

Eidos^{2 (4) 2018}

A JOURNAL FOR
PHILOSOPHY
OF CULTURE

DOI: 10.26319/4716

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Trauma and Phenomenology

Abstract:

The phenomenology of trauma is a historical, epistemological, and methodic inquiry that wishes to test the validity of an already settled dynamic model of surprise as shock-rupture based on its correlated inner structures of attention (as an open awaiting) and emotion (as a perduring resonance). Thanks to an integrative approach, crossing (micro)phenomenological subjective experiences and empirical (neuro and physiological) data, we hope to renew the understanding of the blank lived experience of trauma and the passive preconscious dynamics of traumatism, as well as to generate possible therapeutic effects.

Keywords:

trauma, traumatism, phenomenology, Husserl, neurophenomenology, microphenomenology, cardiophenomenology, surprise, emotion, passivity, memory.

The minds of mortals which perform
With mighty motions mighty enterprises,
Often in sleep will do and dare the same.
Many meet death; many, as if headlong
From lofty mountains tumbling down to earth
With all their frame, are frenzied in their fright;
And after sleep, as if still mad in mind,
They scarce come to, confounded as they are
By ferment of their frame.

Lucretius, *On the Nature of Things*, L. IV v.1010

Fright is the name of the condition to which one is reduced if one encounters a danger without being prepared for it; it lays stress on the element of surprise.

Sigmund Freud, *Beyond the Pleasure Principle*

Introduction

The phenomenology of trauma is a historical, epistemological, and methodic inquiry that wishes to test the validity of an already settled dynamic model of surprise as shock-rupture based on its correlated inner structures of attention (as an open awaiting) and emotion (as a perduring resonance). Thanks to an integrative approach, crossing (micro)phenomenological subjective experiences and empirical (neuro and physiological) data, we hope to renew the understanding of the blank lived experience of trauma and the passive preconscious dynamics of traumatism, as well as to generate possible therapeutic effects.

My analysis will proceed in four steps. First, I will present my phenomenological model of surprise based on its structures, attention and emotion, some of its variants as micromodels, and how some pathologies of surprise, including trauma as a negative radical surprise, interact with such a model.

Second, I will appeal to psychopathology, that is, psychoanalysis and psychiatry (Freud, Ferenczi, Binswanger, Jaspers, Minkowski, Rank, Winnicott, Lacan, Abraham). I do so in order to compare the standard experience of my phenomenological model of surprise with the description of the deficiencies caused by the traumatic experience, as far as time, attention, and emotion, but also body and intersubjectivity, are concerned.

Third, I will examine the issue in phenomenological philosophy (Husserl, Scheler, Heidegger, Merleau-Ponty) as well as in psychology of emotions (Lipps, Geiger) and attention (Wundt, Stumpf, Külpe), in order to show how philosophical resources may be fruitful in order to deepen our understanding of the structural dynamics of trauma and traumatism.

Finally, the use of an integrative methodology inspired by the neurophenomenological paradigm and recently refined through a cardiophenomenology approach, linking 3rd person data (theoretical historical categories, quantified experimental data) and 1st data (micro-phenomenological invariants *via* explicitation interviews) will be sketched in order to show we could in the near future refine the lived experience of trauma through experiential-descriptive categories.

The goal of our inquiry lies in shedding a new light on the dynamic model of surprise, anchored in its inner structures, attention and emotion, thanks to trauma-tism understood as a “radical and negative surprise,” and with an integrative approach crossing 1st/3rd person perspectives. Hence a twofold challenge. First, a practical-therapeutic challenge: the understanding of trauma through the refined microphenomenological

description is revisited in its amnesic-hypermnestic temporality, its passive unconscious latency, its dynamics of reactivation, and its possible recovery and resilience; second, a heuristic-theoretical challenge: the fertility of the present model of surprise, including for informing, reforming, and enriching itself, is tested, while taking into account one of its limit-cases: traumatism.

I. The Model of Surprise Based on its Inner structures: Attention and Emotion

A. The Standard Model of Surprise¹

Surprise is often defined as a startle, a shock, a rupture, or a micro-disconnection. It should be distinguished from 1) an instant (as an abstract punctum) and 2) an event (as a neutral occurrence). It is 1) a dynamic process articulated in time-phases, and 2) embedded into an attentional and emotional valence-laden process. In short, surprise is a dynamics structured in three main micro-phases: a) an ATTENTION-phase (on open awaiting with an emotional polarity relaxation-serenity/tension-anxiety), b) a SHOCK-RUPTURE-phase (emotional-attentional blank), c) an EMOTION-phase (immediate resonance with an emotional polarity – relief/sideration – associated with attentional modulations).

In fact, there is no surprise without: a) a dimension from which it emerges, that is, an attentional horizon of awaiting, emotionally colored, an organic memory, a latent ground of presence to what is coming; b) a rupture-shock that has the form of a blank (“*blanc d’antenne*”) i.e. a non-experience; c) an immediate move of inner association and bodily effects linked with emotional resonance (the valence of which may go from relief (+) to ill at ease (-), but also from a standard reaction: “move on” to a pathological one (sideration, rumination); the whole being interwoven with multifarious attentional modulations-regulations.

Such a model of surprise, is anchored in a tridimensional dynamics where attentional (1) and emotional (2) processes, unfold along a three-phased temporality (3): anticipation, rupture, aftermath.²

1) Such a model is the result of previous studies: 1) a study of attention: Natalie Depraz, *Attention et vigilance. A la croisée de la phénoménologie et des sciences cognitives* (Paris: PUF, 2014); Edmund Husserl, *La phénoménologie de l’attention*, trans. Natalie Depraz (Paris: Vrin, 2008); 2) a study of emotion: Natalie Depraz, “Délimitation de l’émotion. Approche d’une phénoménologie du cœur,” *Alter* 7 (1999) : 121–148; Natalie Depraz, “The Rainbow of Emotions: At the Crossroads of Phenomenology and Neurobiology,” *Continental Philosophy Review* 41, no. 2 (2008): 237–259; *Theodor Lipps*, double volume with *Revue de Métaphysique et de Morale*, 2017/4 and 2018/1, eds. Natalie Depraz and Mildred Galland; Research Seminar “Emotions” and Translation workshop of the Husserl Manuscript *Gefühl* at the Husserl-Archives (2012–2016): two volumes, *Phénoménologie des émotions* (Paris: Hermann) and Edmund Husserl, *Phénoménologie du sentiment* (Paris: Vrin), are in preparation; 3) a study of surprise: ANR Research Program *Emphiline*: “Surprise at the Core of the Spontaneity of Emotions: an Enlarged Cognition” (2012–2015) directed by Natalie Depraz at the Husserl-Archives, ENS, Paris; Natalie Depraz, “Experiential Phenomenology of Novelty: the Antinomy of Vigilance-Attention and Surprise,” *Journal of Constructivist Foundations* 8, no. 3 (2013): 280–287; Natalie Depraz, “The Surprise of Non Sense,” in *Enactive Cognition at the Edge of Sense Making: Making Sense of Non-Sense*, eds. Massimiliano Cappuccio and Tom Froese (Houndmills: Palgrave Macmillan, 2014), 125–152; Natalie Depraz and Claudia Serban, eds., *La surprise à l’épreuve des langues* (Paris: Hermann, 2015); *Alter. Revue de Phénoménologie*, no. 24 (2016): Natalie Depraz, “Surprise as a Phenomenal Marker of Heart-Unconscious,” in *Is there a Phenomenology of Unconsciousness?*, eds. Dorothée Legrand and Dylan Trigg (Heidelberg: Springer, 2017), 239–259; *La surprise*, ed. Natalie Depraz; Natalie Depraz and Anthony Steinbock eds., *Surprise, an Emotion?* (New York: Springer, 2018); Natalie Depraz and Agnès Celle, eds., *Surprise at the Intersection of Phenomenology and Linguistics* (Amsterdam: J. Benjamins Press, 2018).

2) Thomas Desmidt et al., “The Temporal Dynamics of Emotional Emergence,” *Phenomenology and Cognitive Sciences* 13, no. 4 (2014): 557–578.

Time	Anticipation	Rupture	Aftermath
Attention	Awaiting	Floating suspension	Hyper-vigilance
Emotion	Tension-anxiety/ Relaxing-serenity	Emotional Blank	Sideration-rumination/ Relief-move on

B. Four Micro-Models Represent Concrete Variables which Enrich and Modulate the Basic Structure

To begin with, on the basis of the generic model above, we can distinguish four specific models which correspond to more peculiar features of the experience of surprise.

The first immediate model refers to our daily encounter with surprise: it is typically a lived/bodily startle relying on cognitive focal and/or emotional absorbed attention, and ending up in an emotional disturbance or a cognitive reorientation. Such a daily, ordinary dynamics has a focally-absorbed attention, stresses-increases surprise, and generates an excess of surprise.

Time	Focal awaiting dynamic		
Surprise		Cristal clear surprise	
Attention	Focalization	Break	Re or de-focalization
Cognition	Selective	Rupture	Reorientation/Loss
Emotion	Absorption	Shock	Requalification Disturbance
Body	Tension	Startle	Release
Language	Silence	Exclamation	Verbal Reaction

The second model is based on a logical/rational view: attention adopts the form of cognitive programmation and/or emotional hyper-focalization. The effect is surprise decreases and eventually ends up being erased. As a global consequence, attention results cognitively reconcentrated and/or emotionally strengthened. In such a logic and brain dynamics, attention obviously erases surprise and generally considers surprise as a failure or a disturbance.

Time	Anticipatory programmed dynamic		
Surprise	Quasi-absent	Diminished-suppressed	Erased
Attention	→ Control →		
Cognition	Programmed	Augmented	Reconcentrated
Emotion	Obsessional	Rigidification	Reinforced
Body	→ Organic Tension →		
Language	Elaborations	Assertive Predication	Rationalisation

The third model offers an answer to the tendencial difficulty of the first two models, which generate either an excess of surprise, or an excess of attention, and conversely, a disappearance of attention or a disappearance of surprise. The third model is thus founded on an opening of attention which welcomes surprise as such and consequently opens up an emotional resonance and a cognitive openness. At its best, in such a trained and cultivated dynamics, exemplarily seen in meditation by “letting go,” attention prepares and welcomes surprise.

Time	Open awaiting dynamic		
Surprise	>>>>	Full surprise	>>>>
Attention	Receptivity	Wakefulness	Reception
Cognition	Preparation	Openness	Training
Emotion	Availability	Welcome	Resonance
Body	Relaxing	Gathering	Relaxing
Language	Inner Speech	Expressivity	Verbalization

The fourth model offers a second possible answer to the non-congruence of the attention-surprise dynamic in ordinary contexts and at a logical level. In this æsthetic dynamics, attention and surprise coincide while mutually intensifying each other: it is based on an attention understood as “imminence” and a surprise correspondingly seen as a fulgurance (or a dazzling duration), both revealing a subsequent pending attention as an “instant” attention.

Instant dynamic		
<i>In statu nascendi</i> surprise	Fulgurance	<i>In statu revelandi</i> surprise
Imminence	Adamantine attention	Instant attention
Blank cognition		
Rainbow Emotion		
Opened lived body		
<p style="text-align: center;">→ Silence →</p> <p style="text-align: center;">Exclamations</p>		

C. Pathologies of Surprise: from Identified Nosographic Psychosis (Melancholia, Mania, Schizophrenia) to Transversal Symptomatic Troubles³

Do pathologies generate a fifth micromodel of surprise, or does it partially map the previous ones? Maybe pathological tendencies are already at work in micromodels 1 and 2, absorption and hyper-focalization, and are increased in addictive and obsessional turning points.

Temps	Blurred Dynamic		
Surprise	Unceasing Surprise	hyper (-) Limit-Surprise /hypo (-)	Unceasing Surprise
	Erased Surprise		Erased Surprise
Attention	Zero-Attention Default → deficiency Excess → dispersion, hyper-vigilance		
Cognition	Amnesia or Hypermnnesia		
Emotion	Depression (absorption/anxiety) or Mania-Schizophrenia (explosion-peak)		
Body	Bodily Hypo/Hyper-Reactivity		
Language	Inner Voices-Silence	No reaction/Shoot	Inner voices-Silence

If depression diminishes surprise, does it relate to the second model? If the schizophrenic or maniac patients live in a pure present and generate an unceasing surprise that makes attention disappear, what is the link with the fourth model? And also: does the third model provide a remedy to the mentioned pathologies, with possible therapeutic effects? But is such a nosographical approach identifying psychotic pathologies such as melancholia, mania, and schizophrenia, as it is, for example, done by Ludwig Binswanger or Arthur Tatossian, still fully relevant? Indeed, we know nowadays that the nosography of melancholy refers much to what is also called schizophrenia or bipolar disturbances. Hence maybe a methodological change in the vein of American approaches is needed, which focus on symptomatic dimensions, such as anhedonia, sleep problems, anxiety or

3) These results are based on different inquiries in psychopathology and epistemology of first person approaches: 1) Clinical Psychiatry and Psychopathology: ENS Seminary 2016–2017: “Trauma and Phenomenology”; Study of Phenomenological Psychiatry. Daseinsanalyse Seminar (ENS: 1993–2003) (dir. F. Dastur); Assessment of the Psychiatric Urgency Mobile Team ‘ERIC,’ dir. F. Mauriac, Charcot Hospital, (2003–2015); Study of depression: 42 microphenomenological interviews (led, transcribed, 20 analyzed) about the lived experience of depressed, remitted and control subjects, with the hypothesis of an hypo-reactivity to surprise-startle (clinical part at the Tours-CHU (dir. V. Camus, Th. Desmidt) of the ANR Archives-Husserl as a pilot-team; Study of chronic diseases in teenagers: dir. Standard Research Project ADOCHRONIQ GRR Normandy (2016–2019); 2) Crossed Integrative Methodology 1st/3rd persons: ENS Seminary 2016–2017: “Microphenomenology”; a pioneering preliminary study of productive correlations between 1st and 3rd person approaches: Natalie Depraz, Francisco J. Varela, and Pierre Vermersch, eds., *On Becoming Aware: A Pragmatics of Experiencing* (Amsterdam: J. Benjamins Press, 2003); French version: Natalie Depraz, Francisco J. Varela, and Pierre Vermersch, eds., *A l’épreuve de l’expérience. Pour une pratique phénoménologique* (Bucarest: Zeta Books, 2011); 3 Cardio-phenomenology: A pioneering test of the hypothesis of neuro-phenomenology in the frame of the Emphiline ANR: A first study of productive correlations between subjective lived experiences and physiological & neurological data in depression → empirical-experiential material in analysis and publication (June 2019). Four articles: Desmidt et al., “The Temporal Dynamics of Emotional Emergence,” 557–578; Natalie Depraz and Thomas Desmidt, “Cardiophénoménologie”, in *Cahiers Philosophiques de Strasbourg*, no. 38 (2015): 47–85; Natalie Depraz, Maria Gyemant, and Thomas Desmidt, “First Person Data Analysis: a Generative Method using Third Person Data. Surprise and Depression: a Case Study,” *Journal of Constructivist Foundations* 12, no. 2 (2017); Natalie Depraz and Thomas Desmidt, “Cardiophenomenology: a Refinement of Neurophenomenology,” *Phenomenology and the Cognitive Sciences*, 2018 (forthcoming).

emotional hyperreactivity, rather than on nosographical categories. Psychiatric problems occur in the interaction between environment and genetic influences and refer to a form of clinical vulnerability.

D. The Case Study of Trauma

Trauma thus may reveal a transversal pathology cristallizing in a shock equivalent to a radical negative surprise and unfolding into repetitive post-traumatic disorders made of passive bodily flashes and numerous chaotic amnesic holes.

Thus, what is at stake here is to examine more closely how to provide a symptomatic differentiation between pathologies, so as to make a room for trauma as a specific shock-rupture (a radical negative surprise), but also for its focused-repetitive time-dynamics made of amnesia and hypermnesia, based on attentional numbing/hyper-vigilance after a highly emotional peak.

Time	Long run repetitive dynamic		
Surprise		Catastrophe	
Attention	Distraction	Nothing	Amnesia-Hypermnesia
Cognition	No-representation	No-experience	Un-catch-up-ability
Emotion	Assurance	Fright	Void/Hyper-sensibility: rumination
Body	A-tonia	Immobilité	Somatization
Language	Chattering	Silence	Hebetia



II. Historical Perspective: Clinical Approaches to Trauma

Let us turn now to the very extensive clinical literature on trauma and traumatism. This literature review may provide us with explanatory categories that can refine and illuminate our initial theoretical, phenomenological model of surprise-trauma.

The word trauma, from the Greek τραῦμα, means a “wound,” or a bodily or “mental lesion,” and the traumatic experience, generally refers to the consequences and impacts of the trauma:

Any physical injury can also be a psychic wound, especially if he or she has not lost consciousness during an accident, an aggression or a violent event (rape, attack, disaster), and he or she has lived, in this short moment and in surprise, an imminent experience of death without escape. This phenomenon of disorganization of the psyche known as “trauma” can affect not only the victims, but also the witnesses and the speakers (...) who were exposed directly to the scary and horrifying event.⁴

4) “Tout blessé physique peut aussi être un blessé psychique, surtout s’il n’a pas perdu connaissance lors de l’accident, de l’agression ou de tout événement violent (viol, attentat, catastrophe), et qu’il a vécu, dans ce court instant et dans la surprise, une expérience d’imminence de mort sans échappatoire. Ce phénomène de désorganisation du psychisme qu’on dénomme “trauma” peut toucher non seulement les victimes, mais aussi les témoins et les intervenants (...) qui ont été exposés directement à l’événement effrayant et horrifiant.”

So writes the well-known psychiatrist-practitioner specialized in trauma Louis Crocq⁵ in the introduction of his *Seize leçons sur le trauma*. Given how a trauma as a violent root-event endures, it pops up again at certain moments of the life of the person in relation with latent pre-conscious associations, which generates an anxiogenic fragility, a potential state of startled-alertness linked to the un-understandable and un-identifiable dimension of what happened: Trauma would then be a borderline-surprise, and its radical negativity refers to non-sense and generates a cascade of micro-surprises.

A. Psycho-Analytic Approaches: A Constitutive or an Event like Trauma?

Given the importance of the theme of trauma and traumatism in psychoanalysis and in Freud's pioneering work, and since he theorized and made use of it throughout his writings, it is fruitful to explore and provide an understanding of the phenomenon, starting from the texts of the founder of psychoanalysis. In 1895, in his *Sketch of a Scientific Psychology* and his *Studies on Hysteria*, hysteric suffering is considered as a psychic traumatism not completely erased but that still contains reminiscences. This conception also appears later in *Beyond the Pleasure Principle* (1920), *Inhibition, Symptoms and Anxiety* (1926) and *Moses and Monotheism* (1939). For Freud, traumatism is linked to the anxiety of parting (birthtrauma) and generates in turn cascading anxieties, of which there are four: anxiety due to the loss of the mother as object, of penis, of the love of object, and of Super-I. Freud's early view is thus distinguished from Sándor Ferenczi's in *Traumatism* (1934). Ferenczi, like Freud, gave primacy to sexual trauma in infancy, but he also studied soldiers and war victims during World War One, therefore making of trauma a real fact and not a fantasm, and not restricting it to daily situations of unnoticed events, but providing it with an acute reality linked to exceptional situations. In that respect, Otto Rank's contention in *Das Trauma der Geburt* (1924) is also of interest, together with Pierre Janet's, Donald Winnicott's and, last but not least, Jacques Lacan's views, who all share with Freud the conception of a trauma inherent in the child's psychic apparatus. In his first Seminar, *Les écrits techniques de Freud* (1953–54), Lacan takes up again Freud's *Prägung* in order to define the "événement traumatique originaire" as a "frappe."⁶ Parallely, the path taken by Ferenczi's followers is also of crucial importance, given the existence of other kinds of trauma, which are not necessarily rooted in infancy, birth, or of sexual origin, but concerning people of every age: war-traumatism, traumatism in prisons, in camps, and in persecutions. In addition, some more contemporary authors may be also drawn upon: Michael Balint, who focuses on the traumatic effects on children of involuntary aggressive gestures of the adult; Leonard Shengold, who insists on the introjection of the Super-I, representative of Orwell's torturer in *1984*; or again Nicholas Abraham and Mária Török, who describe "introjection" and "crypts" as isolated constructions locked in psychism.

The leading-question here has to do, based upon the time-dynamics of surprise as relying upon both attention and emotion, with the problem of time in trauma. If the memory trace of the breaking (*effractant*) event (in the sense of "fright" – *effroi*) is isolated from the rest of psychism, still it remains living though unconscious. The patient unceaselessly repeats, and relives again and again, in his/her dreams, or during daylife, the traumatic situation: conscious remembering seems impossible and blocks cognitive reasoning.⁷ Is it an unconscious mechanism imposed upon (repressed by) the subject, which involves an absolutely passive traumatic temporality, or may the subject act upon it thanks to a form of "concrete memory" (like in Georges Gusdorf) and of even pre-conscious reactivation? Moreover, does the emotional force of the shock in

5) Louis Crocq, *Seize leçons sur le trauma* (Paris: Odile Jacob, 2012), 7–8.

6) Jacques Lacan, *Séminaire I, Les écrits techniques de Freud (1953–1954)* (Paris: Le Seuil, 1975), 295.

7) Judith Dupont, *La psychanalyse avec Nicolas Abraham et Maria Torok*, (Toulouse: ERES, 2001).

cascade generate an attention disorder, be it a numbing, or conversely, a hyper-vigilance, or on the contrary, may a specific quality of attention upon the traumatic event help in reactivating it so as to contribute to a reappropriation?

B. Psychiatric Approaches: from Traumatic Neurosis and War neurosis to Post-Traumatic Stress Disorder

As a useful complement, let us now examine the psychiatric approach to trauma, even though it is not always obvious, nor fair, to contrast completely it from the psychoanalytic one, insofar as Freud as well as Ferenczi were bridge-thinkers, not to mention psychiatrists and psycho-analysts like Karl Abraham, Ernest Jones, Victor Tausk, Helene Deutsch, or Theodor Reik, who related fright and traumatic neurosis.⁸ In short, it is less the approach than the situations of traumas linked to accidents, to war, then later, to family violence, which guides the reflection and changes in the model of trauma. The neurologist Hermann Oppenheim was the first to speak of traumatic neurosis (1889) in the symptoms of people having undergone accidents during the construction of the railway.⁹ He did so in a neurobiological analysis that since then has often been associated with “cardiac neurosis.”

From industrial or technological accidents, to the traumas of the victims of the two World Wars, the Vietnam War, and the Afghanistan and Iraq Wars, a huge research field opened up, which gave way to “military psychiatry.” This field studies shellshock, battle fatigue, and battle shock¹⁰ caused by the terror of bombing or artillery, and the horror of dislocated bodies, “war neurosis,”¹¹ traumatophobia, or again, more recently, “rape trauma,”¹² which were not taken into account by Freud.

In 1980, the militating work of American pacifists and feminists, based on traumas resulting from civil, family, and sexual violence, lead to a rigorous description of PTSD, and to its being registered in the DSM III (*American Psychiatric Association*, 3rd ed), then in the International Classification of Diseases. It is defined as an anxiety disorder: it appears after a trauma where the person faces death, and it generates a fragility in the integrity of the person, and intense emotions of fright, powerlessness, and horror. The person undergoes a chronic temporality of reviviscence characterized by repetition and the recurrent association with stressful situations in flashbacks or nightmares.

Here, I am brought to my leading-question: Is PTSD only linked to standard psychiatric “nosographic” pathologies (depression, schizophrenia) or is it also, and even rather a trans-nosographical dimension, that is to be found not only in post-traumatic stress disorders, but also in some forms of depression or anxiety, in link with other psychopathological features (sadness, anxiety, and anhedonia)? And the following question: What are the connections between trauma (weakening, revealing a previous vulnerability, triggering comorbid) and other mental disorders?

8) Gilles Tréhel, “V. Tausk (1879–1919) et la médecine militaire,” *L'Information psychiatrique* 82, no. 3 (2006): 239–247.

9) Bessel van der Kolk, “Trauma and Memory,” in *Traumatic Stress: the Effects of Overwhelming Experience on Mind, Body and Society*, eds. Bessel A. van der Kolk, Alexander C. McFarlane, and Lars Weisaeth (New York: Guilford Press, 1996), 3–23, 279–302.

10) Elmer Ernest Southard, *Shell-shock and Other Neuropsychiatric Problems Presented in Five Hundred and Eighty-Nine Case Histories from the War literature (1914–1918)* (Boston: W.M. Leonard, 1919); Hans Selye, “A Syndrome Produced by Diverse Nocuous Agents,” *Nature* 138, no. 4 (July 1936): 32, reprinted in: *The Journal of Neuropsychiatry and Clinical Neurosciences* 10, 2 (May 1998): 230a–231.

11) Frederick Walter Mott, *War Neuroses and Shell Shock* (London: H. Frowde; Hodder & Stoughton, 1919); Sandor Ferenczi, *Le traumatisme* (Paris: Payot, 2006 [1934]); Roy Richard Grinker and John Paul Spiegel, *War Neuroses* (Philadelphia: Blakiston Company, 1945).

12) Ann W. Burgess and Lynda L. Holmstrom, “Rape Trauma Syndrome,” *American Journal of Psychiatry* 131, no. 9 (1974): 981–986.

As it is shown, for example, in the clinical case Cecile Münch described by Ludwig Binswanger in *Melancholy and Mania* (1960), the root-event of a trauma may well give rise to a melancholic or a major depressive episode. Is emotional anxiety a common ground between PTSD and depression? Or does an emotional blurring through avoidance lead to connecting the dissociative syndrome in PTSD with the dissociative discordance in a subject with schizophrenia, whereas the clinical practice wants to distinguish them? Such questions call for a closer examination of the contentions of the psychiatrists who are part of the historical trend of *Daseinsanalyse* (Binswanger, Minkowski, Tellenbach and Tatossian). They can bring clarification on these issues.

III. The Philosophical, Phenomenological Resources for Understanding Trauma and Traumatism – its Structural Dynamics

This third step is dedicated to the examination of the phenomenological, philosophical analyses of passive, attentional, and emotional temporality, as a crucial conceptual resource for understanding the dynamics of traumatism.

Let us mention first that none of the German (Husserl, Scheler, and Heidegger) and the French (Merleau-Ponty and Michel Henry) phenomenologists directly dealt with traumatic experience. However, a great number of analyses provide a pregnant conceptual framework in order to describe the experiential dynamics of trauma. To start with, Husserl's analysis of passive pre-conscious temporality, in texts dedicated to the passive synthesis, made of sedimentation, diffusion (*Fortplanzung*), and resonance of the initial impression, finely describe the kind of passivity the subject goes through when confronting the legacy of a trauma.¹³ These texts are very illuminating. Other pertinent resources such as Husserl's *Bernau-manuscripts* on time and attention, his analysis about affective acts and emotional fluctuations in the manuscripts on the structure of consciousness, his analyses of attentional mutations and of deactivations and reactivations of memory in *Ideas I* and in his *Phenomenology of attention*, provide accurate conceptual tools in order to better understand the specific emotional and attentional dynamics of traumatism.¹⁴ Additional phenomenological analyses are to be found in Heidegger's analysis of the affective dispositions (*Stimmungen*) of anguish/anxiety in contrast with fear, of Max Scheler's moral emotions of loneliness, despair and guilt, or of Michel Henry's phenomenology of the suffering self-affected-affecting subjective life.

Another area of phenomenological analyses corresponds to philosophers whose thought was influenced by some of the above mentioned psychoanalytical and psychiatric approaches. For example, Heidegger's interaction with Medard Boss, Merleau-Ponty as a reader of Freud and Lacan, Sartre as a writer of an existential psychoanalysis; each of them pave the way for a possible phenomenology of trauma, without thematizing such an experience.

A third group is made up of a few authors whose analyses directly deal with trauma. Henry Maldiney is exemplarily situated at the crossroad of German and French phenomenology and of existential psychiatry. His philosophy of surprise as a breaking-in (*effraction*) of our "real" needs, is to be carefully examined¹⁵ as a pioneering step in the direction of a psychopathological, phenomenological approach to trauma. Emmanuel Lévinas' philos-

13) Edmund Husserl, *Analyses Concerning Active and Passive Synthesis* (1918–1926), trans. Anthony J. Steibock. (Dordrecht: Kluwer Academic Publishers, 2001).

14) Edmund Husserl, *Bernau Manuscripts on Time-consciousness* (1917–1918). French Translation by Jean-Francois Pestureau. Grenoble: Millon, 2010; *Studien zur Struktur des Bewußtseins* (1908–1914), German edition in preparation with Springer.

15) Philippe Fontaine, "De la surprise esthétique," in *La surprise à l'épreuve des langues*, eds. Natalie Depraz and Claudia Serban, (Paris: Hermann, 2015).

ophy brings to the forefront “*traumatisme*” as a radical alterity that is impossible to appropriate or to “recover” (*irrécupérable*).¹⁶ In his words, it is named as the radical passivity of captivity-capture of the victim, the prey and the persecuted, and as a “passivity of passivity” (notice the emphasis in the rhetoric) preceding any representation or logos.¹⁷ For him, only the ethical posture may offer a remedy for it: “Persecution is a trauma. Violence *par excellence* (...)” or again: “Vulnerability, exposure to outrage, to wounding, passivity more passive than all patience, passivity of the accusative form, trauma of accusation suffered by a hostage to the point of persecution (...)” and: “Passivity of trauma but this is trauma that prevents its own representation, the deafening trauma (...)”¹⁸

Finally, a few contemporary philosophers-phenomenologists explicitly produced crossed-analyses of the initial intentional and egological identity proper to Husserlian phenomenology and the experience of trauma, either at work in PTSD or available in the Freudian-Lacanian approach,¹⁹ or again in Lévinas’ philosophy of “traumatism” and Lacan’s theory;²⁰ “Trauma is a shock and a complete surprise.”²¹ Moreover, some contemporary psychiatrists who specialize in PTSD also stress the importance of the phenomenological approach to broach the issue of trauma.²²

The phenomenological tradition is thus available and needs to be carefully interpreted anew in order to check what analytical results and concrete descriptions may help unhearth and extract the basic structures of the experience of trauma, be it temporal, bodily, emotional-affective, or imaginary, and in sum, strongly altering the identity of the personal subject. The additional hypothesis being that trauma, as it is difficult to objectify because the rupture-moment may be different for each different person, is first a lived experience before being an object, a fact, or an external event.

On the basis of such first thrusts we may build a preliminary cartography of the structural dynamics of trauma, guided by the following hypothesis: There may be a modification of the model of surprise due to the change of scale as far as 1) time, 2) affect, 3) body, 4) imagination and 5) identity are concerned. The specific dynamics of trauma, and consequently of traumatism, is colored negatively and more radically than the dynamics of surprise (which as we established already is transversal to valence (-/+ and may be quite an ordinary unseen situation).²³ Its time, far from reducing itself to a three micro-phases dynamics (anticipation,

16) Natalie Depraz, “‘Se laisser surprendre’ avec Levinas: le ‘Dire’ traumatique de la surprise”, Conference about *Autrement qu’être ou au delà de l’essence*, University Paris IV Sorbonne, dec. 2012, *Relire Autrement qu’être ou au-delà de l’essence* d’Emmanuel Levinas, D. Cohen-Levinas et A. Schnell eds., Paris, Vrin, 2016, 213–225.

17) Michel Haar, *L’obsession de l’autre. L’éthique comme traumatisme* (Paris : Cahier de l’Herne ‘Levinas’), 1991.

18) Emmanuel Lévinas, *Autrement qu’être ou au delà de l’essence*, Den Haag, 165, 18, 128, 141. English edition: Emmanuel Lévinas, *Otherwise than Being or Beyond Essence* (Dordrecht: Springer, 1991): “La persécution est un traumatisme – violence par excellence (...)” or again: “Vulnérabilité, exposition à l’outrage, à la blessure – passivité plus passive que toute patience, passivité à l’accusatif, traumatisme de l’accusationsubie jusqu’à la persécution par un otage (...) Passivité du traumatisme, mais du traumatisme qui empêche sa proper représentation, du traumatisme assourdissant (...)”

19) Mary Jeanne Larrabee, “The Time of Trauma: Husserl’s Phenomenology and the Post-Traumatic Stress Disorder,” *Human Studies* 18, 4 (October 1995): 351–366; Rudolf Bernet, “Le freudisme de Husserl: une phénoménologie de la pulsion et des émotions,” in *Husserl*, ed. Jocelyn Benoist (Paris: Cerf, 2008): 125–147.

20) Simon Critchley, *Ethics-Politics-Subjectivity: Essays on Derrida, Levinas and Contemporary French Thought* (London – New York: Verso, 1999).

21) Guy-Félix Duportail, *Intentionnalité et trauma: Levinas et Lacan* (Paris: L’Harmattan, 2005).

22) Claude Barrois, *Les névroses traumatiques: le psychotérapeute face aux détresses des chocs psychiques* (Paris: Dunod, 1988); Anna Ehlers, Ann Hackman and Tanja Michael, “Intrusive Re-experiencing in Post-Traumatic Stress Disorder: Phenomenology, Theory, and Therapy,” *Memory* 12, no. 4 (August 2004): 403–415; Crocq, *Seize leçons sur le trauma*.

23) See Desmidt et al., “The Temporal Dynamics of Emotional Emergence,” 557–578; Depraz and Desmidt, “Cardiophénoménologie,” 47–85; Depraz and Desmidt, “Cardiophenomenology: a Refinement of Neurophenomenology.” Depraz, Gyemant, and Desmidt, “First Person Data Analysis: a Generative Method using Third Person Data. Surprise and Depression: a Case Study.”

crisis, and aftermath), is made of multifarious attentional modes (focalisation, open awaiting), and of multiple emotional contents: strong or light, quick or durative. It is therefore made of a passive sedimentation full of latencies, ruleless associative cascades, fragmented and partial recalls of the traumatic event, of compulsive chronic repetitions of the same unappropriable fragment, of over and over again experiencing reactivations without a possible identifiable recovery. More specifically, the hypothesis concerns the change of accent that is put in the model of surprise on attention (as implicate anticipation and open awaiting) to another accent in the model of trauma, the “lengthening/loosening” of the aftermath due namely to the time-structure of chronic repetition and in relation with an emotional intensification full of ruminations. Consequently, there would also be a decreasing of the attentional ability, what amounts to an arrest of the subject, an alienation that prevents her or him from recovering and/or from “moving on.” In a nutshell, what are the descriptive features of a repetition without any identifiable cause or source?

IV. Toward an Integrative Neuro- Resp. Cardio-Phenomenological 1st/3rd Person Study

As a last step, I wish to open up a prospective project crossing 1) a physio- and neuro-biological study of the traumatic process and a micro-phenomenological study *via* first person explicitation interviews. Such a co-generative, integrative research project relies on the three first steps, that is, our phenomenological model of surprise, the longstanding psychopathological literature, and the just unfolded philosophical, phenomenological resources.

The traumatic symptomatology was identified in psychoanalytical and psychiatric approaches in the aspects of memory and affect. As we saw, we have to deal with a hypermnnesia of certain isolated segments, coupled with a deficiency of memory or even an amnesia regarding the trauma itself, which strengthens fright while disembodiment (delocalizing) it and associating it to initially neutral situations as the source of reactivations. Now, there is much research in neurobiology that runs parallel, and is readily available, tracing back from the nineteenth century, from Oppenheimer through more recent studies.²⁴

We are therefore very interested in the physio-neuronal aspects of PTSD, insofar as they provide enlightening indications that may be productively correlated with the blank experience of trauma and the lived dynamics of traumatism. Our approach thus does not consist in one-sidedly explaining traumatism while locating it in a particular neural area (hyperactivity of the amygdala, atrophy of the hippocampus, modifications of the functioning of the anterior cingulate and of the prefrontal cortex), and exploring then the brain-circuit involving memory, fear and reward, associating it to a cardiac deficiency, or looking for hormone-modifications, due namely to the disfunctioning of the endocrine system (cortisol). This would amount to sheerly validating a reductionist approach.

However, an integrative understanding of the mechanisms of consciousness still remains incomplete and there is still a gap between 3rd person data, yet getting better characterized, and 1st person data linked to the lived experience. Currently, experiments in neuroscience generally consist in investigating associations between biomarkers, obtained via fMRI or EEG (3rd person data), and a particular type of experience, such as depression, fear, decision-making, etc. (1st person data). But while 3rd person data is increasing as technology improves, 1st person data remains poorly investigated and is often characterized by questionnaires or task-related behaviors such as response time, thus ignoring the richness and complexity of the lived experience, certainly not available through questionnaires only, with no opportunity to bring out other characteristics of

24) For example, Antonia V. Seligowski et al., “Emotion Regulation and Posttraumatic Stress Symptoms: a Meta-Analysis,” *Cognitive Behaviour Therapy* 44, no. 2 (2015): 87–102.

the lived experience. We will therefore adopt an *integrative* methodology: Physiological and neurobiological data of trauma will be taken as objective indicators meant to refine the subjective description of the lived traumatic dynamics, and conversely, subjective invariants extracted from 1st person situated descriptions will help to clarify and detail certain content-aspects invisible in the sheer neural-physio-dynamics.²⁵

On the scientific level, many studies explore the modifications in certain brain-areas following PTSD. Let us distinguish in a preliminary way the different categories of articles: 1) those showing a disfunctioning of the endocrine system (in particular cortisol) in PTSD; 2) those revealing an atrophy of the hippocampus in war-veterans; 3) studies in fMRI emotional tasks generally indicating a hyperactivity of the amygdala, of the anterior cingulate cortex and modifications of the prefrontal cortex in patients with PTSD. The challenge here lies in expansively investigating this research field. In order to do so, we will follow the standard-methodology in sciences: 1) read systematic reviews of the literature and most recent meta-analyses for our topic, and still quite preliminarily;²⁶ 2) on such a basis, we go into the detailed references regarding fMRI neuroendocrine, neuropsychological, emotional reactivity, and therapy studies about PTSD; 3) finally we will examine more closely previous significant studies. More specifically, our integrative methodology will rely on 3rd person experimental results to be worked out in the framework of an experiment already sketched as a hypothesis and associate them with 1st person micro-phenomenological accounts in order to productively correlate. In short, we wish to mutually enrich both subjective and objective levels of analysis.

An experimental project has been already initially sketched with the medical doctors Wissam El Hague and Thomas Desmidt at the National Institute for Health and Medical Research (Inserm) at the University Hospital in Tours (France) as a part of our general inquiry. Its focus is the traumatic olfactory memory. Given the close anatomical links between the olfactory system and the brain circuits involved in memory²⁷ and emotion²⁸ – two cognitive features frequently affected in subjects with PTSD – a study of olfaction in this disease appears crucial.²⁹ Now, it is well known that odors can enhance the retrieval of autobiographical memories and can trigger physiological arousal; let's think of the Proustian phenomenon!³⁰ Odors may therefore play an important role in the pathology of PTSD, enhancing the retrieval of autobiographical memories, triggering physiological arousal, and generating flashbacks associated with trauma.³¹ Given that highly-emotional and involuntary memories of traumatic events are characteristic

25) For example, as a first step in making use of a first person approach, see: Yochai Ataria, "Traumatic Memories as Black Holes: A Qualitative-Phenomenological Approach," *Qualitative Psychology* 1, no. 2 (2014): 123–140; Eli Somer and Yochai Ataria, "Adverse Outcome of Continuous Traumatic Stress: A Qualitative Inquiry," *International Journal of Stress Management* 22, no. 3 (2014): 287–305.

26) Maddalena Boccia et al., "Different Neural Modifications Underpin PTSD after Different Traumatic Events: an fMRI Meta-Analytic Study," *Brain Imaging and Behavior* 10, no. 1 (March 2016): 226–237.

27) Ivanka Savic et al., "Olfactory Functions Are Mediated by Parallel and Hierarchical Processing," *Neuron* 26 (June 2000): 735–745.

28) Adam K. Anderson et al., "Dissociated Neural Representations of Intensity and Valence in Human Olfaction," *Nature Neuroscience* 6 (February 2003): 196–202.

29) Bernadette M. Cortese, Kimberly Leslie & Thomas W. Uhde, "Differential Odor Sensitivity in PTSD: Implications for Treatment and Future Research," *Journal of Affective Disorders* 179 (July 2015): 23–30; Yuri Masaoka, Haruko Sugiyama, Atsushi Katayama, Mitsuyoshi Kashiwagi, "Slow Breathing and Emotions Associated with Odor-Induced Autobiographical Memories," *Chemical Senses* 37, no. 4 (May 2012): 379–388.

30) Simon Chu and John J. Downes, "Proust Nose Best: Odors are Better Cues of Autobiographical Memory," *Memory & Cognition* 30 (2002): 511–518.

31) Eric Vermetten and James Douglas Bremner, "Olfaction as a Traumatic Reminder in Posttraumatic Stress Disorder: Case Reports and Review," *Journal of Clinical Psychiatry* 64 (2003): 202–207; Anne-Lise Saive et al., "A Unique Memory Process Modulated by

of PTSD, and that olfactory hallucinations are associated with deeply personal, mood-congruent, distant memories,³² we hypothesize in this coming study that trauma-related odors, in particular, may play a still under-appreciated role in the pathology of PTSD. More specifically, these observations suggest a possible role for previously neutral odors becoming conditioned threat cues when they are paired with traumatic or life-threatening events. However, very few studies have attempted to characterize trauma related odors and still less to suggest an integrative experiment including accurate 1st and 3rd person assessments.

Hence the need for a 1st person micro-phenomenological approach, which endeavors to renew the understanding of trauma through the refined description of traumatic dynamics and its possible therapeutic effects. Explication microphenomenological interviews provide a remarkable tool in order to describe with fine and accurate granularity the micro-temporality of a specified lived experience. It is to our mind the best method till now to unfold micro-segments of a singular experience, thus allowing a possible, reasonable mapping with physiological and brain-dynamics data according to 250 ms to seconds' scales.³³

Phenomenology as a philosophy has developed since the early 1900's with the project to build a rigorous science of lived experiences.³⁴ Indeed, its goal is to accurately characterize their invariant structures and modalities, which are part of every experience of the same kind. Thus, it distinguishes from any empirical psychological approach that seeks to explain phenomena while tracing their causality according to a standard scientific procedure.

The explication microphenomenological approach takes up again the primarily descriptive goal of Husserlian philosophical phenomenology, but refines it, while collecting the sequential moments of an individual's lived experience. It does so by asking him/her to retrieve the moment that has just past (or happened in a distant past), and to settle himself/herself at the core of the experience. Using specific non-inductive questioning consisting in open "how-questions" (rather than "what-" or "why-"), the interviewer guides the individual through the micro-temporal unfolding of the moment and leads him/her to turn his/her attention to its preconscious dimension: bodily motor synæsthetic sensations, strong/subtle emotions, diffused states, internal images, flashes or associations linked to memories, etc. Explication interviews were first used to describe micro-sequences of an action,³⁵ then in some studies in neurosciences, including a study on epileptic

Emotion Underpins Successful Odor Recognition and Episodic Retrieval in Humans," *Frontiers in Behavioral Neuroscience* 8 (June 2014): 203, <https://doi.org/10.3389/fnbeh.2014.00203>.

32) P.V. Nickell and Thomas W. Uhde, "Dose-Response Effects of Intravenous Caffeine in Normal Volunteers," *Anxiety* 1 (1994): 161–168, <https://doi.org/10.1002/anxi.3070010403>.

33) Pierre Vermersch, *L'entretien d'explicitation en formation initiale et continue* (Paris: ESF, 1994/2014), english translation available on Researchgate, 2018; Pierre Vermersch, *Explicitation et phénoménologie*. (Paris: PUF, 2012); Francisco J. Varela, "Neurophenomenology: A Methodological Remedy to the Hard Problem," *Journal of Consciousness Studies* 3, no. 4 (1996): 330–50; Antoine Lutz et al., "Guiding the study of Brain Dynamics by Using First-person Data: Synchrony Patterns Correlate with Ongoing Conscious States During a Simple Visual Task," *Proceedings of the National Academy of Sciences* 99, no. 3 (March 2002): 1586–1591; Claire Petitmengin and Jean-Philippe Lachaux, "Les sciences microcognitives: un pont entre les dynamiques expérientielle et neuronales," in *1^{ère}, 2^{ème}, 3^{ème} personne*, ed. Natalie Depraz (Bucarest: Zeta books, 2014).

(2014): 291–307; Depraz and Desmidt, "Cardiophénoménologie," 4; 7–85; Natalie Depraz and Thomas Desmidt, "Cardiophenomenology: a Refinement of Neurophenomenology." Depraz, Gyemant, and Desmidt, "First Person Data Analysis: a Generative Method Using Third Person Data. Surprise and Depression: a Case Study."

34) Edmund Husserl, *Ideas: General Introduction to Pure Phenomenology*, trans. William R. B. Gibson (London: George Allen & Unwin LTD/New York: The MacMillan Compagny, 1931[1913]).

35) Vermersch, *L'entretien d'explicitation en formation initiale et continue*.

seizures, to assess the experience of the prodromal feelings of a seizure.³⁶ More recently³⁷ the methodology has improved, and it was applied to depressed patients with regard to the lived experience of an emotional task. The preliminary data was published showing that many dimensions of the experience are impaired in depressive patients including blurred or extreme (startle) bodily feelings, traumatic cognitive associations, increased or decreased emotional reactivity, and chaotically lived temporality. Moreover, some psychophysiological markers like heart rate and skin conductance variations have been found to strikingly correlate with 1st person data from the interviews. In sum, the methodology of microphenomenological interviews is now well established and consists here in a 20–30 minutes interview from which a verbatim is extracted and analyzed to obtain an accurate temporal unfolding of the lived experience, then divided in invariant phenomenological dimensions including time, language, body, emotion, cognition, imagination and intersubjectivity.³⁸

While relying on the study already completed on depression, we will complete an experiment including 1st person interviews in order to obtain the description of some key specified moments of the lived subjective experience of traumatism. Starting from a moment of the reactivation of a trauma, through salient associated flashes, we will go back, if possible, to the root-moment of trauma (if it results as an available pre-conscious experience thanks to the interview). We wish to account in a more accurate way for the specificity of repetition-laden traumatic time, its discontinuity, its becoming chronic, and its bodily, emotional, attentional, and image-related components.

This part of our inquiry therefore aims at building a structured and generative comparison between a micro-phenomenology of traumatic experience and objective results from neuro-physiological data related to trauma. More specifically, we plan to lead explicitations interviews at each stage in our program (3) of the experimental protocol: As a first stage, 50 healthy subjects would be put in a context where a neutral smell is associated with a light electric shock, so as to generate a conditioning in these subjects provoking a fear-reaction; as a second stage, the subjects smell again with or without the electric shock in random manner, in order to blur (even extinct) the conditioning; finally, as a third stage, same smell without any electric shock, with the hypothesis of a reactivation of the initial fear-reaction. The three interviews will focus on a salient specified moment in the process of “traumatisation” (or not) of the subject: 1) the conditioning, 2) the extinction, 3) the possible reactivation, with the goal of collecting fine-grained lived components (attentional, emotional, and bodily) at work in the micro-temporality of the traumatic process: 1) association, 2) amnesia, 3) hypermnesia.

Last but not least: there are many therapies that aim at eliminating the post-traumatic symptomatology of a victim: Cognitive Behavior Therapy (CBT), Eye Movement Desensitization and Reprocessing (EMDR), recreation-, art-therapy, hypnosis, and Neuro-linguistic Programming (NLP). The phenomenological way of looking at objects, the general attitude of the person, who suspends preconceptions and avoids judging, provides a fruitful tool in describing in a refined way the blank experience of trauma and the preconscious subjective experience of traumatism, and it contributes in such a way to the accuracy of the micro-temporal dynamics of the trauma that it may partially free the patient from a reviviscence process again and again. Such a possible therapeutic effect *sensu lato* of the micro-phenomenological attitude will be all the more interesting to test, since the explicitation interview technics itself partly proceeds from NLP (namely its interest in sensory

36) Claire Petitmengin, ed., *Ten Years of Viewing from Within: The Legacy of Francisco Varela* (Imprint Academic 2009); Petitmengin and Lachaux, “Les sciences microcognitives: un pont entre les dynamiques expérientielle et neuronales,”

37) Depraz and Desmidt, “Cardiophénoménologie,” 4, 7–85; Depraz and Desmidt, “Cardiophenomenology: a Refinement of Neurophenomenology,” *Phenomenology and the Cognitive Sciences*, 2018 (forthcoming).

38) Depraz, Gyemant, and Desmidt, “First Person Data Analysis: a Generative Method Using Third Person Data. Surprise and Depression: a Case Study.”

sub-modalities, which already proved pregnant as a technic for PTSD treatments), and that clinicians often productively rely on different combined approaches.

VI. Conclusion

While relying on the study of explanatory models of trauma-mechanism (psycho-analytical, psychiatric, clinical, cognitivist, behaviorist, and neuroscientific), which provide objectified results, my contention is to invite a change in the way of looking at the phenomenon of traumatism. It should allow for a renewed observation and description of the lived blank experience of trauma and of the experiential dynamics of traumatism in its temporal, bodily, emotional, attentional, image-related, and identity-altering, of the person-subject. Phenomenology already provides such a change in our way of looking. It specifically invites a suspension of the causal presuppositions and conditions of the traumatic phenomenon and underlines trauma's experiential passive and affective time structures. In turn, the first person micro-phenomenological approach via explicitation interviews enables us to go into the finer-grained sequential time of specified lived trauma and to describe its subjective dynamics, thus also doing justice to daily micro-traumas. In the end, the novelty of the present research project lies in the fertility of such an integrative methodology. Its main challenge is the possible emergence of new dimensions of the traumatic experience on the basis of its twofold experiential/experimental correlated description in 1st and in 3rd person. In short, the historical, theoretical, and experimental knowledge already available about trauma (psychoanalysis, psychiatry, and neuro-biology) may thus be looked at again in a fresh way, reframed and requalified with such a (micro-)phenomenological test. It hopefully will open up the opportunity for us to revisit the description of micro-lived traumas *via* subjective invariants proceeding from a rigorous 1st person approach.

Bibliography

Psychoanalysis:

Abraham, Nicolas & Maria Torok. *L'écorce et le noyau*. Paris: Flammarion, 2009.

Dupont, Judith. "Repères sur la question du trauma: Freud, Balint, Abraham et Torok." In *La psychanalyse avec Nicolas Abraham et Maria Torok*, edited by Jean-Claude Rouchy, Toulouse: ERES, 2001.

Ferenczi, Sandor. *Le traumatisme* (1934), Paris: Payot, 2006.

Ferenczi, Sandor, Sigmund Freud and Karl Abraham. *Sur les névroses de guerre*. Translated by Emmanuel Malherbet and Neil Concoran. Paris: Payot, 2010 [1918].

Freud, Sigmund. *La naissance de la psychanalyse*. Translated by Anne Berman. Paris: PUF, 1969.

— *Studies on Hysteria*. Translated by Nicola Luckhurst. London: Penguin Classics, 2004 [1895].

— *Beyond the Pleasure Principle*. Translated by James Strachey. New York: Norton and Company, 1990 [1920].

— *Inhibitions, Symptoms, and Anxiety*. Translated by Alix Strachey. New York: Norton and Company, 1990 [1926].

— *Moses and Monotheism*. Translated by Katerine Jones. New York: Vintage, 1955 [1939].

Herman, Judith. *Trauma and Recovery*. New York: Basic Books, 1992.

Lacan, Jacques. *Séminaire I, Les écrits techniques de Freud (1953–1954)*. Paris: Le Seuil, 1975.

Rank, Otto. *Das Trauma der Geburt und seine Bedeutung für die Psychoanalyse* (1924). Gießen: Psychosozial Verlag, 1998.

Shengold, Leonard. *Soul Murder. The Effects of Childhood Abuse and Deprivation*. New York: Fawcett, 1989.

Terr, Lenore. *Time and Trauma. Psychoanalytic Study of the Child*, in "The Psychoanalytic study of the child," 1984.

— *Unchained Memories: True Stories of Traumatic Memories, Lost and Found*. New York: Basic Books, 1994.

Winnicott, Donald Woods. *La crainte de l'effondrement et autres situations cliniques*. Translated by Michel Gribinski and Jeannine Kalmanovitch. Paris: Gallimard, 2000 [1965].

Psychiatry:

Binswanger, Ludwig. *Mélancolie et Manie*. Paris: PUF, 2002.

Burgess, Ann W. and Lynda L. Holmstrom. "Rape trauma syndrome." *American Journal of Psychiatry* 131, no. 9 (1974): 981–6.

Crocq, Louis. *Seize leçons sur le trauma*. Paris: Odile Jacob, 2012.

Fuchs, Thomas. "Temporality and Psychopathology." *Phenomenology and the Cognitive Sciences* 12, no. 1 (2013): 75–104.

Hart van der, Onno, Ellert Nijenhuis, and Kathy Steele. "Trauma-Related Dissociation: Conceptual Clarity Lost and Found." *Australian & New Zealand Journal of Psychiatry* 38, (November 2004): 906–914.

Janet, Piere. *Les Médications Psychologiques*. Paris: Alcan, 1919.

Van der Kolk, Bessel A. "Trauma and memory." In *Traumatic Stress: the Effects of Overwhelming Experience on Mind, Body and Society*, edited by Bessel A. van der Kolk, Alexander C. McFarlane, and Lars Weisaeth, 3–23 and 279–302. Paris: Guilford 1996.

— "The Body Keeps the Score: Memory and the Evolving Psychobiology of Posttraumatic Stress." *Harvard Review of Psychiatry* 1, no. 5, (January/February 1994): 253–265.

Koren, Dan & al. "Increased PTSD Risk with Combat-Related Injury: a Matched Comparison Study of Injured and Uninjured Soldiers Experiencing the Same Combat Events." *American Journal of Psychiatry* 162, no. 2 (February 2005): 276–282.

Lebigot, Francois. "A l'origine de la névrose traumatique, l'effroi ou le stress. Discussion, approches thérapeutiques." *Annales médico-psychologiques Rev. Psychiatrique* 173, no. 10 (2015): 819–27.

McLaughlin, Katie A., John A. Fairbank, Michael J. Gruber, Michael J., Russell T. Jones, Joy D. Osofsky, Betty Pfefferbaum, Nancy A. Sampson, and Ronald C. Kessler, "Trends in Serious Emotional Disturbance among Youths Exposed to Hurricane Katrina." *Journal of the American Academy of Child and Adolescent Psychiatry* 49, no. 10 (October 2010): 990–1000.

McNally, Richard J. "Psychological Mechanisms in Acute Response to Trauma." *Society of Biological Psychiatry* 53, no. 9 (2003): 779–788.

Messman-Moore, Terri L. and Natalie Cook. "Posttraumatic Stress Disorder." In *Encyclopedia of Mental Health*, edited by Howard S. Friedman, 308–312. Elsevier, 2016.

Minkowski, Eugene. "Les conséquences psychologiques et psychopathologiques de la guerre et du nazisme." *Schweizer Archiv für Neurologie Psychiatrie* 61 (1948): 280–301.

Pitman, Roger K., Burce Altman, and Michael L. Macklin. "Prevalence of Post-traumatic Stress Disorder in Wounded Vietnam Veterans." *American Journal of Psychiatry* 146 (1989): 667–669.

Reik, Theodor. *Aus Leiden Freuden. Masochismus und Gesellschaft*. Frankfurt: Fischer, 1983.

Tatossian, Arthur. *Phénoménologie des psychoses*. Puteaux: Le Cercle Herméneutique, 2002.

Tellenbach, Hubertus. *La mélancolie* (1961). Paris: Economica, 1981.

Tréhel, Gilles. "Victor Tausk (1879–1919) et la médecine militaire." *L'Information Psychiatrique* 82, no. 3 (2006): 239–247.

Neurobiology/Psychophysiology:

1. Meta-analyses:

Boccia, Maddalena, Simonetta D'Amico, Filippo Bianchini, Assunta Marano, Anna Maria Giannini, and Laura Piccardi. "Different Neural Modifications Underpin PTSD after Different Traumatic Events: an fMRI Meta-Analytic Study." *Brain Imaging and Behavior* 10, no. 1 (April 2015).

Quidé, Yann, Anke B. Witteveen, Wissam El-Hage, Dick J. Veltman, and Miranda Olff. "Differences Between Effects of Psychological Versus Pharmacological Treatments on Functional and Morphological Brain Alterations in Anxiety Disorders and Major Depressive Disorder: A Systematic Review." *Neuroscience and Biobehavioral Reviews* 36, no. 1 (January 2012): 626–644.

Seligowski, Antonia V., Daniel J. Lee, Joseph R. Bardeen, and Hooly K. Orcutt. Emotion Regulation and Posttraumatic Stress Symptoms: a Meta-Analysis. *Cognitive Behaviour Therapy* 44, no. 2 (2015): 87–102.

Scott, Cobb J., George E. Matt, Kristin M. Wrocklage, Cassandra Crnich, Jessica Jordan, Steven M. Southwick, John H. Krystal, and Brian C. Schweinsburg. “A Quantitative Meta-Analysis of Neurocognitive Functioning in Posttraumatic Stress Disorder.” *Psychological Bulletin* 141, no. 1 (January 2015): 105–40.

Eloise Stark, Christine Parsons, T.J. Hartevelt, Marina Charquero Ballester, Hugh McManners, A. Ehlers, A. Stein, and Morten L. Kringlebach, “Post-Traumatic Stress Influences the Brain Even in the Absence of Symptoms: A Systematic, Quantitative Meta-Analysis of Neuroimaging Studies.” *Neuroscience and Biobehavioral Review* 56 (September 2015): 207–21.

2. Studies – Experimental Olfactive Protocol:

Anderson, Adam, Kalina Kristoff, I. Stappen, D. Panitz, Dara Ghahremani, Gary H. Glover, John Gabrieli, and Noam Sobel, “Dissociated Neural Representations of Intensity and Valence in Human Olfaction.” *Nature Neuroscience* 6, no. 2 (March 2003): 196–202.

Chu, Simon and John J. Downes. “Proust Nose Best: Odors are Better Cues of Autobiographical Memory.” *Memory & Cognition* 30, Issue 4 (June 2002): 511–518.

Cortese, Bernadette, Kimberly Leslie, Thomas W.Uhde, “Differential Odor Sensitivity in PTSD: Implications for Treatment and Future Research.” *Journal Affective Disorders* 179 (2015): 23–30.

Masaoka, Yuri, Haruko Sugiyama, Atsushi Katayama, Mitsuyoshi Kashiwagi, and Ikuo Homma. “Slow Breathing and Emotions Associated with Odor-Induced Autobiographical Memories.” *Chemical Senses* 37, Issue 4 (May 2012): 379–388.

Nickell, P.V., and Thomas W. Uhde. “Dose-Response Effects of Intravenous Caffeine in Normal Volunteers.” *Anxiety* 1 (1994): 161–168.

Savic, Ivanka, Gulyas Balazs, Maria Larsson, and Per Roland. “Olfactory Functions Are Mediated by Parallel and Hierarchical Processing.” *Neuron* 26 (June 2000): 735–745.

Saive, Anne-Lise, Jean-Pierre Royet, Nadine Ravel, Marc Thévenet, Samuel Garcia, and Jane Plailly. “A unique memory process modulated by emotion underpins successful odor recognition and episodic retrieval in humans.” *Frontiers in Behavioral Neuroscience* 8 (June 2014): 203 <https://doi.org/10.3389/fnbeh.2014.00203>.

Eric Vermetten and James Douglas Bremner. “Olfaction as a Traumatic Reminder in Posttraumatic Stress Disorder: Case Reports and Review.” *Journal of Clinical Psychiatry* 64 (2003): 202–207.

Phenomenology-Philosophy:

Barrois, Claude. *Les névroses traumatiques: le psychothérapeute face aux détresses des chocs psychiques*. Paris: Dunod, 1988.

Bernet, Rudolf. “Le freudisme de Husserl: une phénoménologie de la pulsion et des émotions.” In *Husserl*, edited by Jocelyn Benoist, 125–147. Paris: Cerf, 2008.

— *Force, pulsion, désir. Une autre philosophie de la psychanalyse*. Paris: Vrin, 2013.

Critchley, Simon. “The Original Traumatism: Levinas and Psychoanalysis ‘et’ *Das Ding*: Lacan and Levinas.” In *Ethics-Politics-Subjectivity: Essays on Derrida, Levinas and Contemporary French Thought*, written by Simon

Critchley. London-New York: Verso, 1999.

Dastur, Françoise. "Pour une phénoménologie de l'événement: l'attente et la surprise." *Études phénoménologiques* 25 (1997): 59–75.

Duportail, Guy-Félix. *Intentionnalité et trauma: Levinas et Lacan*. Paris: L'Harmattan, 2005.

Ehlers, Anna, Ann Hackman, and Tanja Michael. "Intrusive Re-experiencing in Post-Traumatic Stress Disorder: Phenomenology, Theory, and Therapy." *Memory* 12, no. 4 (August 2004): 403–415.

Fontaine, Philippe. "De la surprise esthétique." In *La Surprise à l'épreuve des langues*, edited by Claudia Serban and Natalie Depraz. Paris: Hermann, 2015.

Forest, Denis. *Neuroscepticisme*. Paris: Ithaque, 2014.

Haar, Michel. "L'obsession de l'Autre. L'éthique comme traumatisme." In *Cahiers de l'Herne, Emmanuel Levinas*. Paris: L'Herne, 1991.

Heidegger, Martin. *Being and Time*. Translated by Joan Stambaugh. New York: SUNY Press, 1996.

— *Zollikon Seminars*. Edited by Medard Boss. Translated by Franz K. Mayr and Richard Askay. Evanston: Northwestern University Press, 2001.

Husserl, Edmund. *On the Phenomenology of the Consciousness of Internal Time*. Translated by John Barnett Brough. Dordrecht/London: Springer, 1991.

— *Phénoménologie de l'attention* (1905). Translated by Natalie Depraz. Paris: Vrin, 200.

— *Studien zur Struktur des Bewußtseins (1908–1914)*, Heidelberg: Springer, forthcoming (U. Melle & T. Vongehr, Husserl-Archives in Leuven, Belgium).

— *Ideas. General Introduction to Pure Phenomenology (1913)*. Translated by William R. B. Gibson. London: George Allen & Unwin LTD/New York: The MacMillan Company, 1931.

— *Manuscrits de Bernau sur la conscience du temps (1917–1918)*. Translated by Jean-Francois Pestureau. Grenoble: Millon, 2010 [1917–1918].

— *Analyses Concerning Active and Passive Synthesis (1918–1926)*. Translated by Anthony J. Steibock. Dordrecht: Klaver Academic Publishers, 2001.

Larrabee, Mary Jeanne. "The Time of Trauma: Husserl's Phenomenology and the Post-Traumatic Stress Disorder." *Human Studies* 18, no. 4 (October 1995): 351–366.

Lévinas, Emanuel. *Autrement qu'être, ou au delà de l'essence*. La Haye: Nijhoff, 1976.

Lévinas, Emmanuel. *Otherwise than Being or Beyond Essence*. Translated by Alphonso Lingis, Dordrecht: Springer, 1991.

Livet, Pierre. "La dynamique des émotions." *Psychiatrie Sciences Humaines Neurosciences*, no. 1 (January 2003): 45–52.

— "Emotions, Beliefs, and Revisions." *Emotion Review* 8, no. 3, (2016): 240–249.

Maldiney, Henri. *L'art, l'éclair de l'être*. Paris: Comp'Act, 1993.

— *Penser l'homme et la folie*. Grenoble: Millon, 1991.

Merleau-Ponty, Maurice. *Parcours deux, 1951–1961*. Edited by Jacques Prunair. Lagrasse: Verdier, 2000.

Rimé, Bernard, Pierre Philippot, Stefano Boca, and Batja Mesquita. “Long Lasting Cognitive and Social Consequences of Emotion: Social Sharing and Rumination.” *European Review of Social Psychology* 3, no. 1 (January 1992): 225–258.

Scheler, Max. *Mort et survie*. Translated by Maurice Dupuy. Paris: Aubier, 1952.

— *L'homme du ressentiment*. Paris: Gallilé, 1970.

Weil, Simone. *Attente de Dieu*. Paris: Fayard, 1966.

Wittgenstein, Ludwig. *Tractatus logico-philosophicus*. Translated by Gilles Gaston Granger. Paris: Gallilé, 1993.

First Person Methodologies-Micro-phenomenology:

Ataria, Yochai. “Traumatic Memories as Black Holes: A Qualitative-Phenomenological Approach.” *Qualitative Psychology* 1, no. 2 (2014): 123–140.

Depraz, Natalie, Francisco J. Varela, and Pierre Vermersch, eds., *On Becoming Aware. A Pragmatics of Experiencing*. Amsterdam: John Benjamins Press, 2003; French version: Depraz, Natalie, Francisco J. Varela, and Pierre Vermersch, eds., *A l'Épreuve de l'Expérience: Pour une Pratique Phénoménologique*. Bucarest: Zeta Books, 2011.

Depraz, Natalie, ed., *1^{ère}, 2^{ème}, 3^{ème} personne*. Bucarest: Zeta Books, 2014.

Depraz, Natalie and Thomas Desmidt, “Cardiophénoménologie”, in *Cahiers Philosophiques de Strasbourg*, no. 38 (2015): 47–85.

Depraz, Natalie, Maria Gyemant, and Thomas Desmidt, “First Person Data Analysis: a Generative Method Using Third Person Data. Surprise and Depression: a Case Study,” *Journal of Constructivist Foundations* 12, no. 2 (2017).

Depraz, Natalie and Thomas Desmidt. “Cardiophenomenology: a Refinement of Neurophenomenology.” *Phenomenology and the Cognitive Sciences*, 2018 (forthcoming).

Desmidt, Thomas, Maël Lemoine, Catherine Belzung, and Natalie Depraz. “The Temporal Dynamics of Emotional Emergence.” *Phenomenology and Cognitive Sciences* 13, Issue 4 (2014): 557–578.

Glaser, Arney, and Anselm Strauss. *The Discovery of Grounded Theory: Strategies for Qualitative Research*. New York: Aldine de Gruyter, 1967.

Lutz, Antoine, Jean-Philippe Lachaux, Jacques Martinerie, and Francisco J. Varela. “Guiding the Study of Brain Dynamics by Using First-Person Data: Synchrony Patterns Correlate with Ongoing Conscious States During a Simple Visual Task.” *Proceedings of the National Academy of Sciences* 99, no. 3 (March 2002): 1586–1591.

Moustakas, Clark. *Phenomenological Research Methods*. Thousand Oaks-London-New Delhi: Sage, 1994.

Petitmengin, Claire, ed. *Ten Years of Viewing from Within: The Legacy of Francisco Varela*. Imprint Academic 2009.

Petitmengin, Claire, and Jean-Philippe Lachaux. “Les sciences microcognitives: un pont entre les dynamiques expérientielle et neuronales.” In *1^{ère}, 2^{ème}, 3^{ème} personne*, edited by Natalie Depraz, 291–307. Bucarest: Zeta books, 2014.

Somer, Eli, and Yochai Ataria. "Adverse Outcome of Continuous Traumatic Stress: A Qualitative Inquiry." *International Journal of Stress Management* 22, no. 3 (2014): 287–305.

Varela, Francisco. "Neurophenomenology: A Methodological Remedy to the Hard Problem." *Journal of Consciousness Studies* 3, no. 4 (1996): 330–50?

Varela, Francisco and Jonathan Shear, eds., *The View from Within: First-Person Approaches to the Study of Consciousness*. Imprint Academic, 1999.

Vermersch, Pierre. *L'entretien d'explicitation en formation initiale et continue*. Paris: ESF, 1994/2014.
— *Explicitation et phénoménologie*. Paris: PUF, 2012.