23]. For example, each musical note corresponds to a geometrical shape[24], as demonstrated in Figure 1.3. Nigel Stanford, an artist, uses cymatics in his videos, where wave phenomena are synchronized to his music[25]. The vibratory phenomenon related to a song[26] can naturally be observed with sand on a flat surface, like on Chladni's plates, or, in case of Deva Premal's song[27], with a cup of water put on a loudspeaker. Each vowel can be seen through its acoustic shape. Consequently, human speech determines the shape through vibrations[28].

In Figure 1.3, the geometrical shapes correspond to water affected by musical notes seen in a cymascope. Each musical note produces a piece of vibratory information that will set the water in motion.

Visualization on plates with sand or with a loudspeaker and water is two dimensional, but the phenomenon can be visualized in three dimensions (3D) with cornstarch mixed with water or non-Newtonian fluids, as the video[29] from which Figure 1.4 is drawn illustrates.

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23 Check the website: www.cymascope.com.
24 See: "The Beauty of Twelve Piano Notes": www.youtube.com/watch?v=9al397 N6Tzs.
25 See: "Science Vs. Music – Nigel Stanford": www.youtube.com/watch?v=Q3oItp Va9fs.
26 See: "Cymatics Experiment Mozart": www.youtube.com/watch?v=KU84ck D1AcA.
27 See: "Deva Premal and Miten": www.youtube.com/watch?v=iTjiWYPPe9A.
28 Consult: www.songofthespine.com/vowel.
29 See: www.youtube.com/watch?v=3zoTKXXNQIU and www.youtube.com/watch? v=RkLn2gR7SyE.

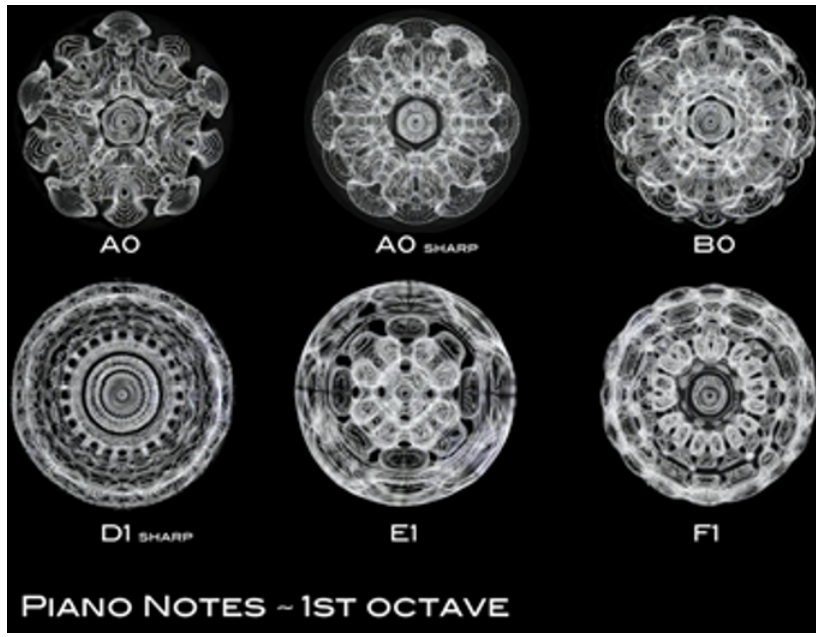


Figure 1.3. *The effect on water of a note played on a piano (source: www.cymascope.com/cymamobile/research/musicology.html)*

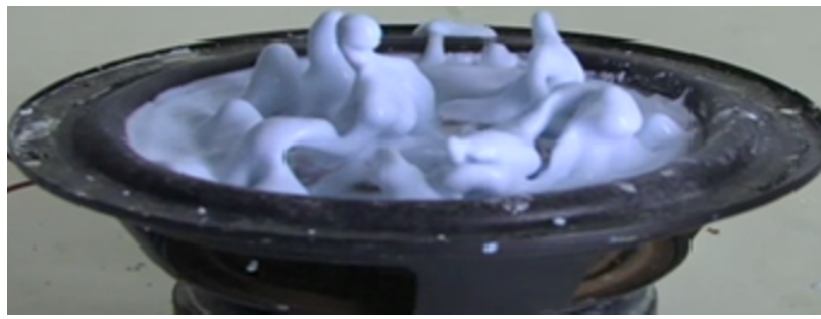


Figure 1.4. *Cymatics of non-Newtonian fluids (source: "Non Newtonian Fluid": www.youtube.com/watch?v=3zoTKXXNQIU&t=15s)*

Figure 1.4 (drawn from a video) reveals that the phenomenon is more complex than the symmetrical figures obtained by making water vibrate. We can observe volumes that move and interact with one another in quite a surprising manner.

Finally, to conclude the analysis of the cymatic phenomenon, 3D hologram visualizations are possible because of 3D projectors, as illustrated in Figure 1.5, which is drawn from a video on holographic cymatics.



Figure 1.5. *3D holographic cymatics (source: www.youtube.com/watch?v=BtXYzj-iDRs)*

In Figure 1.5, holographic cymatics shows the effects of the vibrations on the direct environment in three dimensions. The influences of the vibration on sand (Figure 1.2), water (Figure 1.3) and non-Newtonian fluids (Figure 1.4) lead us to

question the actual effects of the vibrations produced in the human body.

This new insight into invisible vibratory phenomena, which can be observed because of cymatics, shows that vibrations modify, affect and restructure liquids and in particular water. Water constitutes 50–70%[30] of our body, if we consider mass, or 99%, if we consider the number of water molecules, as our body includes (3.7×10^{13}) water cells. Vibrations create unexpected pulsating, dynamic and kinetic phenomena in the body.

1.4.3. *Emotions and vibrations*

We have seen that music, as a vibratory phenomenon, could produce emotions. The effects of these vibrations on our body can be seen because of cymatics. On the other hand, some types of research have revealed that the voice of a person mirrors his or her emotional state and that it was therefore possible to identify it by analyzing his or her voice [DAS 17, SMI 75, WIL 72]. The relationship between heart rate and emotions has also been determined [QUI 12].

Pulse variation occurs before the stimulus of a future emotion and therefore before something happens, and even before the brain becomes aware of it. Our body is a sensor that is constantly scanning all the environment around it, and intuition is one of its means of perception. Surprisingly, our body reacts 4–7 s before feeling an emotional stimulus, as if the body "knew beforehand" or predicted. Several scientists have observed these phenomena that, despite appearing abnormal or unexplainable by classical physics, could be explained by quantum physics [ACZ 02, BIE 02, NAD 99, PEN 89, SPO 97].

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30 The percentage change differs in relation to age. As the age increases, the percentage moves closer to 50.

Paul Nogier, a doctor from Lyon, was one of the first to carry out experimental work on this topic in 1969. He was able to relate heart rate decelerations and accelerations with radial pulse variation [NOG 69a, NOG 69b, NOG 77].

Because of the development of measuring tools, mathematical models and testing protocols, McCraty was able to measure, quantify and validate the link between intuition and pulse variation.

The fact that intuition is more often "ascribed" to women could be explained in three ways: due to skin conductance, since women have more sensitive skin, due to more sensitivity to emotional stimuli and due to more developed body perception.

Thus, research has shed light on the association between intuition, heart and body perception. Intuition is a vascular reaction set off by the heart's vibrations, and therefore it does not "involve" the brain.

The works carried out by McCraty and co-workers [MCC 04a, MCC 04b, MCC 14] have made it possible to measure the heart rate accelerations and decelerations linked to the perception of intuition. These researchers have established the existence of a link between intuition and the pivotal role of the heart. This is an electrophysiological process in which the brain does not play a crucial part. These scientists have also demonstrated that women feel their intuition more than men as they are more "in touch" with intuitive information sent from the heart.

The heart seems to receive intuitive information before the brain, which is involved in processing information due to the prefrontal cortex, and the temporal, occipital and parietal areas.

The heart receives intuitive information well before the brain, and it reacts by slowing down the heart rate and then sending this information to the brain. The heart is naturally a functional and sensorial organ, involved in coding and processing information. A total of 40,000 neuronal cells and the sympathetic and parasympathetic nervous systems carry out functions related to learning, remembering and taking functional decisions independently of the brain.

Intuition is directly associated with vibratory phenomena. The works carried out by McCraty and Nogier have illustrated that intuition is linked to an electrophysiological phenomenon that changed the pulse [MCC 04a, MCC 04b, MCC 14, NOG 69]. Pearsall demonstrates that the heart sends vibrations to communicate and constitutes one of the body's "memory" centers [PEA 98] too.

We have seen in this chapter that a vibration creates a shape. This is illustrated by cymatics and wave phenomena, which reversibly affect the water contained in our body. McCraty's works have demonstrated the existence of a relationship between pulse variation and the intuition process. Thus, a form of intuition can be explained by a vibratory phenomenon deriving from the heart and visually accounted for by cymatics. Let us point out that Marc Halevy, a scientist and philosopher, uses the term "resonant intuition" [HAL 13].

Today, we are rediscovering vibratory phenomena with a scientific approach that allows us to explain and understand them. However, these phenomena have been identified in several ancient traditions, at a time when science could not explain them. In the language used by the Incas, "Alpa Camasca" means both "human being" and "animated earth". The unnamable omnipresent vibration may symbolize God. Hebrew letters reveal that each letter has a meaning, number and vibration related to the way it is spelled; everything is word, matter and vibration. In this sense, we

have seen that "music represents Man much more than words" [MEN 79]. Everything is information, energy and movement.

Let us end on a poetic note, with some lines written by Alfred de Musset[31] on the art of poetry: "Love truth, beauty, look for their harmony; Listen in your heart to the echo of your nature; Sing, laugh, cry, alone, aimlessly, by chance".

We have analyzed intuition from an etymological and semantic point of view. The scientific basis of intuition has led us to develop the pair intuition/science and to remark, for example, that our body has three brains. This allowed us to explain the vibration–music–emotion triad at the center of intuition. The relationships between each of these poles have been accounted for by the effects of music on emotions and the brain and by cymatics, which visualizes musical vibrations.

Intuition is information from within our body and more precisely a vibration generated by the heart, which changes the radial pulse and propagates itself in the body like a wave in the ocean. Cymatics has provided a visual explanation of the vibratory phenomenon and its manifestations, which can be felt in our body. We still need to discover how we can identify, sense and recognize the vibratory information provided by intuition through the vibratory phenomenon of the vascular autonomic reflex. We will tackle this issue in Chapter 2 as part of our analysis of intuition.

31 Drawn from a poem by Alfred de Musset (1810–1857) called "Impromptu".

2

Exploring Our Intuition

Our aim in this chapter is to explain intuition based on the scientific analysis of Chapter 1, which explains that intuition results from a vibratory process whose source is the heart. It will be possible to explore our inner perception once we have accepted the bodily feeling, which does not derive from the brain. The work suggested, which involves letting go, introspection and perception, makes it possible to train, develop our sensory abilities and, even perhaps to make a change in our self. The exercises are explained scientifically and detailed practically. The exploration offered relies on the idea that "everything is perception, everything is vibration…".

2.1. Perceiving intuition

Perceiving intuition requires a good amount of confidence, the ability to let go and the will to perceive. The research [SAM 14, SAM 16, SAM 17] we have carried out led us to remark that, when carrying out exercises involving intuition, individuals reacted in three ways: instinctively, emotionally and mentally.

The "instinctive" group includes those who experiment immediately in order to perceive what is happening. These

Intuition, Creativity, Innovation,
First Edition. Henri Samier.
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profiles indicate that these individuals do not need to understand in order to experiment, since what they regard as important is acting, making progress and doing. Instinctive individuals perceive their intuitions more quickly with the exercises suggested.

The "emotional" group includes those who need to perceive an enjoyable emotion to act; for them what is important is perceiving and vibrating with their heart. These profiles reveal that these individuals perceive their intuition fairly quickly but not as fast as instinctive individuals.

The "mental" group includes those who need to understand all the scientific foundations with demonstrations and grasp the notions before being able to act. We have noted that these profiles correspond to those individuals who "resists" intuition the most. They need more time to release their intuition and have to practice the exercises for longer before gaining access to their intuition.

Accessing intuition, therefore, requires different amounts of time for these three groups. Some individuals become aware immediately and progressively during each exercise, while others, on the contrary, will need more exercises before accepting to perceive this intuition. These insights, like passages, represent doors that must be unlocked. We have defined three stages or doors to be opened: the door of vibrations, the door of fears and the door of beliefs.

"Instinctive" individuals, with few exercises and some practice, can easily open these three doors to access intuition. On the contrary, "emotional" individuals struggle to open the door of fears. "Mental" individuals find it difficult to open each door. In this chapter, we will tackle the first door, the door of vibrations, which is the first key for accessing intuition. The other two doors, namely of fears and of beliefs, will be detailed in Chapter 3.

2.2. The door of vibrations

In Chapter 1, as the result of a large amount of research carried out over time, we have observed that intuition is linked to a vibratory phenomenon generated by a vascular phenomenon coming from the heart. The heart, the brain and the stomach have neuronal cells that constitute the three brains of our body and communicate between one another even if we are not completely aware of this.

The type of intuition that we wish to uncover is of a vibratory nature, as the body receives and generates vibrations, informing us of an event or a situation.

2.2.1. *An exercise involving musical perception*

The goal of this exercise is to perceive the influence of music on our body. With daily repetitions (morning and evening) for three weeks, this exercise makes it possible to observe gradual changes. Several types of research have shown that listening to enjoyable music generates physiological well-being in our body, due to the release of dopamine and oxytocin, among other things. Music has a positive effect on health, provided that it is chosen rather than forced on us [BON 13, BLO 99, HAA 10, MOR 18, MOR 11, RAG 15, SLO 91, ZAT 07].

The objective of this exercise is to physically perceive the effects of music on our body:

– choose a song without lyrics that is enjoyable and uplifting;

– listen it while standing, with your knees slightly bent and your arms at your side;

– close your eyes and take three long breaths;

– focus on breathing by simply paying attention to it without trying to change anything;

– with your eyes closed, breath in for three seconds, hold your breath for three seconds, breathe out for three seconds and hold your breath for three seconds. This breathing cycle, called square breathing, should be repeated for three minutes. At the end of this square breathing, listen to the song, keeping your eyes closed;

– focus on the music and feel the vibrations in your ears for one minute;

– then focus on your stomach, heart and body in order to perceive the vibrations generated by the music. Listen to the whole song again with this aim;

– listen and feel;

– at the end of the song, ask yourself: what did I feel? Which part of my body is heavy or light, which part of my body is relaxed or moved? What is smiling in my body?

The perception of music may have been "confined" to specific parts of your body. From your feet to your head, identify the main feeling in relation to a part of your body (legs, pelvis, stomach, plexus, thorax, throat and head). Listening to music may have provoked enjoyable emotions and perhaps allowed you to visualize images or recall a memory. Anything is perfect as this choice is specific to everyone.

Here are some suggestions of songs to listen during the exercise given in section 2.2.1: Donald Fagen – *New Frontier*, Peter Bence – *Here Comes The Sun*, Pachelbel – *Canon in D*, Telepopmusik – *Breathe*, Lisa Gerrard and Pieter Bourke – *Shadow Magnet*, Dave Brubeck – *Unsquare Dance*, The Blues Brothers – *Peter Gunn Theme*, Sade – *Soldier of Love*, Lama Gyurme – *The Tsaok Offering*, Levon Minassian – *Im Ayrogh Veuchlitz*, Deva Premal – *Gayatri Mantra*, Peter Gabriel – *Sledgehammer*, Car – *Drive*, Ennio Morricone – *The Mission*, Dead Can Dance – *Yulunga*, The Alan Parsons Project – *Eye in the Sky*, Handel – *Lascia Ch'io Pianga*, Emma Shapplin –

Carmine Meo, Dany Cudd and Markus Johansson – *Once Again*, Fréderic Delarue – *A Healing Gift to Humanity*, Mozart – *Ave Verum Corpus*, Elton John – *Song for Guy*.

Choose those you enjoy the most and listen them two to three times a day for three weeks in order to perceive more distinctly the effects of music and the vibrations on your body and to benefit from an actual improvement in your well-being including, among others, an improvement in your mood [RAG 15].

2.2.2. *The influences of music*

Cymatics (section 1.4) allowed us to see that vibrations create forms and influence water. As music is vibratory, does it affect our body?

In recent years, science has demonstrated the effect of music on the way our brain works, on the changes in blood flow and on the activation of certain areas of our brain [BLO 99]. Music, unlike chocolate or drugs, is not a pharmacological substance. It is an abstract stimulus. Undoubtedly, music has no more "special" qualities than other enjoyable stimuli, such as those that derive from looking at an artwork. Music simply provokes an emotional response.

Hervé Platel, a neuropsychology researcher at the University of Caen, points out: "The paths through which music enters our brain are much more complex than those of speech, for example, and engage different regions of our brain: music stimulates, relaxes, sooths our pain, but it can also increase the plasticity of our brain and cause changes in the synaptic connections". According to this researcher, listening to music while working could then boost memorization and decrease our feeling of tiredness [PLA 05, PLA 10a, PLA 16].

Listening to music also causes changes in skin conductivity, heartrate, breathing and body temperature [SAL 11]. It reduces negative emotions and warps our perception of time. Some researchers have even highlighted that musical tempo affects the pace of the activities carried out [KAM 10].

The feeling of pleasure increases when an area called the "reward pathway" is activated [OLD 54]. Thus, the "pleasure and joy" effect manifests itself through the release of neurotransmitters such as dopamine and oxytocin [BLO 01, NOR 03, NOR 09]. Therefore, music affects the expression of our emotions, memory and learning through the activation of the amygdala and the set of subcortical nuclei situated in the temporal lobe [BLO 99, KOE 06].

Music sets off a process of physiological well-being by acting on positive mood in relation to the feeling of control that an individual has on music, namely the possibility of choosing a specific type of music [BON 13, SLO 05]. The freedom to choose which type of music to listen to is a source of pleasure and motivation [KRA 14].

More broadly, music and vibrations affect flora and fauna. In fact, plants exposed to music grow more rapidly, tomatoes are more resistant to hydric stress and vineyards "steeped" in a musical environment are healthier.

In the animal world, cows exposed to music move faster toward automatic milking, as if they enjoyed listening to the music [KRA 97]. It has also been noted that cows produce more milk when certain types of coherent and soothing music are played [NOR 11], whereas other, incoherent types of music yield no observable results [KEN 16].

These surprising phenomena can be observed and measured. However, as of now they cannot be understood or explained. It is true that interviewing a cow to ask it "Why

does music make you produce more milk?" is not feasible. In the plant world, the phenomenon is equally unexplainable. These phenomena related to causality (if… music, then… an effect) can only be understood to a certain extent. We can naturally observe the facts without, however, being able to understand a phenomenon scientifically.

Today, we have no mathematical model to understand and find the correlations between music and all of its possible effects. Several studies are being carried out in healthcare, medicine and education.

2.3. Testing our intuition

It has been established that musical vibrations have an effect on water. It is undeniable that music affects plants and animals. Science has demonstrated that music has effects on the human body. This can be easily explained when we take into consideration that 75% of it is made up of water.

The hypothesis we put forward is based on the fact that intuition is of a "vibratory" nature. According to us, this is a causal phenomenon of a vibratory nature that will have to be demonstrated scientifically to be accepted. Once accepted, this phenomenon can be perceived and tested.

Today, we do not know why the heart generates an "intuition vibration", that is, a vibration that modifies the pulse. Therefore, we can accept our perception of this change in our pulse and see to which extent we can use this new signal.

We will subsequently delve into the explanation of the intuition phenomenon as pulse variation. Our aim is to now see how we can perceive it and train ourselves to sense it rapidly and systematically.

2.3.1. *The "vascular autonomic reflex" phenomenon*

The "vascular autonomic reflex" (VAR) or "Nogier pulse" corresponds to a perceived change in radial pulse variation. The first scientist to observe the VAR phenomenon was surgeon and professor René Leriche in the 1950s. A decade later, a doctor called Paul Nogier observed that, by touching a specific point on the ear of a patient, he could notice a change in the patient's pulse.

Nogier's works highlighted the existence of a connection between an auricular stimulation (of the ear) and pulse variation. This is a reproducible phenomenon that does not occur by accident (even if the VAR phenomenon does not always immediately follow an auricular stimulation, since everything depends on the area of the ear stimulated and the laterality of the ear [left or right]).

In the research on VAR, we can also find such expressions as "vascular autonomic signal", "vascular autonomic reaction", "Nogier's activated and dynamic pulse" [NOG 69, NOG 77, NOG 85] or "auriculo medicine". The last term is not necessarily the right one, according to a report by INSERM [GUE 03], which lists the research and clinical cases where auriculotherapy has been used by showing the contributions and limitations of this technique.

According to Rouxeville [ROU 07], "the pulse is linked to the pressure wave set off by cardiac ejection and reflected by the digital arteriolar wall". The pressure wave (9 m/s) is not the propagation wave of the blood column (0.9 m/s). The VAR is a phenomenon of a different nature added to the pulse. Presystolic arterial parietal stiffening is governed by the autonomous system. This is a reaction to stimuli (emotional or physical), which is unconscious, autonomous and takes place on a vascular level. The author points out that "the cerebral cortex and the adrenal gland are inevitably involved

in the VAR phenomenon. For a few seconds, we can see that something (or nothing) happens".

Stimulating the ear does not cause an observable phenomenon, but the pulse may change in two ways. Either it seems stronger and wider, as if it there were a rebound with an increased tension in the arterial wall – leading to the perception of a positive VAR – or it seems weaker and softer, as if there were a dip – leading to the perception of a negative VAR.

2.3.2. *Exercising the perception of pulse variation*

– Feel your pulse below your throat with your thumb and index. Press very gently on the part of your throat under the joints of the jaw and feel your pulse. Move your fingers forwards or backwards, as well as higher up or lower down your throat, to feel it better.

– Repeat the exercise by using your other hand and observe on which side you can feel your pulse more clearly and distinctly.

– While feeling your pulse below your throat, close your eyes and with your free hand gently tap your auricle from the rear toward the front.

– Notice the pulse variation that takes place either through a light rebound (VAR+) or a light dip (VAR–) for a few heartbeats. If no variation is perceived, stimulate a different area of your ear, either higher or closer to the lobe.

– Repeat the exercise with the other ear to observe if your perception is similar, stronger or weaker.

It is necessary to train to perceive the VAR. To this end, it is recommended to do this exercise daily for three minutes. With this type of training, the perception will become more

precise, subtle and rapid day after day. Step by step, it will be possible to perceive the VAR without feeling it with your thumb and index under your throat. Some people may even feel the VAR directly at their temples, solar plexus or in another part of their body.

2.3.3. *Exercising the perception of intuition*

By training the VAR (the perception of radial pulse variation), we can now do some exercises. The (VAR–) test and science are now validating what Reik put forward in 1948: "Intuition is perceived as a moment of absence and emptiness for a second" [REI 48].

Simple and quick exercises for the perception of intuition involve liquids. At first, we need to focus our attention and perception on the inner part of our body, for example with the inner smiling exercise below.

2.3.3.1. *Inner smiling*

– Sit in a comfortable position, legs and arms uncrossed, preferably somewhere quiet.

– Take a picture of your face.

– Close your eyes, focus on breathing and observe.

– Recall a very enjoyable event for 3–5 minutes.

– Feel the effect in your body, heart and head.

– Open your eyes and take a new picture of your face.

– Compare the two pictures.

Experiencing a happy moment will stimulate some areas of the brain (colored areas in medical imaging). Surprisingly, when we remember the same happy event, it is these same

areas that can be stimulated. In fact, the brain does not distinguish between experiencing an event and remembering it.

Once we have focused on the inner part of our body, we can then suggest three types of training exercises: the three glasses, the hand on the back and the invisible choice.

2.3.3.2. *The three glasses*

– Put three different drinks in three identical glasses on a table in front of you. Blindfold yourself and change the position of the glasses.

– Carry out the VAR test: Place your hand on the glass and feel the reaction of the radial pulse, which will be either peaking (VAR+), dipping (VAR–) or neutral.

– Change the position of the glasses one more time (always while blindfolded).

– Carry out the VAR test again: place your hand on the glass again and feel the reaction of the radial pulse: VAR+, VAR– or neutral VAR. Keep in the same position the glass that has a dipping radial pulse response (VAR–).

– Finally, look at the three glasses and ask yourself whether the glass that corresponded to a VAR– reaction does not contain your favorite drink.

2.3.3.3. *The hand on the back*

– Stand in front of someone you trust, who is standing in profile with their side facing you.

– Place your hand close to his or her back without touching it, around 5–30 cm away.

– Close your eyes and move your hand slowly downwards and from the right to the left randomly, so as to feel the

radial pulse variation (VAR+, VAR–, neutral VAR). Some areas may be hotter or colder to the touch. We should point out that some people may feel pins and needles at the end of their fingers or other sensations.

2.3.3.4. *The invisible choice*

– Stand in front of a table and close your eyes.

– Ask someone to place three types of food on the table (for example cheese, jam, butter, mustard, tomato sauce, soup and gherkins).

– Put your hand on each type of food and feel the radial pulse variation (VAR).

– When the radial pulse feeling is dipping, open your eyes to look at the type of food that your intuition has chosen. This is an "invisible" choice since it was not made with your eyes or brain, but with the vascular autonomic reflex.

These three exercises should be practiced on a regular basis in order to sharpen your feelings and speed up your perception. After 1–3 weeks of practice, these perceptions will become more rapid and even immediate.

In this chapter, we have suggested exercises that involve musical perceptions, and then we have explained their effects on the human body, as well as on the animal and plant world. All the scientific references provided are required to understand the phenomena and accept the perception. The vascular autonomic reflex phenomenon has been explained so that we can practice the exercises that involve the perception of pulse variation. The training exercises suggested, the "three glasses", "hand on the back" and "invisible choice", lead to a quicker and more reliable perception of intuition.

Nevertheless, we have observed in our research that some individuals did not perceive their intuition even when the

scientific foundations had been explained, or even after they had practiced the exercises. For these profiles, we have created a series of introspective exercises aimed at releasing intuition. These exercises will be discussed in Chapter 3.

3

Releasing Our Intuition

In Chapter 2, we detailed the phenomenon and the perception of the corporeal vibration of intuition through training exercises. If intuition cannot be perceived yet, this chapter will aim to discuss the conscious or unconscious processes that provide access to intuition and, therefore, it will allow everyone to find a way of accessing intuition.

The exercises for gaining access to intuition encourage us to explore human barriers like fears, the lack of self-esteem, beliefs and more generally to become interested in different human behaviors. Their goal is to remove these obstacles to finally allow everyone to gain access to intuition.

In the face of intuition, everyone has a specific dialog, relation or barrier. The parameters that come into play include, among other things, education, the mind, beliefs and fears. Accepting facts, things and intuition relies on the way someone sees, believes and understands the world. Let us ask ourselves the following question: "How do I see the world and what does it represent for me?". Close your eyes, take three deep breaths and on the spur of the moment complete the following sentence: "For me, the world is…". Whichever word occurs spontaneously qualifies the world such as it is

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First Edition. Henri Samier.
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perceived by an individual. Among the descriptions that we have gathered in our research, here are the main answers:

– *positive descriptions*: "the world is" an opportunity, a challenge, an adventure, a game, a learning process, love, human, alive, discovery, nature, pleasure, a delight, poetry, positive, harmony, to be invented, knowledge, in movement, creative, musical, intriguing, etc.;

– *negative descriptions*: "the world is" a fight, a risk, difficult, hostile, unfair, a battle and ruthless;

– *surprising descriptions*: "the world is" magical, visible and invisible, mysterious and astonishing.

Everyone conceives his or her own reality in the world in relation to his or her frame of reference, what he or she sees and reads and depending on the people with whom he or she mixes. This specific representation relies on the individual's thoughts, beliefs and fears.

Our world views change dramatically from individual to individual, they depend on our respective ecosystems and the fears that agitate us may hinder access to intuition.

3.1. The door of fears

The door of fears is most likely the most significant door, since an individual in a prolonged state of stress will release cortisol[1], which can attack the neurons in the hippocampus in excessive quantities. This slows down their multiplication, decreases the number of neurons and over time destroys them [DEK 05, PAD 03, STA 06].

Therefore, fear affects the brain and may block bodily perceptions. For example, a no. 5 enneatype (see section 3.4

1 Cortisol is an adrenal corticosteroid, a hormone secreted by the adrenal glands.

on the enneagram) can block and put off the perception of his or her emotions (in order to feel them at a later stage). Thus, the brain is a formidably complex system that can hinder or provide access to intuition. Fears play a part as drivers of our mental activities.

As fears may hinder access to intuition, how can intuition be released? First of all, we should become aware of the actual and mental fears that are not based on reality, which thwart and prevent us from taking action.

Once we have identified these fears, it is necessary to classify them in order of importance to recognize the three greatest fears and therefore find the deepest fear. This fear will regulate our behavior when a lived situation sends back or reactivates the memory of this fear. The three main behaviors related to this fear are flight, rejection (fight) and immobility (paralysis).

It is necessary to work on our deepest fear to get rid of past emotional traumas and to a certain extent free ourselves from emotional memories.

Overcoming our main fears allows us to reduce the source of unconscious stress, decrease our anxiety and therefore become calmer and more relaxed.

The three following exercises (sections 3.1.1–3.1.3) involve watching a video before starting, taking a test and watching a video after completing the exercise.

Watching the video for the first time constitutes an exercise targeted at making us aware of the problem.

The test makes it possible to self-evaluate the level of 43 fears suggested on a mental map. The evaluation scale puts forward ranges from 0 to 10.

Watching the video for the second time allows us to consider the development of our own fears and perhaps to decrease their intensity.

3.1.1. *A video that allows us to become aware: "Dare"*

Watch the following video. Video 3.1: "Dare"; link 3.1: http://bit.ly/1mtnsCG[2].

This video asks, among other things, the following questions: What does the wolf represent? In my life, what makes me take two steps backward (fear) and what makes me take one step forward (courage)? Are my fears founded and real? How many fears exist only in my head? When should I dare?

Most of our fears are mental, exist only in our head and have no physical reality. However, they can prevent us from moving, and they can block our thoughts or even inhibit our actions. Fears make us take two steps backward, whereas overcoming them leads us to make progress and realize therefore that they were mere illusions.

3.1.2. *Self-assessing our fears*

The goal of the test is to self-evaluate in relation to 43 fears listed in Figure 3.1. We are asked to spontaneously rank each fear on a scale of 0--10. For example, if my fear of death is strong, then I could choose to rank it as a 9 out of 10. Conversely, if my fear of abandonment is not significant, then I could choose to rank it as a 1 out of 10.

2 Available at: www.youtube.com/watch?v=sb2YOg_dkQM.

For this type of exercise, listening music is important, as the connections between music and emotions have been largely established [BLO 99, JUS 87, SLO 91]. We suggest the following songs: Levon Minassian – *Songs from a World Apart*, link 3.3: http://bit.ly/2utGS0p[3], link 3.4: http://bit.ly/2utuwpd[4] or link 3.5: http://bit.ly/2fgMZU3[5].

Once we have taken the test (Figure 3.1), we are required to first choose our 10 greatest fears.

Subsequently, we are asked to choose among these 10 fears the three greatest ones.

Later on, we have to choose from among these three greatest fears our deepest one. This hierarchizing exercise leads us to identify our deepest fear and our greatest fears in order to identify the subjective or real level of these fears.

> "The fear of the unknown, of uncertainty, and of risk can be found in our relation to time. It may explain why some individuals dwell more on the past and why others look more to the future" [DUK 06].

Our main fears derive from our experiences since our childhood, and they are at the root of our emotional reactions in the situations we have to face. Let us point out, for example, that the fears of abandonment, ungratefulness and lack of love are themes that can be found in several cartoons or films. This is the case in several Walt Disney movies, which depict an orphan or a child who has been abandoned or who is looking for his or her parents.

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3 Available at: www.youtube.com/watch?v=i7bqCTJjp5s.

4 Available at: www.youtube.com/watch?v=j3wUQhBjejk.

5 Available at: www.youtube.com/watch?v=Ubg7AI81VsQ.

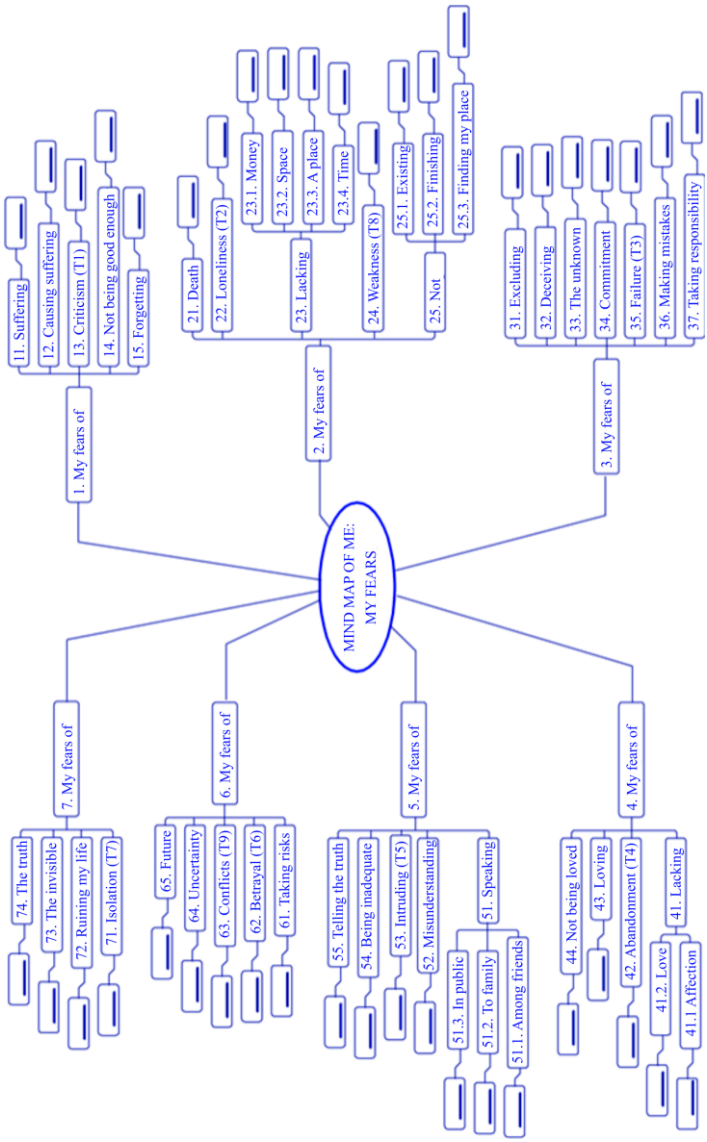


Figure 3.1. *Mind Map of Me: "My Fears"*

3.1.3. *A video that allows us to free ourselves: "What is your deepest fear?"*

Watch the suggested clip from the movie *Coach Carter*. Video 3.2: "What is your deepest fear/Coach Carter"; link 3.6: https://bit.ly/1WwBb9j[6]; or link 3.7: https://bit.ly/1Tpe94V[7].

The following excerpt is drawn from Marianne Williamson's book:

> "Our deepest fear is not that we are inadequate. Our deepest fear is that we are powerful beyond measure. It is our light, not our darkness that most frightens us. We ask ourselves, who am I to be brilliant, gorgeous, talented, fabulous? Actually, who are you not to be? You are a child of God. Your playing small does not serve the world. There is nothing enlightened about shrinking so that other people won't feel insecure around you. We are all meant to shine, as children do. We were born to make manifest the glory of God that is within us. It's not just in some of us; it's in everyone. And as we let our own light shine, we unconsciously give other people permission to do the same. As we are liberated from our own fear, our presence automatically liberates others" [WIL 00].

How can we open the door of fear? This work involves first of all becoming aware that most of our fears are mental and not grounded in reality. Finally, because of the self-assessment provided by the Mind Map of Me: "My Fears", we should understand that our greatest fear is the one that prevents us from acting every time a situation reactivates this fear. Working on our fears aims to reduce or even

6 Available at: https://www.youtube.com/watch?v=2_fDhqRk_Ro.

7 Available at: https://www.youtube.com/watch?v=Ybt8wXIahQU.

dissolve our main fear, and then the following two in order to reduce our unconscious inhibitors.

In the last 10 years, we have observed that the three fears that recur most often in a wide sample of adult learners are the fear of death, the fear of abandonment and the fear of not being good enough.

We can work on our fears in different ways. Tailored help provided by healthcare professionals, reading and exercises represent a suitable type of solution. Every individual must find his or her path if fears are impeding action.

The suggestions that may be made include, on the one hand, some types of reading and, on the other hand, some exercises.

The books recommended for thinking about our fears include (1) *La Psychologie de la peur* by Christophe André [AND 05], (2) *When Things Fall Apart: Heart Advice for Difficult Times* by Pema Chodron [CHO 05], (3) *Only Fear Dies* by Barry Long [LON 11], (4) *Life Lessons* by David Kessler and Elizabeth Kubler-Ross [KES 04], (5) *No Death, No Fear* by Thich Nhat Hanh [NHA 05], (6) *Smile at Fear: Awakening the True Heart of Bravery* by Chogyam Trungpa [CHO 14], (7) *Fearless: The 7 Principles of Peace of Mind* by Brenda Shoshanna [SHO 13], (8) *The Art of Meditation* by Mathieu Ricard [RIC 08] and (9) *Vaincre les peurs. La philosophie comme amour de la sagesse* by Luc Ferry [FER 07].

As a complement to the readings suggested, here is an exercise on self-esteem with a practical vocation that can produce very good results.

3.2. The door of beliefs

At this point in the work and after these exercises, if intuition cannot be perceived yet, it is likely that our mental

barrier, which is very prominent, is still hindering access to intuition. If my belief in my daily life is "I do not believe what I see", it will be difficult to believe in several scientific facts.

Does anything that the human eye cannot see not exist? Radio or electromagnetic waves, for example, certainly exist even if they cannot be seen. Many phenomena take place even if it is not possible to observe them, whereas we can accept that beliefs are constraining and partially ungrounded or even false.

Over time, beliefs have evolved in relation to scientific discoveries. Our very distant ancestors thought that the earth was flat and that the sun revolved around the earth. Such beliefs as "there is no smoke without fire", "the number of neurons in the brain decreases as we grow older" and "the shape and bumps of the brain determine the character of an individual" are all false beliefs that, however, represented our ancestors' reference frames.

The question we should ask is the following: "in what types of scientific knowledge do we believe today which will be invalidated in the future and will make our great-great-great-grandchildren smile?"

Scientific knowledge is constantly developing and, therefore, what we regard as true at one time may evolve in relation to scientific discoveries. Science is right until proved otherwise. New discoveries are always the body of knowledge developing in a dynamic and constant way.

"Long-term" scientific developments can advance, remain stagnant, or go backward due to the transfer of knowledge, which represents an uninterrupted chain that may be broken by conflicts, wars or cataclysms.

Therefore, beliefs should always be questioned so as to find out if they remain valid or if they have shattered into pieces.

3.2.1. *The "I believe what I see" exercise*

Here is an attention exercise that can challenge the belief that "I believe what I see". We are asked to watch a video and answer the question: "How many passes can the basketball team in white make in 25 seconds?" Be careful, as the video goes by very quickly… Video 3.3: "Selective attention"; link 3.8: http://bit.ly/1ad8GWy[8].

After watching the video, everyone can naturally find out the number of passes, as we are instructed to observe the team in white. Thus, our brain has focused on everything that is white and removed from our perception everything that is black.

What happens if we watch the video a second time without being asked to count the number of passes? Our observation relates to the actual event without any filters [SIM 99]. This quickly demonstrates that our visual perception may be disrupted by instructions that filter the information. Beliefs can act in a similar manner by removing from our visual perception what it is not "possible" to believe. Therefore, which new belief should be tested?

3.3. Self-esteem

3.3.1. *An exercise for our self-esteem*

This exercise involves establishing the following daily routine: every morning[9], looking at yourself deep into your eyes in front of a mirror, send yourself a message of unconditional love. Say: "I love myself just as I am", "I am perfect", "I love myself", "I am beautiful just as I am", etc.

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8 Available at: www.youtube.com/watch?v=Ahg6qcgoay4.

9 Preferably in the morning; it is important to choose the most suitable moment during the day.

Do this exercise for 1 min, with a timer and for 21 days in a row. Be careful, if one morning you forget to do this, on the following day you should start again with the first minute, as if you were restarting the exercise.

This 21 minute-long exercise allows us to change the way we look at ourselves and our self-esteem. Some individuals can feel an actual feeling of well-being at the end of the exercise. Therefore, why not start today?

The goal of the exercise is to strengthen, day by day, our love for ourselves and, like an automatic sprinkler, at the end of the 22nd day, each time we look at ourselves in the mirror, our first unconscious reflex will be to send ourselves a message of love.

It is recommended to take a picture of your face on the first and 22nd day in order to make comparisons, see the external difference, and feel the internal change. What has actually changed outside? What has actually changed inside? It is only after completing this exercise that the answers will be clear.

3.3.2. *The symbolic act exercise*

Symbolic acts have a liberating effect [HOR 15] and there are several exercises of this kind.

The exercise suggested relies on the observation that some fears can be rooted in our childhood, education, relationships with our parents or “parent figures”, family secrets, words left unspoken, etc. The goal of this exercise is to reduce the conscious or unconscious grudges we may be holding in our family history against our parents and, more broadly, our ancestors.

An absent, unknown, or incompetent parent may have created an unbalance, a deficiency, or a gap that some may perhaps try to fill. The fact of being really at peace with our ancestors, grandparents and parents will make it possible to reduce the level of stress, tension and anxiety. Here is the exercise suggested, which involves three symbolic letters:

– symbolic letter no. 1: write a letter of "reproach" to a parent. The idea is to write anything that crosses your mind, that you recollect and that you can express and "bring out". Then, read the letter to a picture or symbol of the parent in question;

– symbolic letter no. 2: write a letter of "forgiveness" to the same parent, where forgiveness is naturally related to the reproaches of the previous latter. This type of forgiveness is absolute and therefore unconditional. At a later stage, read the letter to a picture or symbol of the parent in question;

– symbolic letter no. 3: write a "love" letter to a parent. Then, read the letter to a picture or symbol of the parent in question or, if possible, read it directly to the parent.

These three letters may be written one after the other or on different days, depending on the individual, and it is important to finish the exercise with the love letter.

To complete the three symbolic letters exercise, an individual will have to write 21 letters in total. The first six people in question are naturally the two parents, the two paternal grandparents and the two maternal grandparents. The seventh person to which the last three letters are written will be ourselves. The very last love letter that we dedicate to ourselves will be read in front of a mirror.

This is an exercise that may potentially make us feel enjoyable or unpleasant emotions, bring back memories, but also lead us to feel well, light and very happy.

This exercise results in lighter "family burdens", allowing us to set things straight with our ancestors, just like a tree cleans its roots.

For those who wish to read more about this topic, the works recommended are *The Ancestor Syndrome* by Anne Ancelin Schutzenberger [SCH 98], *Ces enfants malades de leurs parents* by Ghislain de Devroede [DEV 05] and *Evolution Man, Or, How I Ate My Father* by Roy Lewis [LEW 99].

3.3.3. *Becoming aware of the "comfort zone"*

The comfort zone is "what I know"; the unknown lies outside the comfort zone and, in relation to the level of fears, an individual will be more or less inclined to remain in the known territory and the comfort zone. Fears prevent us from stepping out of our comfort zone, so that our fears "guide" or determine our behaviors.

Watch the following video related to improving our awareness. Video 3.4: "Stepping out of our comfort zone"; link 3.11: http:// bit.ly/1kFGJO8[10].

This exercise involves the removal of our discomfort zone. To that end, we will point out that the discomfort zone is a mere mental construction and that it does not exist. Therefore, we can observe that there are three zones:

– the comfort zone: what I know;

– the unknown zone: what I do not know;

– the learning zone: the discovery of what I did not know.

10 Available at: www.youtube.com/watch?v=f6uOABlKJeg.

It is recommended to carry out an action related to our learning zone every day. This exercise, just like all the others, will last 21 days.

On the 22nd day, after we have carried out 21 new actions, the discomfort zone will have grown smaller to the advantage of our comfort zone. By carrying out this exercise on a daily basis, the discomfort zone may be removed, so that over time only two zones will remain in our life: the comfort zone and the learning zone.

All the exercises suggested must be completed at our own pace and, with training and time, our three greatest fears will become less intense, our self-esteem will increase and our self-confidence will become stronger; we will actually manage to set things straight with our parents; and the learning zone will become our new life zone.

Ultimately, an increase in confidence makes it easier to let go and, consequently, it will facilitate our bodily and intuitive perception. Thus, it is recommended to refer back to Chapter 2 to complete the exercises that involve perceiving intuition.

If, despite these exercises, we still cannot perceive the intuitive vibration, we advise the following exercise, which involves the belief barrier.

3.4. The behaviors that block us

We can find in Egyptian mythology the nine deities[11] of Heliopolis, which symbolize the nine forces of the universe (Atum, Tefnut, Nut, Seth, Isis, Osiris, Nephthys, Geb and Shu). These nine deities represent behavioral qualities present in each of us. If these qualities are used cautiously,

11 The Ennead or the Great Ennead.

they represent virtues, whereas they constitute vices when they are used unrestrainedly. Etymologically, enneagram means “the nine written signs”, and it refers to a model that represents the human behavior based on nine points of strength. The enneagram allows us, on the one hand, to get a better grasp of the characteristics of our behavior and, on the other hand, to understand the types of behaviors of other individuals. Thus, studying the enneagram enables us to know ourselves better, to know other individuals better and, therefore, to behave better.

Figure 3.2 represents on a circle all the possible behaviors, which are classed into nine numbered categories.

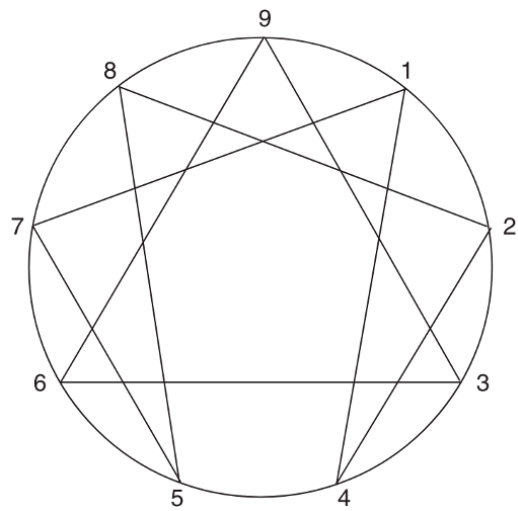


Figure 3.2. *The enneagram model*

In the enneagram model, the types of behaviors have an intelligence and action-taking principal center based on an instinctive, emotional or mental problem. Types (8, 9, 1) have an “instinctive” intelligence center, types (2, 3, 4) have an “emotional” intelligence center and types (5, 6, 7) have a “mental” intelligence center [BLA 00, EDW 91].

– *The "instinctive" types (8, 9, 1)*: here the center is the stomach (the guts), where action and "doing" represent the main drivers. In order of priority, the instinctive center triad is (action, perception, reflection). This center is governed by the reptilian brain and by the 100 million neuronal cells contained in the intestine (the second brain). The main problem for this type is managing anger.

– Type 8 (the manager, the leader): for this type of person, the greatest fear is to feel weak and powerless. According to this individual, the world is unfair and those who are in power take advantage of those who are innocent. This individual has learned to hide his or her vulnerability. These people tend to show that they are powerful, strong and fair, that they may protect their loved ones, but that, once betrayed, they will be resentful. They will trust their own reactions and they have "phenomenal" energy. Their assets are as follows: their power, courage and simplicity.

– Type 9 (the mediator, the peacemaker): the greatest fear for this type of person is to not feel loved. These individuals need to feel loved, and to avoid conflict they occasionally refuse to see reality. They loathe having to take sides. They have learned to forget themselves and to blend in with others. Empathetic and adaptable, they try to please. Their assets are as follows: their understanding, ability to support and activity.

– Type 1 (the perfectionist, the reformer): the greatest fear for this type of person is to feel imperfect. These individuals are hard workers, honest and perhaps bad-tempered. They are demanding with themselves. They put all of their effort into doing things properly. Upright and conscientious, they feel deeply responsible for their actions. They hate injustice, offhandedness and not abiding by the rules. They may seem inflexible and critical. Their assets are as follows: their rigor, tenacity, patience and ideals.

– *The "emotional" types (2, 3, 4)*: their core is the affective center (the heart), where emotions rule. They are driven by emotions, which actions can provide. In order of priority, the triad of the emotional center is (perception, action, reflection). This center is governed by the limbic brain and the 40,000 neuronal cells of the heart, which communicate with one another. The main problem for this type corresponds to the need for recognition that allows the individual to answer existential questions.

– Type 2 (the altruist, the helper): the greatest fear for these types of individuals is to feel worthless, from which derives their desire to help and their excessive need to be appreciated by everybody. They fear rejection. They are very sensitive to those who are close to them, and they try their best to make a good impression. Generous and responsive to the needs of others, they become very invested in relationships and may forget about themselves. They find it difficult to live alone. Their assets are as follows: their love and humbleness.

– Type 3 (the fighter): the greatest fear for this type of person is to feel unable to act. These dynamic individuals want to prove what they can do, that they are efficient and that they achieve their goals, as they have learned to become successful to receive love and approval. Efficient and very active, these individuals do things quickly. Relating their image to their achievements, they love being the center of attention. Their assets are as follows: their enthusiasm and their ability to implement and achieve, as well as their honesty.

– Type 4 (the artist, the individualist): the greatest fear for this type of person is to feel displaced and unloved. These individuals want to be themselves by asserting their difference. They are sensitive and romantic, and they can mix up their identity and emotions. Idealist and creative, they struggle more to live for today and they are afraid of

being misunderstood. Their assets are as follows: their aesthetic sensibility and sense of harmony.

– *The "mental" types (5, 6, 7)*: for these individuals, the center is the head and the brain (mental), where reflection is fundamental. In other words, it is indispensable for them to think before acting. In order of priority, the triad of this mental center is (reflection, perception, action). This center is governed, among other things, by the 100 billion brain neurons and in particular the neocortex. Their emotional problem is to find out how to manage fear.

– Type 5 (the observer): the greatest fear for this type of person is to not exist. These individuals are afraid of emotions. They love structuring their ideas. They think they understand and know. They accumulate knowledge and do not share what they know. They are secretive and may seem detached from beings and things. They hate it when others intrude into their intimate lives. Their assets are as follows: their knowledge and precision, as well as their control and attention.

– Type 6 (the loyal): the greatest fear for this type of person is to feel lonely and isolated. These individuals have a strong need to belong, feel safe in a group and share codes. They submit to authority to avoid threats and dangers as well as to feel safe. They are trustworthy, they can pay attention and they have a significant sense of responsibility. Their assets are as follows: their loyalty and courage.

– Type 7 (the epicurean, the enthusiast): the greatest fear for this type of person is to feel incomplete. These individuals are very positive and try to live fully and to "get their fill". They devour enjoyable ideas and activities. They are happy and they glow. They are charming and disarming, and they hate obligations, boundaries and boredom. Impetuous and inventive, they are always ready to give a hand. Their assets

are as follows: their infectious thirst for life, their optimism and their temperance.

Understanding the enneagram requires personal work with some help[12] in order to determine one's intelligence center (instinctive, emotional, mental) and type (1–9). The dynamic of the enneagram model reveals that a behavioral type (for example, type 5) can change behavior in two ways in relation to the individual's level of stress or comfort. For example, an enneatpye-3 person will adopt a negative type-9 behavior in a situation of stress and a positive type-6 behavior in a situation of comfort.

The enneagram teaches us that everyone behaves in relation to his or her type and changes his or her behavior in relation to his or her emotional level. Therefore, the actual behavior is represented as a point moving in a triangle.

Even if there is no consensus about online enneagram tests, it is possible to take one[13], considering its possible limitations and reservations. However, it is more useful and reliable to train over several days in order to find out the hypothesis related to our enneatype.

Knowing our enneatype makes it possible to know ourselves better, to know how our behaviors work, to accept ourselves, to accept the other and above all to change the way we look at ourselves.

3.5. Intuition and new insights

These exercises have perhaps changed our points of view, altered our perception or allowed us to become aware of the reality inside our body. This personal work and training can

12 For example, at: regard9.com, promouvoir-enneagramme.com, enneagramme.com.
13 Available at: www.eclecticenergies.com/enneagram/test.

be carried out with the three following exercises: “Faces and words”, “Videos and sensation” and “Visualization and colors”.

3.5.1. *Faces and words*

Non-verbal communication and facial expressions in particular play an important part in social relationships [MEG 17]. The perception of faces is an intuitive process and a form of unconscious judgment that fits in line with a holistic and global perception [AMD 10].

This exercise involves coming up intuitively with the word evoked by a face. On the street, whenever you meet someone, quickly glance at his or her face, without staring, and listen to the small inner voice that rapidly comes up with a word. Each face will evoke a different word. Be careful, if there is a moment of reflection between the time you see the face and the word, it may be rational thought, rather than intuition, that is speaking. This exercise trains us to let intuitions occur spontaneously and rapidly.

3.5.2. *Videos and sensations*

To complete this introspective work, here is a practical exercise. It is recommended to explore other ways of thinking and becoming aware. Choose intuitively three videos from the list below. Every day, watch a video with the aim of listing:

– the sensations you feel;

– the new knowledge that this provides;

– the reflections induced.

The goal of this exercise is to pay attention simultaneously to the bodily perceptions, information gathered and mental echo provoked by the video.

Here is the list of videos suggested for this exercise:

– Video 3.5 "The brain and the perception of reality"; link 3.12: https://bit.ly/2OeObXT[14];

– Video 3.6 : "The magic of the cosmos" ; link 3.13: https://bit.ly/2N301Qm[15];

– Video 3.7 : "The revolution of the mind"; link 3.14: https://bit.ly/2ObTAPu[16];

– Video 3.8: "Self-discovery"; link 3.15: https://bit.ly/2iYBC2e[17];

– Video 3.9: "The size of the universe in 6 minutes"; link 3.16: http://bit.ly/ 2wumca9[18];

– Video 3.10: "Living with our fears"; link 3.17: https://bit.ly/2QUgGZz[19];

– Video 3.11: "Inner world, outer world"; link 3.18: https://bit.ly/2zvVMsO[20].

At the end of the exercise, sum up the most significant points about the perceptions, information and reflections you derive from these videos.

3.5.3. *Visualization and colors*

The last exercise suggested involves an inner type of visualization through colors. This is a sort of meditation time

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14 Available at: https://www.youtube.com/watch?v=aYKmWAXxDfM.

15 https://www.youtube.com/watch?v=voxL7rICREU&list=PLQzhdTWrSCE-vCeIULShBBHs0T-jyVzzn.

16 Available at: https://www.youtube.com/watch?v=_qIGyry7wLo.

17 Available at: https://www.youtube.com/watch?v=vXHLTV0wx8M.

18 Available at: www.youtube.com/watch?v=CBOD7zg4zpA.

19 Available at: https://www.youtube.com/watch?v=3AZ1dkx5Ymk.

20 https://www.youtube.com/watch?v=aXuTt7c3Jkg&list=PLpbqjMmTFSqkbRVPsgxR4GJ2NuBxAiVRS.

put forward to sharpen the intensity of the sensations in our body. It has been proved that through meditation the brain can reconfigure itself in view of its cerebral plasticity [IRR 18, LOI 14].

While sitting on a chair in a comfortable position, close your eyes. Starting with the lower part of your body, feel the sensations in your feet and ask yourself which color is evoked by these sensations. Visualize this color and decide to change intuitively the hue of the lighter or darker color. Keep focusing on the new color hue and feel the effects produced. Are your feet lighter or heavier? Are they colder or warmer? Is there a sensation of tingling or pins and needles? These are all sensations that will become more precise and instantaneous during this exercise. Take the time you need and step by step work your way up to your knees, pelvis, stomach, heart and throat, finishing with your head.

As a complement to this exercise, there is the possibility of training to develop bodily sensations through the following guided mediations:

– Video 3.12: "Meditation on colors"; link 3.19: https://bit.ly/2xFXiaG[21];

– Video 3.13: "Morning meditation"; link 3.20: https://bit.ly/2FUqq47[22];

– Video 3.14: "Evening meditation"; link 3.21: https://bit.ly/2smpOOh[23].

Finally, it is naturally recommended to take a few moments during your day to rest, relax and unwind without doing anything. Then, close your eyes, pay attention to yourself, your bodily perception and your state of being.

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21 Available at: https://www.youtube.com/watch?v=bY-sxwsL-UA.

22 Available at: https://www.youtube.com/watch?v=KgV8uXQGVWM.

23 Available at: https://www.youtube.com/watch?v=mHIt_tXDnSY.

Afterwards, open your eyes, examine the details of your environment and rediscover the smallest details. To develop your ability to hear yourself without letting the mental dimension take over, it is recommended, for example, to listen to your friends with empathy and without interrupting, intervening only when your friend has finished speaking. Silence, as well as the ability to listen externally and internally, plays an essential part in the actual perception of intuition. To end this stage of exercises, let us develop our optimism by listening to positive programs and positive information, like the panorama of positive France[24] or the website mid&plus[25], and by becoming involved in positive events, like the optimists' spring[26].

– Train for empathy, for example listening to friends who need it.

– Develop optimism (the optimists' spring).

– Do something creative.

The exercises put forward in this chapter aim to remove mental barriers in order to access intuition. We have noted that there were several barriers to intuition, and we have suggested that we should work on some of them. We have been able to remove in part the barrier of fears because of the insight provided by the video and the self-assessment exercise that focused on 43 fears.

We have worked on the barrier related to the lack of self-esteem through the exercises that involve a mirror or symbolic acts and the videos about the comfort zone. The barrier of beliefs has perhaps disappeared because of the exercise called "I believe what I see". The barrier associated

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24 Available at: www.printempsdeloptimisme.com/wp-content/uploads/2017/03/PANORAMA-DE-LA-FRANCE-POSITIVE-PO-2017.pdf.

25 Available at: midetplus.fr.

26 Available at: www.printempsdeloptimisme.com.

with behaviors has led us to develop the enneagram, which is a useful approach for self-knowledge.

Finally, to broaden our mental horizon and gain new insight, we have seen the exercises "Faces and words", "Videos and sensations", and "Visualization and colors". We have suggested watching videos about topics such as the perception of reality, the cosmos, our mind's awareness, self-discovery, the universe and the documentary *Inner World, Outer World*[27], which received awards on six different occasions at film and documentary festivals.

In this chapter, we have seen the practical means of releasing intuition, while also explaining the blocking and unblocking processes. In Chapter 4, we put forward an effective tool for the development of intuition, namely the "Mind Map of Me". Afterwards, in the last three chapters, we will see which methods and practices resort the most to intuition in the creative (Chapter 5), innovative (Chapter 6) and managerial (Chapter 7) sphere.

27 The website of the documentary *Inner World, Outer World* can be found at: www.innerworldsmovie.com.

4

Developing Our Intuition: The "Mind Map of Me"

Chapter 2 tackled the techniques used to access intuition through new insights and exercises. Chapter 3 discussed exercises for removing the barriers in place. How, therefore, can we develop the perception of intuition more finely? Chapter 4 puts forward a tool that allows us to improve our self-knowledge, become more perspicacious about ourselves and increase the perception of intuition. We have called this tool the "Mind Map of Me".

Ever since the inscription "Know thyself" was written on the pediment of the temple at Delphi in Greece, humanity has not stopped wondering: "who am I?", "where am I", "where am I going?". These questions may be of a philosophical, symbolic, psychoanalytical, metaphysical or spiritual kind.

The "Mind Map of Me" suggested has a practical vocation as a tool and aims to let us "dig deep in ourselves". It allows us to take a "picture" of "who we are". Within the limits of human cognitive means, it reveals and highlights the perception of "who I am". The "Mind Map of Me" is simply a self-assessment tool without any external witness, which enables an individual to face themself and consequently

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demands from the individual a great deal of honesty, integrity and truthfulness.

This tool aims to explore concrete and primary aspects of our state of being like needs, health, intelligence, abilities and beliefs. Its goal is also to explore more subtle aspects, such as perceptions, feelings, intuitions, love, emotions and dreams.

The "Mind Map of Me" is a self-assessment and introspection tool that reviews our situation at a time "t" in our life. It gives us the opportunity of asking ourselves questions about several personal dimensions of our life, our relationship with ourselves and our outward relationship with others.

This tool allows us to take stock as faithfully as possible of "where we are today" and what we wish to develop and carry forward in the future honestly and consciously.

Built based on the seven heuristic maps [BUZ 91], this tool lists the problems related to the seven following topics: trust, feeling, achievement, love, communication, thinking and knowledge. Each of the seven maps aims to explore levers (abilities, skills, aptitudes, etc.), needs and obstacles (beliefs, anxieties, fears, etc.).

The principle is simple: we are asked to self-assess on a scale from 0 to 10 as spontaneously as possible. The objective is to shed light on what checks an individual, what works and what an individual wishes to develop in his or her life.

4.1. The "Trust" Mind Map of Me

The trust map should be used first. In the history of an individual, trust relies on the power relations that he or she has established, lost or kept in balance in his or her life.

Trust is based on several parameters such as self-esteem, self-love, gratitude, education, the need for security, our relationship with ourselves, achievement, the will to live, successes, inner peace and the fact of not judging ourselves and others. According to Hindu and Buddhist traditions, trust is related to how an individual is rooted in his or her ancestors, to the color red, to the "lam" mantra and to the musical note "C".

Now complete the exercise by filling out the trust map (Figure 4.1) and marking each category on a scale from 0 to 10. For example, if you are very confident in your future, you could choose nine out of 10.

As we saw in Chapter 2, music affects our mood. Therefore, it is recommended to listen to enjoyable music while taking the test. Here are some suggestions: Beethoven – *Klavierkonzert No. 2. Adagio*, Billy Idol – *Adams in Chains*, Craig Armstrong – *Finding Beauty*, Cat Stevens – *Wild World*, Cab Calloway – *Minnie The Moocher*, Chris Rea – *On the Beach*.

When the test is over, namely when you have completed the map, you should circle the three elements on which it would be useful to work. The test provides some work suggestions, but everyone can decide whether to follow them or not.

4.2. The "Feeling" Mind Map of Me

The second map on feeling lists parameters such as the state of being, letting go, our relationships with others, the expression of our needs, the way of digesting things, our relationship with uncertainty and the way of giving and receiving.

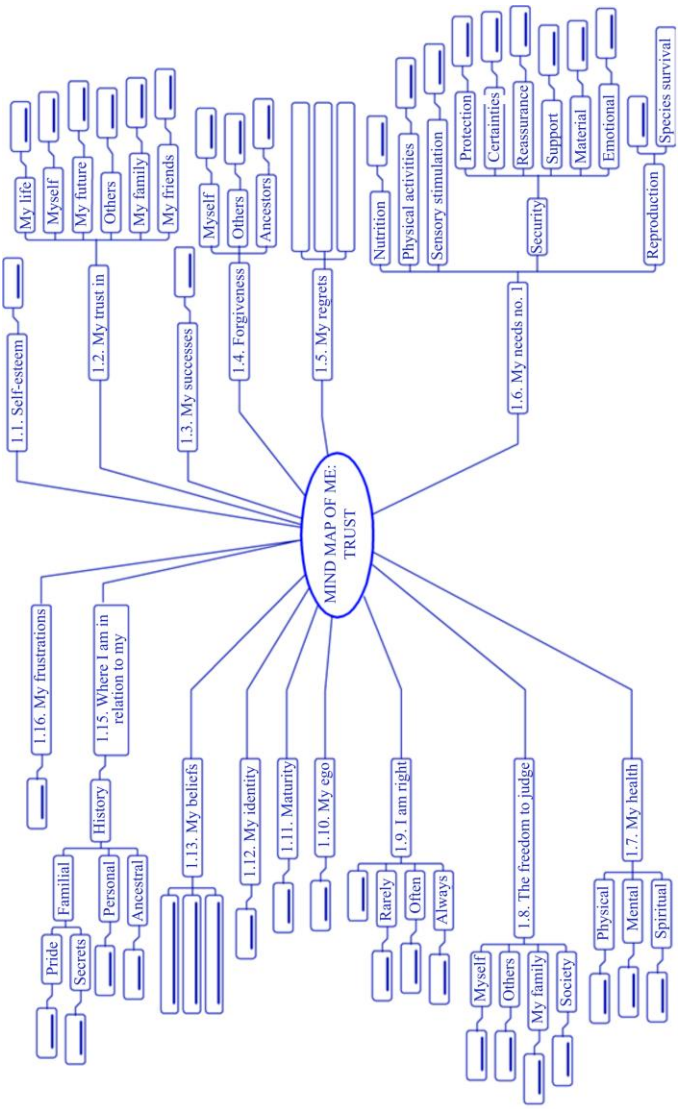


Figure 4.1. *The "Trust" Mind Map of Me*

Feeling is associated with the color orange, the note "D", the "yam" mantra, the moon, the element "water" and creativity. As was the case for the previous map on trust, complete the test (Figure 4.2) on feeling by marking each category on a scale from 0 to 10.

It is recommended to listen to enjoyable music during the test, for example: Lisa Gerrad and Pieter Bourke – *Shadow Magnet*, Dead Can Dance – *Yulunga*, Johann Sebastian Bach – *Air on the G-String (From the Orchestral Suite No. 3 in D*), Christoph Spendel Trio – *Beyond Words*.

Once the test is over, circle the three elements on which it would be useful to work, as was the case for the previous map.

4.3. The "Achievement" Mind Map of Me

The achievement map lists several aspects involved in the notion of "achievement": will, commitment, the ability to act and boldness. The related color is yellow, the related note is "E" and the related mantra is "ram". Complete the achievement map (Figure 4.3) by marking each category on a scale from 0 to 10 while also listening to music like: Thomas Otten – *Espiritu*, Georg Friedrich Händel – *Rinaldo: Lascia Ch'io Pianga*, Inva Mulla Tchako – *Lucia di Lammermoor*.

Once the test is over, circle the three elements on which it would be useful to work.

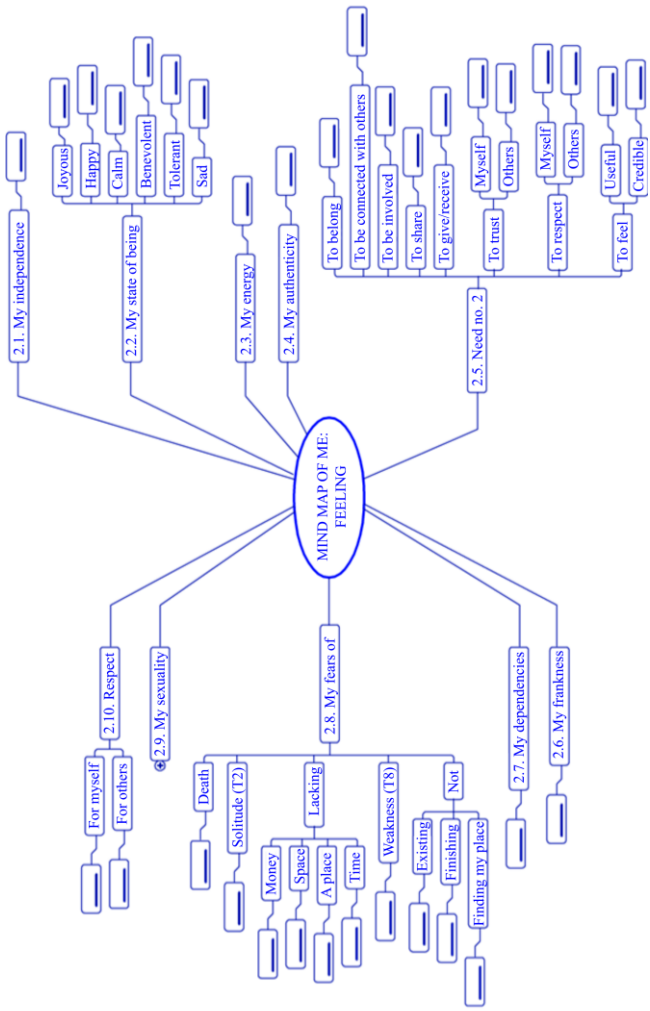


Figure 4.2. *The "Feeling" Mind Map of Me*

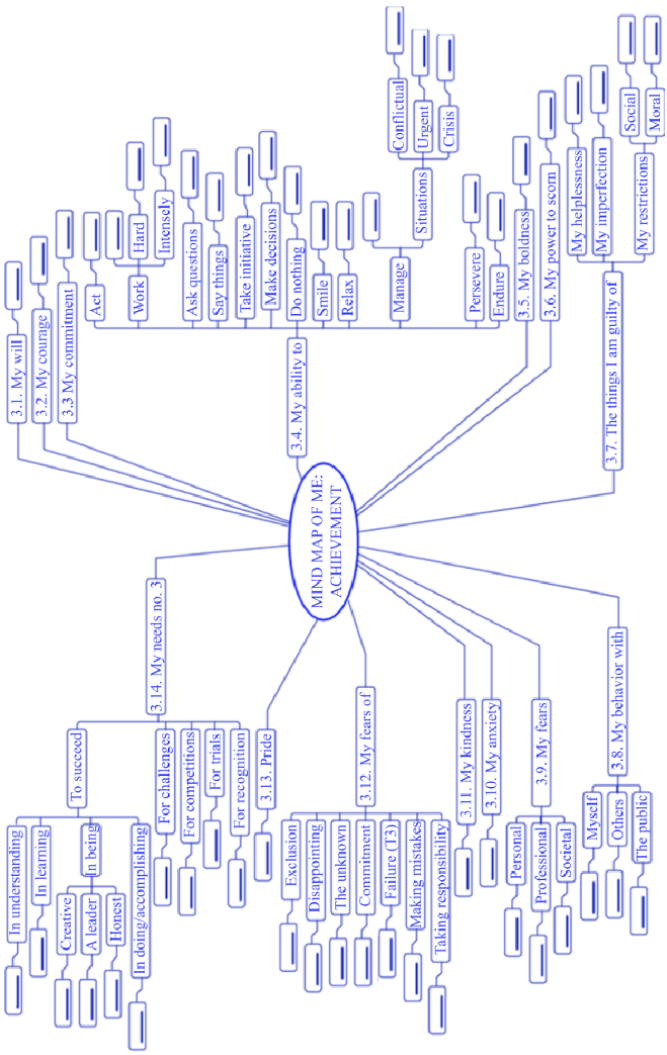


Figure 4.3. *The “Achievement” Mind Map of Me*

4.4. The "Love" Mind Map of Me

The map on love gathers together all the problems related to this topic, such as virtues, passions, zest for life, motivation, faith, ideals and hope. It is recommended to complete this map (Figure 4.4) by ranking each category on a scale from 0 to 10.

Here are some songs to listen during the test: Karl Jenkin – *Interlude No. 4 Agnus Dei*, Pyotr Ilyich Tchaikovsky – *Swan Theme (Swan Lake, Act II – Scene No. 10)*, Snatam Kaur – *Ong Namo*, Florent Pagny – *Io le canto per te*, Deepak Chopra – *Desire (instrumental)*, Vangelis – *Blade Runner: Love Theme*.

Once the test is over, circle the three elements on which it would be useful to work.

4.5. The "Communication" Mind Map of Me

The communication map reveals most of the aspects involved in communication such as listening, looking, empathy, spontaneity, will, autonomy and integrity. Communication involves anything leaving our mouth or reaching our ears, representing then the Ying/Yang balance. The related color is blue, the note is "G" and the mantra is "ham". The communication map (Figure 4.5) should be filled out by marking each category on a scale from 0 to 10.

Listen to the following compositions during the test: Dvorak – *Serenade for Strings, op. 22, II. Tempo di valse*, Télépopmusik – *Breathe*, Zdeněk Fibich – *Twilight, op. 39,* Art of Noise – *Robinson Crusoe*, Bruce Hornsby – *The Way It Is*, The Cars – *Drive*, Frédéric Chopin – *Waltz in A Flat*.

Once the test is over, circle the three elements on which it would be useful to work.

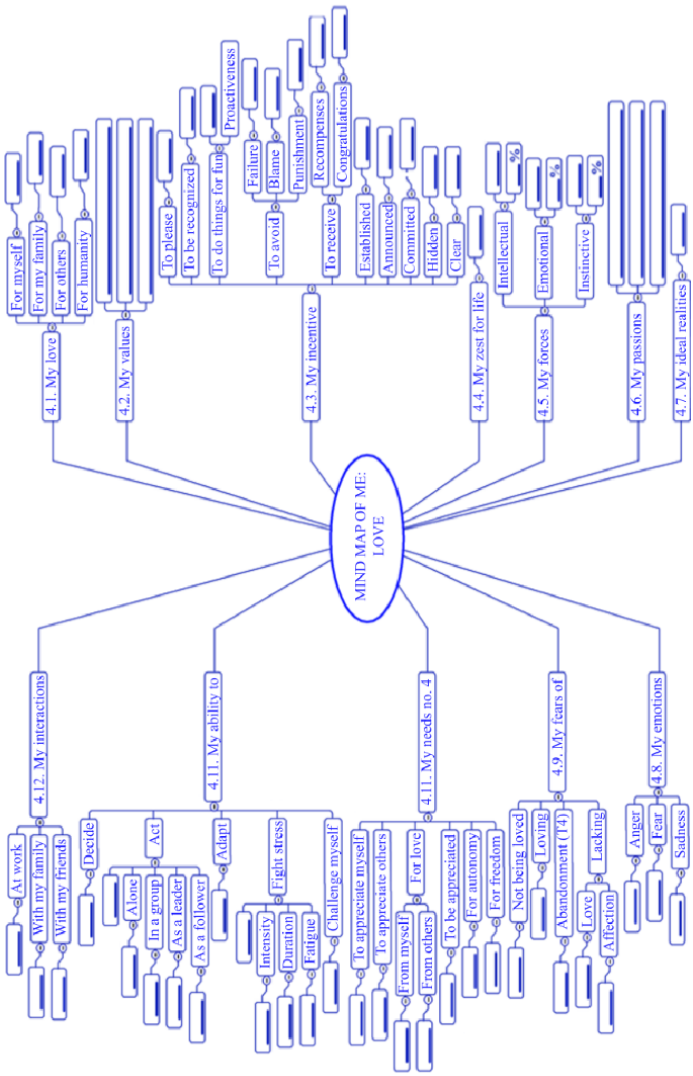


Figure 4.4. *The “Love” Mind Map of Me*

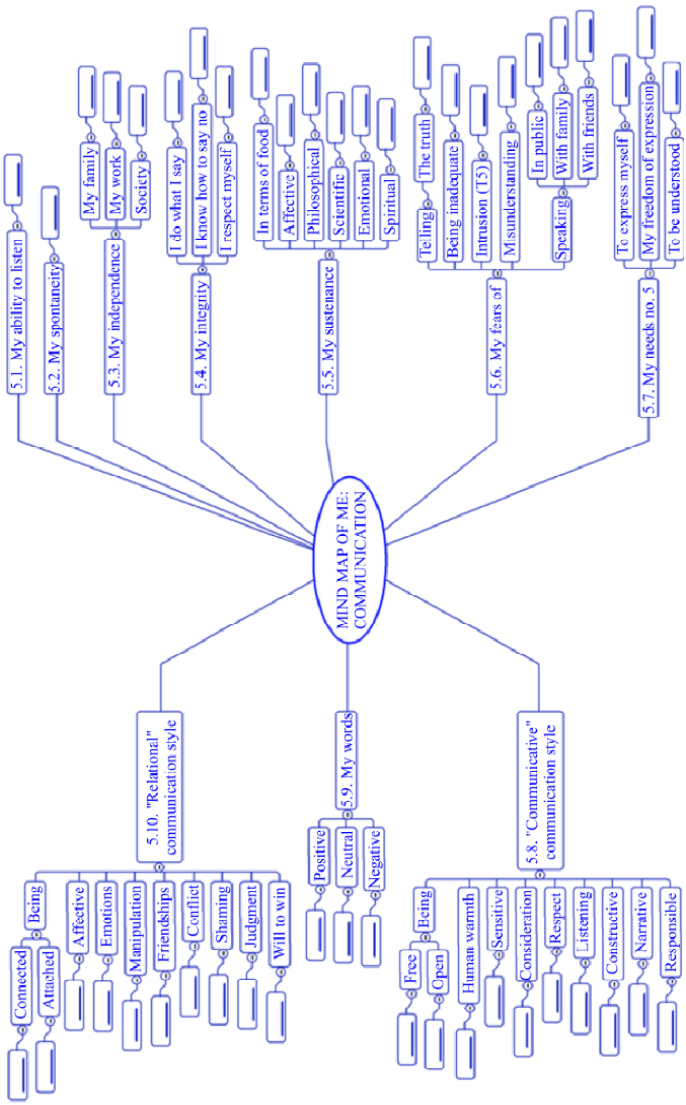


Figure 4.5. *The "Communication" Mind Map of Me*

4.6. The "Thinking" Mind Map of Me

The sixth map, the thinking map, allows us to discover the following aspects: intuitions, feelings, doubts, the perception of things and sensitivity.

The map should be filled out (Figure 4.6) by marking each category on a scale from 0 to 10 while you listen to songs such as Wolfgang Amadeus Mozart – *Sonata in A Major, 1st Movement*, Ice House – *No Promise*, Joe Jackson – *You Can't Get What You Want*, John Barry – *Amicalement vôtre*, Louis Armstrong – *What a Wonderful World*, Ludovico Einaudi – *Divenire*, Michael Nyman – *The Heart Asks Pleasure First*.

Once you have completed the test, circle the three elements on which it would be useful to work.

4.7. The "Knowledge" Mind Map of Me

Finally, the last map, the knowledge map, investigates the following parameters: forecasts for the future, opening our mind, uncovering and serendipity.

According to Hindu and Buddhist traditions, knowledge is associated with the colors gold, white and purple, with the note "B", and with the mantra "aum". Knowledge is the "unit that contains everything", and "the whole is contained in unity".

The knowledge map (Figure 4.7) should be filled out and each category should be marked on a scale from 0 to 10.

The following songs are recommended: Deva Premal and Miten – *Gayatri Mantra*, Duffy – *Stepping Stone*, Eddy Mitchell – *Décrocher les étoiles*, Emma Shapplin – *Carmine Meo*.

Once the test is over, circle the three elements on which it would be useful to work.

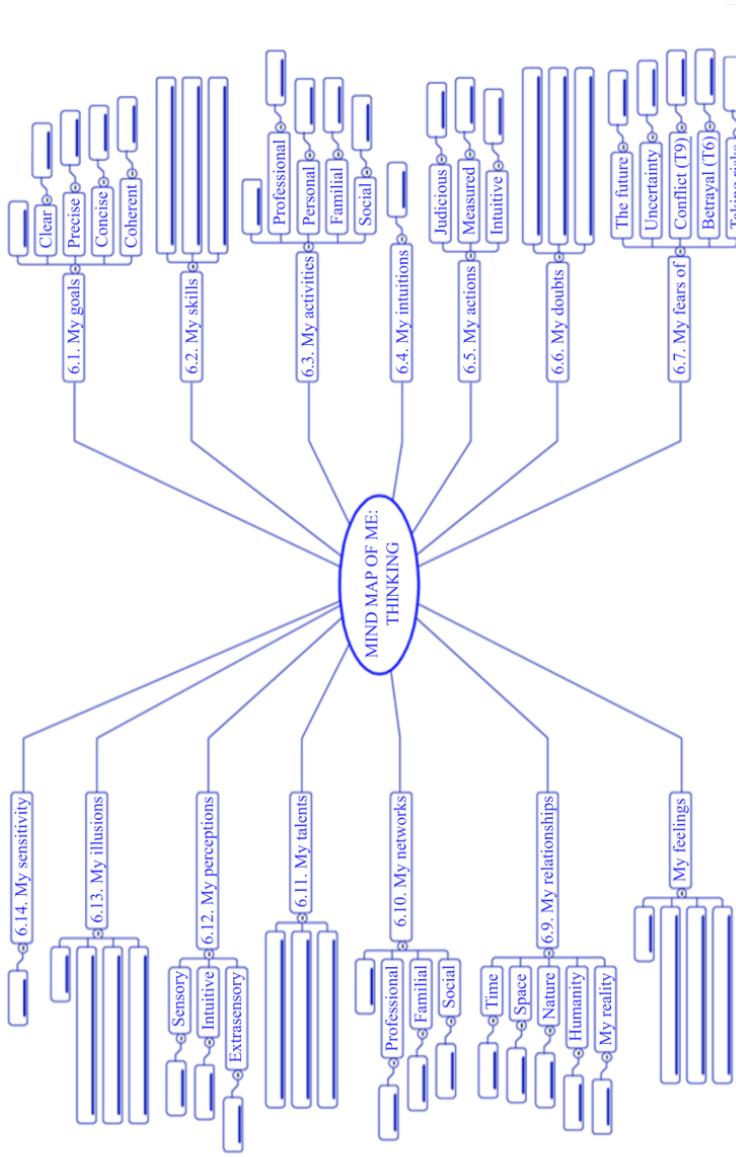


Figure 4.6. *The "Thinking" Mind Map of Me*

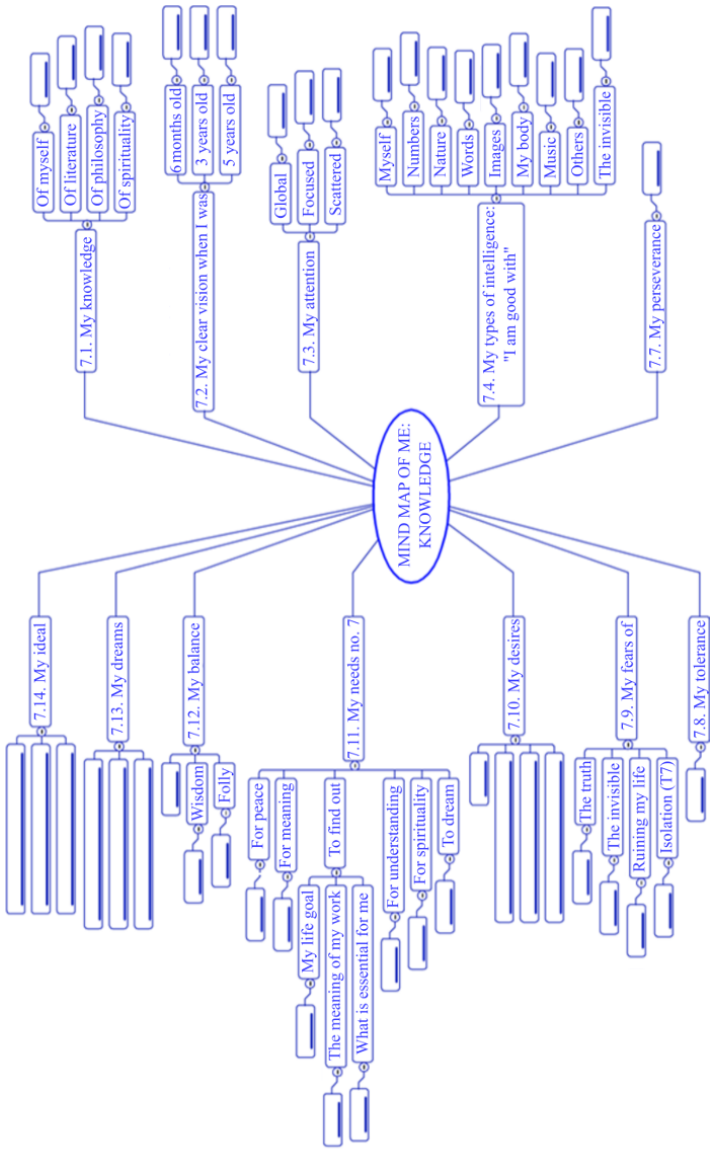


Figure 4.7. *The “Knowledge” Mind Map of Me*

In this chapter, the “Mind Map of Me” tool that we have developed allows us to self-assess in relation to themes such as trust, feeling, achievement, love, communication, thinking and knowledge. Every map aims to highlight the three elements that an individual wishes to develop.

In total, we have highlighted 21 ways forward, which open up the possibility of developing, improving and knowing ourselves better.

After this test, which involves the seven “Mind Map of Me” maps, we are asked to refer back to Chapter 2 (section 2.2.3) in order to feel our intuition and see to what extent our feeling has evolved and changed.

In this chapter, we have developed the introspective tool represented by the “Mind Map of Me”, which allows us to explore ourselves on seven levels and question “who we are”, “how we want to be” and “where we want to go”. The effects observed in hundreds of adults who have taken this test include reduced fears, better self-esteem and the awareness that focusing intentions and thoughts leads us to carry out our daily actions more effectively. Some individuals reach a new state of serenity.

We will now see in Chapter 5 whether intuition helps creativity or not.

5

Intuition and Creativity

Our goal in Chapter 5 is to show the links, influences, and interactions between creativity and intuition. The creative methods that explicitly resort to intuition will be developed in this chapter, which will end with the notion of serendipity[1]. If, because of the exercises suggested in Chapter 2, intuition can be felt, then it is possible to test a new form of "intuitive creativity".

Socrates observed the connections between intuition and creativity. The philosopher regarded thoughts as "inspired" by the "gods", whereas ideas derived from "someone" outside himself. Creativity resulted from an "intuition" inspired by the gods, which was not attributed to humanity. Creativity was seen as a creative act born from the mind.

If we go briefly back in time, we can see that in classical times the sources of creativity were attributed to the nine muses: Calliope for epic poetry, Clio for history, Euterpe for music and lyric poetry, Thalia for comedy, Melpomene for tragedy, Terpsichore for dance, Erato for love poetry, Polyhymnia for religious hymns and Urania for astrology. Creativity was attributed to arts such as music, singing,

1 Serendipity is the ability to discover by chance something that one was not trying to find.

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tragedy and comedy, which place humanity at the center of creativity.

Ever since Antiquity, human creativity has been illustrated in history books, music and poetry, which abide by harmony rules just like architecture, which respects precise geometric rules for pyramids and cathedrals, for example.

Today, we are aware that creativity is related to human activities built by a series of cycles that define a creative process [AND 00, STE 05, STE 98, WEI 93]. The origin of an idea lies in an emotional feeling, an intention and a motivation, which lead us to create.

Creativity is a process that begins with the appearance of an idea and continues with its conceptualization. What comes after is an emotional feeling, which introduces a motivation and ends with the action required to realize the idea [SIN 06].

Creativity is one of the functions of the human brain. The brain works in complex ways, which involve biochemical, neuronal and physiological processes that depend on the environment, emotions and ecosystems specific to each individual. Thus, creativity can also be defined as the activity that involves "creating and transgressing the preestablished structures as well as other more functional structures. Getting rid of what is evident and looking for a result beyond that. Keeping alive the sense of possibility. Enjoying the pleasure of discovery. Putting new concepts together. Doubting, asking, transforming" [MEN 84]. Therefore, creativity fits in line with a process of inner and outer transformation. Creativity is the extra quality in what we do. "It is an attitude, an inner perspective, how we see things" [OSH 01], and this "inner perspective refers to intuition, *Intueri*: to see inside".

Striebig established a method for accessing intuition and creativity based on self-hypnosis [STR 17]. We will not use this approach, as according to us we should experience intuition, and similarly creativity, when we are fully aware of it rather than in a daze.

Intuition, like creativity, is an aspect of human beings. Therefore, anyone can be creative and perceive intuition. We have seen in Chapter 3 the important part that fears and beliefs play in blocking intuition. Ken Robinson denounced long ago the barriers to creativity in educational processes, which tend to reduce the creativity of children[2]. Based on this observation, he recommended several approaches that could reverse the trend [ROB 99, ROB 11].

5.1. The birth of human creativity

Creativity is related to the verb "to create", i.e. giving birth to something and giving rise to original "things" that derive from the human brain or, more precisely, result from our three neuronal centers (brain, heart, stomach). Everyone has a creative potential that can be developed. Then how can it be that some individuals are more creative than others? Thus, the issue is to find out what are the objective reasons that allow us to distinguish between these two categories of individuals. Here are five main ideas that partially account for the phenomenon of human creativity.

The first idea, according to which an individual is more creative than another, is the "need for recognition", which is one of the first and fundamental needs. It can be found in the expression "I see you"[3] and it means "I witness and recognize you". Every child feels this recognition through his or her parents' eyes and their love. If a child experiences a

2 Watch the video "The paradigm of education", available at: www.youtube.com/watch?v=e1LRrVYb8IE.
3 "I see you" can be found in all types of traditions.

substantial lack of recognition, then he or she will look for this relationship with others in an activity like painting, theater, music and generally any activity that highlights "exceptional" individuals, just as Kepler, Newton, Darwin, Escher, Gödel, Bach, Jung, Kuhn or Picasso did.

The second idea that accounts for why someone is creative is perhaps the expression of strong inner pain. The creative act becomes then therapeutic. To some extent, this was the case for Niki de Saint Phalle, an artist who, after experiencing a traumatic relationship with her father, expressed this pain artistically.

The third idea that makes an individual more creative is naturally intuition, which is at the root of creativity. Let us mention, for example, Leonardo da Vinci, who invented the forerunner of the helicopter well before its actual existence. Plato's intuition led him to establish the idea of the "seven universes", whereas Mozart intuitively saw music scores being written before his own hands.

The fourth idea according to which an individual is more creative than another is the world of dreams, namely the oneiric dimension. Dreams inspire, validate or guide individuals in their research, work and discoveries. Let us consider the example of Albert Einstein, who once dreamed of winning a horse race on a light beam. This may have been what inspired him to develop his works on general relativity. He was able to share this idea with Carl Gustav Jung, whom he met a while before the development of his relativity theory. Jung substantially developed his relationship with the oneiric world in *The Red Book*, which was written in the 1930s but published in French only in 2011 [JUN 11]. Finally, we can conclude with a quote from the play *Back to Methuselah*, by George Bernard Shaw: "I dream things that never were; and I say, 'why not'".

The fifth idea that may make an individual more creative is the world of games, which is more usually associated with children. These games continue in adulthood in the shape of other role-playing games, online games or serious games in businesses. Individuals with a playful "streak" remain "big kids" whose spontaneity and fresh mindset make them highly creative, as was the case for the animator Walt Disney.

Adults seem less creative than teenagers, who in turn seem less creative than children. Land and Jarman's study shows a decrease in the level of creativity during the passage from childhood to adulthood mainly due to education, conformism and training, which in some way freeze and reduce creativity [LAN 92]. The other personal barriers that constrain creativity are of the same nature as those that block intuition; these have been explored in Chapter 3. Even if the exuberant creativity of children is less significant in adults, it may be reactivated and redeveloped because of exercises and creative activities.

Logically, creative individuals are more curious, optimistic and intuitive, they are passionate about their activities, uncertainty is an ally for them and creativity comes more naturally to them.

Is creativity a type of vibratory phenomenon? Intuition is regarded as a vibratory phenomenon that starts from the heart and generates a radial pulse variation that can be perceived naturally. We have been able to train ourselves to access intuition, for example, because of the feelings and perceptions induced by listening music. The heart is one of the three neuronal centers (see Chapter 1) that communicate with one another, and several studies reveal the connections between music and the brain [BUS 05, PLA 05, PLA 10a, PLA 16]. However, we still cannot claim scientifically that creativity is a vibratory phenomenon like intuition.

Research has demonstrated that music positively affects creativity [LES 05] and recent works tend to reveal the existence of links between intuition and creativity, in particular the direct influence of intuition on creativity [PET 16].

Creative methods – such as associative methods (words, ideas, mental maps); analogic, divergent or integrative methods, systemic methods, antithetical methods (upside down, inverted paradigms, photography) as well as spectral and systemic methods – are based on reflection, combinational logic and analysis. Which of these creative methods explicitly resort to intuition? Naturally, the arts and techniques that arouse emotions resort to intuition, for example painting, drawing, sculpting and other "manual" arts that involve the five senses. As one of the creative methods, the Six Thinking Hats approach develops an activity based on intuition.

The creativity and ideation[4] approach called "the Six Thinking Hats" [DEB 85, DEB 90] is based on "creative thinking". This method approaches intuition in relation to one of its six activities, each ranked by a "colored hat": white, red, black, yellow, green and blue. Each hat has the following meaning:

– the white hat describes facts, data and essential information simply and neutrally;

– the red hat takes into consideration the individuals' intuitions, the expression of their impressions, their feelings and emotional criticism (especially anger);

– the black hat focuses on negative criticism and judgments, with the identification of potential risks and threats;

4 Ideation is defined as the generation of ideas.

– the yellow hat describes positive, constructive and optimistic observations and comments on the related topic, and it details hopes and advantages with the ideal vision dreamed by the subject;

– the green hat develops all creativity, with new ideas and possible paths or alternatives, without any boundaries;

– the blue hat sums up and summarizes the process, objectively putting into perspective the subject, the ideas and the organization of the reflection process.

The Six Thinking Hats method works in the following way: a reflection time is assigned to each hat. As we have stated, the hat color determines the line of thinking. This approach allows us to focus energies in the same direction for a given period of time. Thus, when faced with a given problem, the members of a team will work at the same time on the same topic related to the hat color. When the time spent working on a hat color is over, it is necessary to pass to the following hat, and going back is not allowed. For example, if a participant working on the yellow hat is still making a negative comment (related to the black hat), this criticism will not be taken into consideration, as the time spent working on the black hat is over. For each hat color, only interventions related to the theme linked to the color will be accepted.

Using this approach creates a calm environment, as the whole group thinks along the same lines about each hat, and there are no contradictions, inefficiencies or back tracking, as all the members of the team make progress simultaneously about the same topic. In terms of intuition, the Six Thinking Hats method is interesting since, when it is time to work on the red hat, it leaves some room to express intuitions and feelings that are not of a rational nature. In practice, some individuals contribute more when working on certain hat colors. This could be explained by their natural

behaviors, such as their enneagram profiles, which we saw in Chapter 3.

The second method that clearly resorts to intuition is the empathy map. Based on human beings, this approach allows us to express what an individual thinks, feels, sees, hears, says, does and shares in relation to his or her sorrows and hopes. Whether we consider the point of view of the customer, the user or the creative designer, the expression spaces are the same for the different items [DSC 14].

The Six Thinking Hats method and the empathy map both significantly rely on intuition. According to us, it is these first two methods that resort most substantially to intuition. The third method is serendipity, which we aim to discover and develop in order to train ourselves.

5.2. Serendipity

The origin of the word "serendipity" comes from a Persian tale written in 1302 by Amir Khusrau about the three princes of Serendip. Horace Walpole used the word "serendipity" in 1754 to define the ability to discover by chance and perspicaciously something that one was not looking for.

Therefore, serendipity is the art of finding something that an individual was not directly looking for, but which is still pertinent and interesting in the eyes of the person looking. Rationally, serendipity is the smart use of chance, which leads to a new, unexpected solution that is advantageous and fortunate. It is also a significant synchronization of events without the appearance of direct causality or an implicit form [PRA 97, REE 95].

According to Carl Gustav Jung, synchronicity is the principle that connects our psyche to an external event where we feel in communion with others and the universe.

The contexts in which synchronicity takes place are coincidences, parallel phenomena without causal relation, or creative acts.

How can we describe scientifically a method which is not an actual method? Is "pure chance" a coincidence or synchronicity, as if "all the planets were aligned"?

Works on serendipity describe discoveries made by chance, supposed mistakes or coincidence. Christopher Columbus "found" the Americas while aiming to discover India. It was a fortunate mistake. We can class the French candy bar Carambar, Velcro, the Post-it sticky note, ice wine and even Viagra as discoveries attributed to serendipity.

We can class serendipity into three large families:

– NRD serendipity: no research and unexpected discovery (Velcro, ice wine, etc.);

– RDU serendipity: intended research, expected discovery and unexpected usage (Post-its, Viagra, etc.);

– RDI serendipity: intended research and unexpected discovery (Carambar, Christopher Columbus' "discovery" of the Americas, etc.).

If intuition[5] is an element of serendipity, let us hypothesize that serendipity is a vibratory phenomenon. In that case, serendipity would be a form of vibratory synchronization.

A wave is a vibration that propagates without any movement of matter. Waves can be superimposed and create a new form of vibration that will be dependent on the frequency and amplitude of each initial vibration.[6]

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5 Intuition is a result of a vibratory phenomenon (Chapter 1).
6 By adding the vibrations.

A periodic vibration is the superimposition of a pure and fundamental vibration and pure harmonic vibrations. In order for this to work, the frequencies of harmonic vibrations must be integer multiples of the frequencies of pure fundamental vibrations.

These vibrations cannot be perceived, as sound waves can be heard by humans at frequency ranging from 20 to 20,000 Hz. The sound level modifies this frequency range, which will be reduced if the sound level is weak. Infrasound, below 20 Hz, and ultrasound, over 20,000 Hz, do exist but they cannot be heard by humans. Some ultrasound frequencies can be heard by animals such as dolphins, bats and cats.

The light waves that humans can see range from the ultraviolet[7] frequency (7.6×10^{14} Hz) to the infrared[8] one (4.5×10^{14} Hz), corresponding to a wavelength of 700 nm. Simply put, this is the spectrum of the colors that can be seen in a rainbow.

Unperceivable waves include, among other things, radio waves, microwaves, X-rays and gamma rays. Radio waves range between (10^5–10^{11}) Hz, microwaves range between (10^9–10^{12}) Hz, X-ray waves range between (10^{17}–10^{22}) Hz and gamma ray waves exceed 10^{22} Hz. In order to be used, they require specific tools for each range of frequencies.

Thus, in the electromagnetic frequency range between 1 and 10^{22} Hz, humans have the ability to see light between 4–7 x 10^{14} Hz, and for sound waves, can hear between 20–20,000 Hz. The physiological limitations of human perception are clear, and it is evident that we can only see and hear a reduced part of the existing visual and sound waves.

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7 The ultraviolet frequencies correspond to wavelengths of around 400 nm.
8 The infrared frequencies correspond to wavelengths of around 700 nm.

Today, with our current knowledge and scientific measuring instruments, the hypothesis that serendipity is a vibratory phenomenon cannot be verified, invalidated or confirmed yet. In quantum physics, particles are "probability waves" that propagate in a quantum vacuum. This hypothesis will perhaps be tested in the future.

5.3. Intuitive creativity

The creative process, in the Wallas cycle, has two preparatory stages that bring out intuition in the third stage, verifying it later during the last stage [WAL 26]:

– preparation: this stage involves the assimilation of the research topic (formulation and compilation of the available data according to the latest developments);

– incubation: this is a long stage that involves the conscious or unconscious preparation of the solutions (memorization, problematization, relativization of the data and new perspectives);

– illumination: this stage breaks with the previous two. Appearance of a solution that may or may not derive from an intuition;

– verification: final stage where the previous intuition is verified.

The ways in which creativity is seen and practiced have developed in several stages and manners.

Creativity, like intuition, requires a will, emotions and training to develop them. According to Csíkszentmihályi, the creative forces are pleasure and entropy [CSI 96]. Pleasure finds its root in emotions, feelings and perceptions. The notion of pleasure is essential for anyone happy to discover new things. In the creative process, the individuals' attention and concentration provoke in the brain the release of

dopamine, which will physiologically lead to a positive feeling. For this type of person, creativity will be synonymous with well-being. On the contrary, individuals for whom discovery is not a pleasure will be stressed by the creative activity. In this case, cortisol will be released instead of dopamine, leading then to a lack of well-being.

To make this activity more natural, spontaneous and prolific, we are required to train the three neuronal centers (brain, heart and stomach) with simple and practical exercises.

The main exercises suggested involve reading for the development of the imaginary frame of reference, a balanced diet that can nourish the three brains and listening music for the amplification of creativity. These exercises contain "an element of surprise". They encourage us to observe the feeling perceived after the element of surprise.

The first piece of advice is to read short stories, positive and challenging novels, as well as sci-fi works. This can train our brain to visualize characters, to imagine settings and environments and therefore to create new imaginary frames of reference. Reading works and novels develops our imagination more than watching movies. In movies, characters, settings and scenery are established and the imaginary frame of reference is somewhat fixed, whereas reading leaves a lot of room for the imagination of the reader, who will imagine the settings and the scenery.

The second piece of advice involves nutrition. In our brain, neurons need omega-3 fatty acids such as docosahexaenoic acid (DHA) for their development. DHA is an essential type of fuel for the neurons. In his research, Stephen Cunnane states that "selective trace elements in the brain, mostly iodine and iron, but also zinc, copper, and selenium play a crucial role in the development of the brain" [CUN 15]. Nutrition is essential for the brain to work properly [SPE

09], and a balanced diet is especially recommended, in particular by doctors Bourre, Perlmutter and Weinmann [BOU 03, BOU 16, PER 15, PER 16, WEI 17].

The third piece of advice is to listen music. As we have seen in Chapter 1, it is interesting to work with music (without lyrics) and organize music creativity sessions. Lesuick demonstrated the Mozart effect that, according to him, favored creativity [LES 05]. Music creates new neuron pathways that stimulate creativity. Research shows that music prepares the brain for more abstract ways of thinking and favors the development of spatial intelligence. Music is also suitable for "doing nothing", or even dreaming, and it constitutes an activity. If the brain works without resting, it will be less efficient than it would be if it respected work/rest cycles. These cycles improve efficiency and performance at work.

The fourth piece of advice involves curiosity. Being curious means asking questions and wondering "why?" or "how is this possible?". Let us consider, for example, the geometric shapes that exist in nature. Why can spiral shapes be found in the DNA, the cochlea of the inner ear of humans, ammonites, snails, nautili, the eye of a storm, or even the collision between two galaxies? Why can the golden ratio be found in nature? Everyone should ask meaningful questions, find the beginnings of some answers and then ask new questions. It is easy to develop curiosity, provided that we want to step out of our comfort zone and explore the "unknown" zone.

The fifth piece of advice is related to the practice of games. Creativity is innate in children who play and create characters, stories and other imaginary activities. On a daily basis, playing a creative game makes the creative activity lighter, for example, writing, painting, sculpting, pottery. Play a game where every day you believe something

impossible before breakfast. This is exactly the advice that the Queen of Hearts gives Alice in *Alice in Wonderland*.

The sixth piece of advice is to train yourself to fail or, in other words, to trust the ideas that occur to you without judging them and with detachment. Then develop as best as possible the idea until the end. If the idea is successful, good, but if it does not lead to anything, that is also fine. You either succeed or you learn, as it is experience that allows us to make progress. Judgment is the main "killer" of creativity. Allowing ourselves to put forward creative ideas, independently of judgments, frees our mind and unbridles creativity, as if we again embraced our childlike carefreeness.

Finally, the seventh piece of advice is to train ourselves to be "surprised" daily. At first, we should reflect, and find and carry out a positive action that will surprise someone without, however, expecting anything in return. Later, we should write what has been surprising during the day.

Training and practicing these exercises allows us, day after day, to become sharper and more open-minded and to make it natural to identify small details and other "weak signals".

In this chapter, we have seen the creative phenomenon from a human and methodological perspective. Analyzing the Six Thinking Hats method, the empathy map and serendipity has demonstrated the relevance and basic role played by intuition in relation to these methods. This chapter concludes with the above seven pieces of advice which can develop our intuitive creativity.

As creativity belongs to innovation, we will see to what extent intuition is used in innovative methods (Chapter 6).

6

Intuition and Innovation

In this chapter, we will discuss our "seven-I's" model. This model characterizes and generally defines the DNA of an innovative person, which will be useful for the creation of innovative teams. We will give an overview of the innovative methods that resort to intuition in order to understand its role in the innovation process. Finally, we will conclude the chapter with a list of innovative digital applications, which aim to develop intuition.

Even though innovation can be architectural, modular, increment, radical and disruptive [CHR 99], it is first of all a process that starts with the emergence of the idea of a product and finishes with the recycling of this product at the end of its life.

This is a long and complex process, which in a business context calls on research, development and innovation teams, on marketing teams, and also depends on consumers and the teams that manage communication and customer relations on social media.

For a long time, companies referred to the Oslo Manual for guidelines regarding innovation. The different types of innovation that it describes are technological innovations,

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product innovations, process innovations and business innovations [OEC 96].

Other types of innovation have appeared since then, such as service innovations, use innovations, digital, cultural and solidarity innovations and social and sustainable innovations.

6.1. The "seven-I's" model

All innovative individuals are passionate about what they do and answer their questions with innovations. The originality of Leonardo da Vinci, Thomas Edison, Nikola Tesla, Steve Jobs, Bill Gates, Larry Page or Elon Musk speaks for itself. These figures are probably unique in their intelligence and ability to act and realize an idea, but they are not the only option we have. By analyzing the uniqueness of "innovators", we put forward the "seven-I's" model, which summarizes the uniqueness, abilities, skills and competences of resolutely innovative individuals. Roth established a model of the development cycle of consciousness in five stages, like a spiral dance that follows these steps: inertia, imitation, intuition, imagination and inspiration [ROT 89]. Innovative individuals possess intuition, imagination and inspiration, but no inertia or imitation, and they reason and act differently.

The "seven-I's" model establishes the characteristics of innovative individuals. Those who possess these features develop product or service innovations better as well as more rapidly and successfully than others. The seven "I's" are inspiration, imagination, intelligence, insouciance, intuition, illusion and the invisible.

6.1.1. *Inspiration*

Inspiration means "god inside" according to its Greek etymology. However, strictly speaking, inspiration breaths air into the lungs from outside, while expiration does the

opposite. Inspiration is an external source of ideas, similarities or transpositions to be carried out.

There are several sources of inspiration: painting, art, discoveries made when traveling or by meeting people, cultural differences and on a global level anything that piques our curiosity and engages our five senses. Curiously, nature is the greatest source of inspiration, as it blends the four elements (earth, water, air and fire), and biomimicry[1] explores nature to adapt innovations to our daily life.

6.1.2. *Imagination*

Imagination is linked to education, and it derives from previous reading and frames of reference. It is drawn from the bottom of our memory and from deep within ourselves. The more a person reads books, fiction, legends, tales and myths, the more prolific his or her imagination will be, as these types of reading contribute to the visualization of imaginary and fictional environments specific to each reader. Imagination involves seeing the unknown, the unrepresented and the yet unseen, like fantastic or magical worlds. It is a sort of mental projection that blends memories and the brain's ability to create a new and previously unknown frame of reference.

An innovator must develop their imaginary frame of reference to build their skills and ability to imagine things that do not exist. Imagination is a kind of resonance chamber for creativity where, through our mind's abstraction, symbols can provide meaning and a framework for reflection. Descartes claimed that "the sole purpose of the imagination is to convert sensation into a more or less faithful memory", whereas for Bossuet "imagining an object

1 Biomimicry: life inspiration or bioinspiration.

is always less intense than feeling it, as the image always loses the force of the original".

Our imagination is developed, maintained and mobilized on a daily basis [OSB 63, OSB 74]. To train it, we could, for example, visualize some colors, objects and mental images when we are listening music (without any lyrics). By simply letting go mentally, our imagination is stimulated by the vibrations of enjoyable songs that we have chosen ourselves. The result produced will be, for example, a drawing, the description of an environment or a feeling.

6.1.3. *Intelligence*

Intelligence is the ability to link disjoined elements, create meaning and build something new. It is traditionally defined as "the ability to answer questions on intelligence tests". These so-called "intelligence" tests, which are often controversial, remain partial and merely take into consideration a part of the aspects related to our intelligence.

The "IQ" test allows us to determine a score on a scale of values. It is actually difficult to quantify intelligence with tests and measure our intellectual activity through products and performances based on psychometric assessments. The IQ, defined by a specific figure, is regarded as the way of measuring someone's intelligence. This indicative and reductive measurement is by now outdated and, according to us, it is not enough to define someone's various types of intelligence.

Intelligence is the ability to ask questions when facing a situation, solve problems and implement solutions. It is also the ability to acquire new knowledge, analyze it, put it into perspective and pass it on.

Research on intelligence has been carried out in different fields, such as psychometrics, cognitive physiology, the neurosciences, cognitive psychology and anthropology. Sternberg's triarchic theory of intelligence [STE 89] includes the following three fields: the inner world, experience and outer world of an individual. According to the author, intelligence is linked to the interactions between these three fields. Therefore, measuring intelligence is a multifactorial process that depends on cultural and geographic factors.

The different types of intelligence are based on cognitive abilities such as reflection, knowledge, understanding, analysis, assessment, application and synthesis. Gardner's theory of multiple intelligences has evolved over time [GAR 83, GAR 99] and current models are now developing the following types of intelligence: logical and mathematical, verbal and linguistic, musical, visual and spatial, kinesthetic, intrapersonal, existential, interpersonal, spiritual, naturalistic, original and intuitive. We can then define as follows:

– Logical and mathematical intelligence: this type of intelligence involves numbers, geometry and calculations that require abstraction. This is the ability to think accurately, calculate and reason logically.

– Verbal and linguistic intelligence: this ability involves sensitivity to linguistic forms, words and languages.

– Musical intelligence: this is the relationship with music, rhythms, melodies, harmony and symphony. This ability involves sensitivity to types of music and the perception of the emotions produced by music.

– Visual and spatial intelligence: is defined as the ability to get one's bearings in space, visualize and represent ideas, perceive and observe the visible world accurately and find one's place in it.

– Kinesthetic intelligence: is a practical type of intelligence that involves implementing and using one's hands. This is the ability to express oneself spatially through one's body.

– Intrapersonal intelligence: is defined as our relationship with our "inner selves". It is the ability to be aware of oneself and open to subtle and inner things.

– Existential intelligence: this is defined as the ability to find meaning in one's life, job and contribution.

– Spiritual intelligence: is defined as the relationship with the invisible and metaphysics. It is the ability to open up to the traditions of the world, to symbols and to ancient texts.

– Interpersonal intelligence: this is defined as the ability to establish relations, to understand and perceive others. This ability involves creating links and bringing a network to life.

– Naturalistic intelligence: this ability involves sensitivity to nature and the plant world as well as a skill commonly referred to as "having a green thumb".

– Original intelligence: this type of intelligence involves being oneself with one's differences and uniqueness. This is the ability to accept who we are and understand what our heart tells us to do.

– Intuitive intelligence: This is the perceptive intelligence involved in the process of intuition. It is the ability to find intuitive links between fields which seem unrelated.

The other types of intelligence noted in the literature include "membrane" intelligence, economic intelligence, strategic intelligence and innovation intelligence.

However, despite being multifaceted, these types of intelligence are frequently reduced in the school system to a

few simple aspects. Let us point out that for managers it will be important to develop the interpersonal, intrapersonal and intuitive types of intelligence.

6.1.4. *Insouciance*

Insouciance is fundamental for an innovator, as it opens the field of possibilities without prior knowledge or prejudices. Insouciance shifts, reroutes and diverts an innovator's attention by leading them to approaches that are neither evident nor logical. Often attributed to children, insouciance makes our mind somewhat lighter, our ideas fresher and it gives us a feeling of wonderment at the magic of life.

It is the passage from insouciance to organization that leads to new ideas, as the stage of disordered insouciance is clearly a necessary step for the establishment of order later on. Insouciance and a spark of madness are at the root of the emergence of ideas. An innovative team should mark out space for insouciance so that innovators can give free rein to this quality.

6.1.5. *Intuition*

Intuition naturally plays a fundamental role for innovators. Because of intuition, innovators can find new research avenues, for example, through serendipity. Besides, intuition can make it easier to validate choices that could not be explained logically.

Intuition as the fifth "I" is undoubtedly the subtlest of the seven "I's". This is why we dedicate this book to its analysis. Cholle defined intuitive intelligence as the "ability to establish a collaboration between reason and instinct, which work on two different levels of consciousness" [CHO 07].

6.1.6. *Illusions*

Illusions may be optical or "magical". Optical illusions are based in part on the knowledge of how our sight works and specifically on the differences in how vertical and horizontal shapes are processed. On the other hand, these illusions derive from the principle of "least incoherence" of the brain, which will systematically look for the least incoherence in an incoherent image. Thus, the brain will shift fixed elements in a drawing. Illusionists or "magicians" create magic tricks with multiple effects based on illusions or sleight of hand, and by diverting the attention. Some even protect their tricks with patents so as to avoid being copied, like Goldin [GOL 23], Gaughan [GAU 94], Geller [GEL 98] and Copperfield [COP 16].

Let us consider the notion of illusion in the sense that everything is possible. Having illusions means not being part of reality. This is what amplifies an individual's innovative abilities. Naturally, coming back to tangible reality will reduce the number of possible ideas, but wandering among illusions has the advantage of making a group think in original ways while trying to find an explanation rationally.

If the magical character of insouciance may seem naïve, let us point out that magic and illusions sometimes precede science.

6.1.7. *The invisible*

Let us focus on the idea of invisibility as related to sight: everything that cannot be seen falls merely outside the light spectrum. This is the invisible, or what the human eye cannot see, in the sense of anything that cannot be seen and yet exists. The light spectrum that the human eye can see ranges from the infrared to the ultraviolet. Outside these boundaries, electromagnetic waves exist but cannot be seen

by human eyes, which act as a biological filter. For example, watch the video "Magnetic field exposed"[2], in which invisible magnetic fields can be seen, allowing us to then consider the idea that even an invisible phenomenon can exist in reality.

The seven-"I's" model is a virtuous model that innovators have to improve, develop and enhance both individually and collectively.

6.2. Intuition in innovative methods

Among other innovative methods such as C-K theory, "Radical Innovation Design", "Blue Ocean Strategy", the TRIZ method, Theory U and design thinking, we will focus in particular on those that are most significantly related to intuition.

C-K theory[3] is a unified design theory that favors reflection in the dimensions of creativity and engineering [HAT 03, HAT 09] where exploring creativity makes it possible to gain access to intuition.

The Radical Innovation Design method, developed by Bernard Yannou's team [YAN 13, YAN 18], resorts to intuition at the very beginning of the process, even before the investigation stage. Similarly, in Blackwell's *radial* innovation process, what is important is to find the right balance between concentration (rationality) and serendipity (intuition) [BLA 09]. The author gives a clue in the definition of the team's objective, which must remain vague: he names it the "polar star vision". The notion of a vague objective is interesting since, according to the author, it motivates executive management without, however, constraining or blinding the team, leaving more opportunities for innovation.

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2 Available at: www.youtube.com/watch?v=2rbAtrBuMv0.

3 "C" stands for *concept* and "K" for *knowledge*.

Blue Ocean Strategy relies on the pioneer's logic with innovations based on values. Its goal is to create new strategic spaces and find a position at odds with the competition. It aims to create new demand and develop value by differentiation [KIM 05, KIM 15]. In this approach, intuition can only be found in the creative stage.

Design thinking [PLA 10b] is a method that involves the triad heart (emotions), head (brain, vision, reflection) and hands (needs, practice, achievement). It includes three general stages: inspiration, ideation and implementation, defined in five stages:

– stage 1: empathy with the user: discovery;

– stage 2: establishing the problem: interpretation;

– stage 3: generating ideas: conceptualization;

– stage 4: building a prototype: testing;

– stage 5: launching the project: development.

The design thinking philosophy is based on the human dimension, empathy, demonstration, testing, action and collaboration. Intuition may be found in the first three stages and specifically during the second interpretation stage, when participants are asked to choose what surprises them and to express their intuitions clearly in order to represent them graphically at a later stage.

In Otto Scharmer's Theory U, intuition and perception play a very significant part. [SCH 09, SCH 13, SEN 05]. The seven stages of the method are as follows:

– stage 1: creating a space, listening to what life calls us to do (suspending);

– stage 2: observing; paying attention with our mind wide open (redirecting);

– stage 3: sensing; connecting with our heart (letting go);

– stage 4: presencing; connecting to the source of our self and will (letting come);

– stage 5: crystallizing; accessing the power of intention (enacting);

– stage 6: prototyping; integrating head, heart and hand (embodying);

– stage 7: performing; playing the "macro violin".

We should point out that the first two stages are preparatory steps before intuition can be sensed, and that Otto Scharmer encourages us to connect with our heart.

Theory U is interesting and peculiar as it combines individual consciousness, dialog (attentive listening and generation of ideas) and the quest for action in order to experiment. This inner/outer movement is very relevant from the point of view of intuition, as it favors and boosts it. In this approach, stage 3, "what the heart tells us", is, according to us, clearly the message of intuition with the vibration of the vascular autonomic reflex.

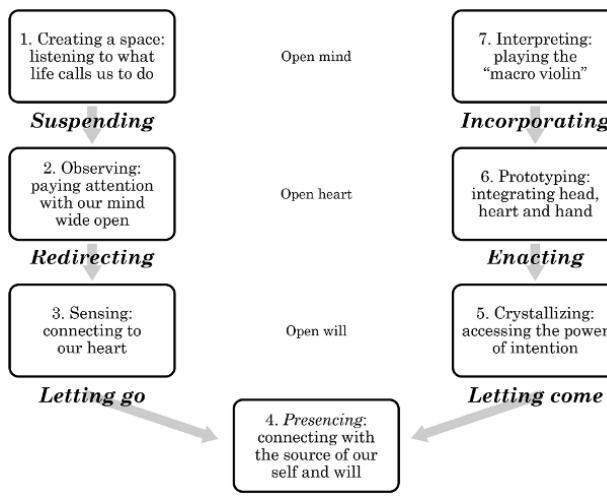


Table 6.1. *The "Theory U" model*

Table 6.1. shows the U cycle, after which the seven-step theory is named. The first three steps (creating, observing, sensing) involve an introspective "descent", followed by a plateau step (presencing), which is finally followed by the last three steps (crystallizing, prototyping, interpreting) with which we "climb back up" the cycle. Some instructions are provided between each step and constitute a valuable contribution of the method.

6.3. Innovative applications of intuition

Our goal in this section is to list a selection of digital applications that favor, help and develop intuition. Naturally, the work is done by the user taking action rather than the application. Today, software, machines or robots do not have intuition since they are programmed. However, with the advent of improved artificial intelligence (AI) in the future robots will perhaps have a type of intuition, which is not based on complex thinking. Here is our selection of digital solutions.

6.3.1. *Intuition Journal*[4]

This application can improve intuition by keeping a diary that allows us to take notes, tag or take pictures: intuitions, ideas, emotional moments, synchronicities, coincidences, dreams, etc. This application provides a series of exercises aimed at improving intuition.

The Intuition Journal promises to strengthen intuition so that we can:

– take better decisions;

– take up challenges more effectively;

4 Available at: www.intuitionjournal.com.

– improve creativity;

– find creative solutions;

– reduce anxiety and stress, as well as improve well-being.

Finally, the application offers a series of exercises aimed at improving intuition.

6.3.2. *INTU[5]: Intuition Trainer*

The INTU application is based on the conscious and subconscious aspects of our mind. It promises to develop intuition through regular training and practice of simple techniques that should be practiced for 10–15 minutes a day.

6.3.3. *Psychic Power Hypnosis and Meditation[6]*

This application is supposed to use the subconscious in order to awaken intuition. Positive, subliminal and suggestive inferences are offered to increase concentration and intuition. This application suggests a method that is a type of self-hypnosis.

6.3.4. *Intuition Decision Maker[7]*

This application offers an exercise aimed at training intuition based randomly on images which a user, according to his preferences, can "intuitively" choose by answering yes or no. This is an entertaining game that leads us to take decisions more rapidly.

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5 Available at: http://intu.info/.

6 Available at: https://apple.co/2GDxEcf.

7 Available at: https://bit.ly/2N0dyrH.

6.3.5. *My 108*[8]

This application makes its users more intuitive and luckier because of the tests it offers. Through daily practice, the users will be able to see their chance scores ranked statistically and compared to those of the other users in the community. Videos, conferences and articles are also offered to improve concentration, relaxation and intuition.

6.3.6. *Intuition Trainer 6 Sense*[9]

This application encourages intuition and helps the user make good decisions in every type of circumstance. The training exercises that involve colors make it easier to choose, but they also allow us to trust the inner voice of intuition, and therefore to learn and sense.

6.3.7. *Intuition Guidances*[10]

This application offers a box that contains hundreds of ideas that are searched randomly to give the user some help with their intuition. The application is based on the principle that "the first idea is the good one" and that intuition naturally determines which idea is chosen. Intuition will have been effectively developed when the ideas of the application no longer turn out to be useful.

In this chapter, we have developed the "seven-I's" model – inspiration, imagination, intelligence, insouciance, intuition, illusion and the invisible – of innovative individuals. We have then described the innovative methods that resort to intuition. Finally, we have ended by presenting a selection of innovative applications that offer training aimed at

8 Available at: http://www.my108.com.
9 Available at: https://bit.ly/2E1JRlF.
10 Available at: https://apple.co/2zw0vel.

developing intuition. In Chapter 7, we will conclude by focusing on the role of intuition in management, especially in decision making.

Finally, besides these applications, we mention a number of communities on professional social networks such as LinkedIn that favor exchanges and sharing about practices and reflections related to innovation.

We mention the most significant groups: Horizon 2020[11], Framework Programme for Research and Innovation (around 200,000 members), Innovation Management Group[12], Front End of Innovation[13] and Innovation[14] (all around 50,000 members), and European Entrepreneurship & Innovation @ Silicon Valley[15] (around 23,000 members).

On the other hand, innovation groups on LinkedIn can be marginal, with other significant ones including no more than 2,000 members. Many of these groups employ the notion of intuition as a marketing argument and therefore hardly demonstrate an authentic reflection on intuition.

11 Available at: www.linkedin.com/groups/3731775.
12 Available at: www.linkedin.com/groups/40975.
13 Available at: www.linkedin.com/groups/41615.
14 Available at: www.linkedin.com/groups/1953902.
15 Available at: www.linkedin.com/groups/1573967.

7

Intuition and Management

Intuition and management are two apparently unrelated terms, since they are used in two different spheres. Intuition belongs to an irrational, esoteric and unexplainable dimension. Management concerns the world of companies, missions, objectives, results and, therefore, it belongs to a rational dimension. In this chapter, our goal is to see how intuition helps the managers' decision-making, management style and communication.

7.1. Intuition in the decisions of directors and managers

The role of intuition in the decisions of directors and managers has been studied in depth by management sciences. For example, some studies show to what extent and in which conditions directors use their intuition to take so-called "strategic" decisions [BUR 99]. Another study establishes how directors express their intuition: our intuition derives from what we sense, it is a feeling acquired over time, a decision process that does not require words, it is the way of sensing things and it is a matter of chance [ZER 11]. For others, intuition in a decision process is the "feeling of knowing for a fact… without rational reflection" [SAD 04]. Intuition plays an important part in the decisions taken by directors and managers since it is linked to the

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heart and consequently to emotions. Studies reveal the direct links between emotions, ways of thinking and the decision-making process [AGO 84, COG 09, DAN 07, ELI 14, SIM 87].

Dean's research has highlighted that a director's intuition affects the results, growth and success of his company. Based on a sample of more than 150 directors, the study has revealed that 81% of those who doubled the size of their business in 5 years were very intuitive. Furthermore, only 25% of directors who did not have a strong intuition doubled the size of their company [DEA 74]. Intuition is indeed a factor for the development and success of companies, and there is a correlation between the profile of the individual running the company and its success.

7.2. Intuition as management style

Agor's works, which have been translated by Lebraty, have shown the contexts in which intuition is used in management situations and suggested a way of assessing intuition through gradual measurements on a scale from 0 to 12. It was possible to go on the scientific quest that involves quantifying unmeasurable phenomena because of a questionnaire sent to 3,000 managers. Therefore, the answers gathered rely on the managers' objective as well as subjective information and perceptions [AGO 86, LEB 96, LEB 07].

A manager or director's management style is defined by several parameters, such as trust, ability to listen, subsidiarity, communication and the freedom assigned to collaborators. A manager's attitude is the subtle art of finding a balance between the interiority and exteriority of these five parameters. If a manager finds this balance, then they will have found the key:

– to his self-confidence, in order to trust his collaborators;

– to inner listening, which makes outer listening possible;

– to the subsidiarity related to what he chooses to take care of in person and what he delegates to his collaborators;

– to communicating with himself, which enhances the communication with his teams;

– to the margin of freedom he authorizes and gives to his collaborators.

These five keys should be correlated to the cognitive mechanisms that may affect the use of intuition. These constitute mainly a manager's types of mental representations [JOH 83], which are generally simplified and integrate his beliefs, his experience and the management of his emotion.

Management styles are naturally linked to the managers' personalities. Their profiles vary as widely as the 16 types of MBTI or the nine types of the enneagram, but their differences also involve the quality of their presence and attention, their emotional balance and their degree of humaneness.

The MBTI model [CAI 03] classifies 16 personality styles, and intuition turns out to be one of the fundamental functions for four profiles, i.e. ENTP[1], ENFP, INTJ[2] and INFJ. It plays a secondary part for INTP, INFP, ENTJ and ENJF profiles; a tertiary part for ESTJ ESFJ, ISTP and ISFP profiles; and a minor part for ISTJ, ISFJ, ESTP and ESFP profiles.

Here are the main four intuitive profiles:

– ENTP is a profile for whom entrepreneurship is paramount. These individuals are constantly taking up

1 The "E" in MBTI profiles stands for "Extraversion".

2 The "I" in MBTI profile stands for "Introversion".

challenges, they are creative, optimistic and very good at analyzing and summarizing. They find intuitive and highly innovative solutions when adapting to changes.

– ENFP is a profile in which one can listen to oneself and to others as well. These individuals are highly imaginative and skilled in negotiations. They favor connections within their teams and associate them with decisions that must be in line with their personal values.

– INTJ is a charismatic profile in which one expresses one's thoughts firmly and establishes clear objectives in line with one's vision. These individuals have a critical sense and tend to prefer acting themselves instead of delegating.

– INFJ is a profile in which one has the means and subtlety to obtain the support and cooperation of one's team. These individuals, while remaining inspiring, confident and kind, pay attention to the long-term goals of their team. They are visionary and cautious, and they anticipate problems and put forward creative solutions in complex environments.

The four secondary intuitive profiles are the following:

– INTP is a rational profile in which one establishes the operating environment of one's team and works on making everyone respect it. These individuals are very calm and tranquil, and they can put every situation into perspective.

– INFP is a profile in which one with a good global vision leaves significant autonomy to one's teams. These individuals are very good at listening, they are understanding and patient, and they look for harmony and unity among their teams to achieve some general consensus.

– ENTJ is a profile in which one supports one's teams and respects the expression and freedom of speech of all team members. The logical way of thinking of these individuals gives them the ability to find possible shortcomings in the solutions suggested.

– ENFJ is a profile in which one manages one's teams in a paternalistic way. These individuals highly respect their teams, and they look for links, collaborations and consensus. This profile includes being present, attentive and responsible.

The four tertiary intuitive profiles are the following:

– ESTJ is a profile in which one communicates directly and in a practical, coherent and effective manner by providing realistic criticism. These individuals are firm with the management and can take on unrewarding jobs. They behave very well during crises and they face their responsibilities by helping their teams.

– ESFJ is a profile in which one acts firmly and coherently while also looking for collaboration and consensus among one's team. These individuals are organized and precise, and they communicate by actively listening to their team. They are very good at explaining in simple terms complex processes, managing crises and supporting changes in uncertain contexts.

– ISTP is a profile in which one asserts one's authority over one's teams with discretion and focuses on carrying out the group's tasks. These individuals are precise, concise and concrete, besides communicating their ideas easily and succinctly. They can solve problems quickly and implement solutions efficiently.

– ISFP is a profile in which one favors the teams' cooperation and autonomy. These individuals are very good at motivating, and they can find ways of reaching their collaborators. They are cautious and able to listen attentively. They can analyze quickly and suggest effective solutions. Despite lacking flexibility during changes, they can act effectively and kindly.

The four minor intuitive profiles are the following:

– ISTJ is a profile in which one abides by rules and regards the team as a group. These individuals communicate through logical, structured and concrete arguments based only on established facts. They are detail oriented, and at moments of change they will find classic and unoriginal solutions. They are precise in their work organization and honest, and they can respect their commitments.

– ISFJ is a profile in which one is precise and organized in relation to one's team. These individuals are good at motivating while remaining discreet. They know how to respect their commitments. They are good at organizing, listening and analyzing, besides being realistic.

– ESTP is a profile in which one encourages one's teams' autonomy with enthusiasm and spontaneity. These individuals listen to different types of advice before taking a decision, so as to have a spirit of compromise.

– ESFP is an understanding and warm profile in which one knows how to motivate one's teams. These individuals have a knack for connections, interactions and natural communication, besides having a way with words. They are very spontaneous and can adapt easily. They appreciate innovation, novelty and diversity.

In the MBTI model, intuition can be found to a more or less significant degree in all 16 profiles.

Other models pitch intuition against analysis, such as the "Cognitive Style Index" [ALL 96], or intuition against rationality, like the "Rational-Experiential Inventory" model [EPS 96].

We can put forward the "3RCG" model, which distinguishes between three possible ways of dealing with intuition. A "3R"-type director or manager, namely an

individual who prefers rational, rapid and reassuring solutions, does not leave any room for intuition. This is naturally a useful way of managing, which works in the different contexts where rationality is predominant.

A "3C"-type director or manager is communicative, collaborative and cooperative, leaving room for collaborators' intuition.

A "3G"-type director or manager looks for generous, genius and galvanizing solutions, leaving room for intuition as well as the possibility for collaborators to express their intuition.

Naturally, the three types, "3R", "3C" and "3G", can mix, and each director or manager can find their management style depending on their context, team and personality.

Whether we are dealing with a "3R", "3C" or "3G" manager, the actual management style also depends on the individual's way of thinking. There are five main types of reasoning: analogical, inductive, deductive [FES 57], abductive [PEI 65] and intuitive. Analogical reasoning involves associations of ideas where connections are transposed and compared with other similar, analogous or parallel situations. Inductive reasoning is based on the observation of a particular case, which is then extrapolated. Deductive reasoning involves series of questions/answers, with the aim of finding an evident solution that "makes perfect sense". It resorts to rationality and can count on a significant reliability that results from reasoning logic. Abductive reasoning involves looking for a solution while also looking for the cause of the problem. Consequently, the result is causally and reversibly related. Intuitive reasoning, despite not being a pure type of reasoning, is the way of thinking that questions a manager's perception. Logically, this is the type of reasoning we favor in this work.

Naturally, these types of reasoning can complement one another and even blend when the situation requires it. A manager may quickly test the five types of reasoning (analogical, inductive, deductive, abductive, intuitive) in order to see to which extent they can prioritize one of them based on their free and personal choice.

7.3. Intuition in directors' and managers' communication

Directors and managers have their own ways of communicating with their teams, and they depend on their visions, ability to listen and authority. Their authority will be respected or invalidated depending on the director's exemplary character. Support for the company's project, which contributes to the teams' cohesion, will depend on this meaningful exemplariness.

Which "type of listening" does intuition authorize or entail? For the four types of "-thetic" listening – apathetic, sympathetic, unsympathetic and empathetic – it is clearly sympathetic communication that favors intuition. This is a type of communication that makes it possible to express perceptions and emotions, and therefore intuitions. On the contrary, apathetic communication, which does not express any emotion, just like unsympathetic communication, leaves no room for intuition.

The communication styles that favor intuition are "non-violent communication" [ROS 03, ROS 05] and assertiveness [BOL 86, PAT 00].

Non-violent communication is a process that takes place in four steps: observing, expressing feelings, identifying needs and making a request:

– step 1: observation makes it possible to express objectively the aspects of a situation neutrally and without judging or taking stances;

– step 2: feelings can express emotional perceptions in a personal way and without interpretation;

– step 3: needs derive from feelings and reflect our deep aspirations. Expressing needs is one aspect involved in the way we become aware of our relation to others, which is essential for non-violent communication;

– step 4: the request made in a clear, precise, concise and coherent way naturally derives from the previous three steps, and it represents a type of self-evident fact rather than a demand.

In non-violent communication, intuition can be expressed during the second stage, which involves the expression of feelings and perceptions. As these are specific to each individual, they cannot be enforced. Therefore, intuition is favored by non-violent communication.

Naturally, communication is not limited to words, and non-verbal communication is as important as speaking. The non-verbal dimension supports, highlights and strengthens the verbal one in order to make the intention, message and exchanges coherent. Occasionally, non-verbal communication, our eyes, our face and our body language can be enough to communicate, without this having anything to do with a communication between mimes or a silent movie.

Assertiveness is a type of communication, behavior or attitude whose goal is direct expression through the assertion of ideas in a fair way and respecting the other. It is a communication style that, according to Vauvenargues [CLA 03], requires us to be “consistent with our ideas and flexible in form”, to which we could add that it implies a kind attitude in the way we relate. Assertiveness separates the content and the form of communication. Sensing intuition could provide precious help to communication in order to adapt the conversation and remain respectful of the other. Even if we can observe significant similarities between

assertiveness and non-violent communication, the former requires us to ensure consistency and manage the gaps between what is said, what is done, what is sensed and what is thought.

Will Schutz established the "human element" model [SCH 58, SCH 06], which aims to increase self-awareness, self-esteem and self-acceptance, so that we can fulfill ourselves individually and collectively. According to the basic premise, each human being must become aware that there is a "self" that should be strengthened and developed to increase one's self-esteem as well as self-confidence. Self-knowledge allows us to be upright and honest with ourselves and others, effectively making us more open minded. The goal of the human element is to move toward an ideal organization that takes into account individual, relational and organizational objectives. Thus, Schutz defined the FIRO model, which helps us find a person's position in their relation to an organization, based on three dimensions of inclusion, control (or influence) and opening. Because of Schutz's model, self-knowledge can strengthen self-esteem and therefore self-confidence. Consequently, we will be able to trust our intuition and increase spontaneity in communication.

As we can see in this chapter, intuition plays a substantial role for directors and managers. It can be found in several behavioral models, such as the MBTI. Intuition can now play a more important part in management, and momentum is growing, as is proven by the meeting suggested for directors in the APM[3] network, for young directors in the CJD[4] network and for managers in the GERME[5] network.

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3 The company's progress through the director's progress. Available at: www.apm.fr.

4 The center for young directors. Available at: www.cjd.net.

5 The managers' progress network. Available at: www.germe.com.

Conclusion

In this work, we approached intuition from a scientific point of view and demonstrated that it constituted a vibratory phenomenon generated by the heart and propagated in the body by a radial pulse variation. The perception of this subtle pulse variation becomes possible with training. To that end, we explained the principle of the three brains and their memories (head, heart, stomach) as they exist in our body. These three organs communicate with one another even if we are not completely aware of this. When we consider the fact that our heart contains neuronal cells, it becomes easier to accept, identify and sense a signal coming from the heart.

The triad of intuition, in Chapter 1, allowed us to understand the existence of interactions between vibrations, music and emotions. On the other hand, this triad characterized the perception between music and emotions, feeling between vibrations and emotions, and cymatics between vibration and music. We explained cymatics in order to see how vibrations at different frequencies affect water and non-Newtonian fluids.

In Chapter 2, we managed to explore intuition with practical exercises that involved musical perceptions. The exercise concerning the perception of the "vascular

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autonomic reflex" also allowed us to perceive the radial pulse. When the radial pulse is dipping, intuition is positive, whereas a peak of the pulse means that intuition is negative.

Anyone can perceive intuition. However, some individuals perhaps have not felt their intuition, despite the scientific explanations provided. For these individuals, we discussed in Chapter 3 a series of exercises aimed at releasing intuition. The exercise that involved self-assessing our fears allowed us to identify our three greatest fears. These are frequently at the source of the barriers to intuition. Afterwards, we suggested exercises that could make us work on our beliefs and therefore question them. The self-esteem exercise offers a simple type of training that produces astonishing results in 21 days. The exercise that involves the analysis of human behaviors allows us to understand that everyone can adopt three different types of behaviors. Behaviors are mostly linked to the individual's emotional state. Finally, the last exercises involving perceptions were suggested to develop the sharpness of our bodily perception, visualization and meditation. Normally 90% of people can perceive their intuition because of these exercises.

Chapter 4 presented a tool called "Mind Map of Me", which we built to "dig deep within ourselves" and partially answer the question "who am I?". This is the means we found to "release" 10% of people who could not access their intuition with the exercises provided in Chapter 3. This introspective tool named "Mind Map of Me", besides releasing intuition, has benefits and a significance that go beyond the phenomenon of intuition. Anyone (several hundred people to date) who has honestly done this exercise – the "Mind Map of Me" – has noticed deep changes in their state of mind.

The role of intuition in creativity was approached in Chapter 5, where we explained at what stage intuition

became involved in creative processes, serendipity and intuitive creativity.

In Chapter 6, we explored intuition in innovative processes and methods. The seven-"I's" model allowed us to establish the elements that individuals who wish to be innovative should master. The seven "I's" that were developed are inspiration, imagination, intelligence, insouciance, intuition, illusion and the invisible. At the end of this chapter, we explored some innovative applications that increase intuition.

Finally, in Chapter 7 we saw how intuition could help directors and managers. Intuition may also guide an individual's type of leadership and management. Intuition also plays a prominent role in the MBTI model, which we described in detail by applying it to team management.

Intuition can play an actual part in communication, in particular in relation to assertiveness, non-violent communication and the "human element" model.

At the end of this book, we can claim that intuition is a real inner compass. Our brain, body and heart react to electromagnetic fields just like a compass reacts to the earth's electromagnetic field.

Thus, our hope is that because of this work, intuition will be taught in different educational environments and in companies, besides being passed on to anyone who wishes to exploit fully this human ability called "intuition".

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