Body-Disownership—Concluding Remarks

Severe and ongoing trauma is marked by the collapse of the most basic structure that makes us human—our dual existence as both subject and object. This collapse can lead to the development of a destructive mechanism, defined in this book as body-disownership: One identifies the body as one's enemy. This mechanism, in turn, constitutes the nucleus of complex posttraumatic symptoms.

Ordinarily, an equilibrium of sorts exists between the lived-body and dead-body, yet in extreme cases, this balance is violated. For example, during a trance induced by the use of hallucinatory drugs, the boundaries dissolve, and the individual's presence in-the-world becomes more diffuse. In such a state, we are present in-the-world through the lived-body and feel more strongly that we *belong* to the world, or simply, *at-home*. In contrast, when we find ourselves in more difficult circumstances, such as when we are ill, our feelings of the body-as-object become stronger; we feel more alienated and less *at-home*. As this subject–object equilibrium begins to shift toward body-as-object, we begin to relate to our body as another object in our environment. In a certain sense, we cease to feel our body from within (1PP) and begin to relate to it from the outside (3PP) at the body-image level.

Extreme cases of severe and ongoing trauma are marked by a disruption in the balance between body-as-subject and body-as-object. Under such circumstances, the victim's SBO weakens. Consequently, victims

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experience the world indirectly, as though they themselves are not the one experiencing the event. This dissociative mechanism that should protect the victim during trauma; indeed, in many cases—even in the most difficult situations—it does just that. Yet, in certain circumstances, the very mechanism which should help us during trauma actually causes collapse and harsh results over the long term.

This book has attempted to define the dissociative mechanism in terms of the relations between sense of body-ownership (SBO) and sense of agency (SA). While SA $\approx$ SBO, the dissociative mechanism remains intact and functioning. However, as the SA:SBO ratio approaches either zero or infinity, the dissociative mechanism ceases to function, resulting in disintegration. The very nature of the dissociative mechanism causes us to relate to our body-as-an-object, and therefore, its long-term results can be devastating. Although relating to the body-as-an-object can serve as a defense mechanism, it exacts a heavy price. When the trauma is ongoing, and particularly when the victim is dependent on the victimizer (as in the case of captivity or incest), being cut off from the body-as-subject and relating to the body-as-object can lead the victim to adopt the victimizer's perspective. Victims treat themselves just as their victimizer related to them. To rephrase this notion in cognitive terms: At the body-image level victims of trauma type II (sometimes) internalize the notion that they are worthless and warrant contempt, even believing that they are simply *getting what they deserve*. Note that this at least provides a logical, yet distorted, explanation for the process. If this mechanism becomes fixed, in the long-term the body is treated as *something* despicable, an object that must be destroyed.

Concurrent with impairment at the body-image level, another more destructive process occurs. Relating to the body-as-an-object during trauma does not revoke the existence of the body-as-subject. Hence, despite the supposed separation, the body-as-subject continues to be present during the trauma; indeed, it is thus the body-as-subject that enables us to perceive the world by means of sensorimotor laws connecting between movement, expectation, and sensations. As the trauma continues, the victim creates new perceptual circuits at the body-schema level to facilitate survival and continued functioning. In particular, the victim's expectations change dramatically. In the short-term, this again serves as a defense mechanism of sorts, allowing the victim to function. Yet in the long term, the changes in these circuits and the concomitant

alterations in expectations transform the trauma victim's presence in-the-world into a state of ongoing suffering. Thus, individuals who claim that the world is unbearable are in effect describing their bodily experience of being-in-the-world. Indeed, the descriptions of vague and unpleasant sensations that are so common to Complex post-traumatic stress disorder (C-PTSD) are nothing more than attempts to describe the tremendous task of simply being present in-the-world through the body due to profound damage at the body-schema level. For the victims of such radical trauma, the body has become strange and alien. They are no longer able to feel a sense of belonging, to feel *at-home* within the world. Indeed, as a result of impairment at the body-schema level, the victim lives in a foreign and alien body trapped in a hostile and frightening world, which are in essence two sides of the same coin. Impairment of this type can ultimately lead to C-PTSD.

The strong link between severe trauma, dissociation, SIB, and complex posttraumatic symptoms suggested in this book is certainly plausible. Severe trauma can cause fundamental damage, making it impossible for the survivor to continue being-in-the-world at the body-schema level. Due to this destruction of the living-body, the victim can no longer feel *at-home* within the world. Indeed, C-PTSD can be defined as a condition in which the body becomes an IT. The survivor can no longer exist at the level of the living-body or the body-schema, and as a result can no longer be-in-the-world: The world has become inaccessible. Instead, the survivor exists at the level of the body-as-object or body-image. The unbridgeable gap that ultimately emerges between body-as-subject and body-as-object can lead to the development of body-disownership. To be more precise, trauma survivors who have developed C-PTSD feel a sense of non-belonging. In practice, this means that they exist at the body-image level, while their traumatic memories are located at the body-schema level. These bodily memories threaten the survivor. Hence, to avoid their bodily traumatic memories, survivors must avoid their body-schema, causing an unbearable discrepancy between body-schema and body-image; the body-schema in effect becomes the enemy of the body-image, just as the EP is the enemy of the apparently normal personality (ANP). In turn, when body-schema and body-image clash, body-disownership can arise, leading one to identify the body as the enemy. This is the destructive mechanism that constitutes the nucleus of C-PTSD.

Appendices

Appendix 1: Some Methodological Issues

Scientific work must be supported by valid data. Chapter 2 of this book is philosophical in nature and Chapters 3 and 4 rely mainly on experimental studies. However, in Chapter 5 the use of such data is simply not feasible: in the case of severe and ongoing trauma, it is simply impossible to rely on hard evidence. Clearly, we cannot examine trauma while it is occurring. To do so would be unethical. The problem becomes even more difficult when we realize that severe traumatic experiences are characterized by dissociative reactions.

Any introspective technique involves inherent problems. In order to pin down this notion let us focus on the Peritraumatic Dissociative Experiences Questionnaire (PDEQ) as a representative example. The PDEQ is "the most widely used measure of peritraumatic dissociation" (Brooks, et al., 2009, p. 154). It measures phenomena that occur during traumatic events, such as blanking out, feeling like one is on automatic pilot, time distortion, derealization, depersonalization, confusion, reduced awareness and amnesia. Yet obviously ten closed questions ranked on a scale from 1—"not at all true" to 5—"extremely true" cannot fully describe the subjective experience during trauma. In fact, it seems that we cannot even distinguish questionnaires completed by a traumatized individual from those filled in by someone using psychedelic

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drugs such as Ayahuasca. Thus we must ask what the PDEQ can really tell us about subjective experience during the traumatic event. Based on the following three main reasons, we contend that the PDEQ can tell us almost nothing:

(a) Although the PDEQ can serve as a reliable indicator that some kind of dissociative experience occurred (Steinberg, 2004), whether it provides information about the past (peri-traumatic dissociation) or the present moment (symptoms in the present) is open to argument: "recollections of peritraumatic reactions are often inconsistent over time and are potentially biased by current symptoms" (Bedard-Gilligan & Zoellner, 2012, p. 279). While it may seem that this comment is applicable to any kind of questionnaire, this remark is very specific. It raises doubts about the ability of individuals currently suffering from PTSD and other dissociative symptoms to reflect introspectively on their own experience during the trauma.
(b) Individuals with PTSD and other dissociative symptoms "say that they feel locked into the past" (Ehlers & Clark, 2000, p. 334). In other words, they cannot distinguish between the present and the past moment. For them, past and present are mixed up. Under these circumstances their introspective ability is damaged.
(c) In the case of peritraumatic dissociation, a traumatic event sometimes remains outside the autobiographical self. Indeed, "in persistent PTSD one of the main problems is that the trauma memory is poorly elaborated and inadequately integrated into its context in time, place, subsequent and previous information and other autobiographical memories" (Ehlers & Clark, 2000, p. 325). Clearly the survivor is not capable of introspectively examining the traumatic experience so easily.

Thus it appears that as a scientific method, introspection presents serious problems, at the very least in the case of severe and ongoing trauma accompanied by a strong dissociative reaction. Clearly, the inability of a traumatized subject who has developed PTSD and other dissociative symptoms to look introspectively at the traumatic event is not exclusive to the PDEQ. To tackle this problem, in this study we embrace the phenomenological approach. Indeed, in this study the phenomenological approach is both a philosophical stance and a pragmatic

methodological tool. Let us clarify what makes the phenomenological approach such a useful methodological tool in the study of trauma.

During perception, the body becomes transparent. We feel as if we are seeing the "real world." Yet, in fact, "perception is indirect—bodily" (Richardson, 2013, p. 134), so that we perceive the world through the body. This is not to say what we perceive is our body (Gallagher, 2003); rather, in Sartre's words, "the body is lived and not known" (1956, p. 324). The phenomenological method seeks to describe the lived bodily experience (Husserl, 1936/1970). This phenomenological reduction—what Husserl refers to as Epoché or "bracketing," a suspension of judgment about the "natural world" and a return to things themselves—requires the redrawing of old beliefs, conceptions, and opinions (Gallagher & Sørensen, 2006). In addition, it emphasizes not goals themselves but the processes that enable the achievement of such goals. The method focuses on *how* (the pre-reflective level) rather than on *why* and, in so doing, can "bring a person, who may not even have been trained, to become aware of his or her subjective experience, and describe it with great precision" (Petitmengin, 2006, p. 229). Furthermore, it allows us to get closer to the lived and subjective experience in general (Depraz, Varela, & Vermersch, 2003) and in particular to the traumatic experience, which occurs at the bodily level and accordingly is "stored as sensory fragments without a coherent semantic component" (Van der Kolk & Fisler, 1995, p. 12).

Since in some cases the traumatic experience does not undergo tagging or labeling (high level cognitive processing) it remains non-contextual, "without semantic representations" (p. 8) and, consequently, outside the autobiographical self. If the traumatic experience is processed at the bodily level, it is necessary to apply a method that can reveal this bodily dimension of the experience—something accomplished naturally by phenomenology (Depraz et al., 2003; Petitmengin, 2006). Indeed, phenomenological description can provide an authentic portrayal of dissociation during trauma.

As we saw, due to the difficulties resulting from the nature of the peritraumatic dissociation experience, a survivor cannot reliably complete the PDEQ. How can one reflect upon past experience if this event is fragmented and outside the autobiographical self? Nevertheless, we contend that introspection can be achieved. The survivor can reflect upon traumatic experience by finding a way to reconstruct the traumatic event which was stored bodily, so that memories

of the traumatic event can be recovered, at least partially. The survivor requires trained guidance to avoid disrupting these memories. Without proper, non-intrusive guidance, in most cases introspection remains beyond the reach of the PDEQ as a representative tool, and indeed any kind of semi-structured interview. While the PDEQ provides no information whatsoever about the traumatic experience, the information gained in semi-structured interviews neither reflects nor reveals the real experience during trauma. Indeed, a test case makes evident the most serious problem regarding the "story" spontaneously related by the interviewee in a semi-structured interview: the Structured Clinical Interview for DSM-IV Dissociative Disorders (SCID-D). It has been argued that "although the SCID-D is not a trauma questionnaire, its ability to elicit spontaneous descriptions of trauma from patients without the use of leading or intrusive questions makes it a valuable instrument" (Hall & Steinberg, 1994, p. 112). However, at least in some cases, this spontaneous description conceals more than it reveals. Thus, it appears that patients suffering from persistent PTSD "often have difficulty in intentionally retrieving a complete memory of the traumatic event. Their intentional recall is fragmented and poorly organized, details may be missing and they have difficulty recalling the exact temporal order of events" (Ehlers & Clark, 2000, p. 324). Thus, even if the "spontaneous story" obtained in a semi-structured interview can tell us more about the experience during the traumatic events than the PDEQ—which reveals nothing about the subjective experience—nevertheless, due to the nature of traumatic experience, it is not effective for reasons that apply to any kind of interview focusing on *why* rather than *how*. Among these are:

(a) In many cases this "spontaneous story" is in fact a ready-made story. The tale has been told repeatedly on different occasions (family, friends, social services and more) and is repeated on "automatic pilot." When relating this story, the teller obviously withholds some, perhaps even most, of the details. *First*, in many cases it is difficult to reiterate the traumatic experience, because in so doing the teller experiences it again. *Second*, a survivor of trauma sometimes tries to protect surrounding society/family by not telling the whole story. *Third*, sadly in our society it is only natural to feel ashamed and hence not relate the entire story.

Finally, one may be afraid of over-exposure. With these factors in mind, clearly this "spontaneous story" is at best only partial.

(b) We are autobiographical creatures. That is, our stories define us (Damásio, 1999) and, in many cases, the story of traumatic events is simply too difficult to handle. In such cases one constructs a story that one can bear. Thus it is possible that the "spontaneous story" works as a defense mechanism for the autobiographical self.

(c) In some cases the traumatic experience is stored bodily and not conceptually (Van der Kolk & Fisler, 1995). For this reason, the "spontaneous story" is merely part of the whole story. In other words, when one is asked to tell one's story, or when doing so "spontaneously," one is usually not aware of the bodily level of experience. Indeed, survivors are "often unaware of gaps in their memory until their recollections were elicited in great detail in the course of the interview" (Brewin, 2007, p. 230).

Thus we contend that in order to reveal the bodily level of experience and consequently reconstruct the memory of the traumatic experience step by step, the survivor needs guidance. This process obviously requires appropriate caution. Even though "people can be led to mistakenly recall entire experiences through misleading interviews" (Porter & Peace, 2007, p. 435), we should not be afraid of asking what Hall and Steinberg (1994) call *leading questions*. By asking *how* and avoiding *why*, it is possible to guide the traumatized individual, without interfering with the content of the story.

The phenomenological approach is especially suited to reconstructing traumatic experiences due to two unique factors: (1) In the case of survivors who have developed PTSD, the future dimension disappears, leaving the survivor in the moment of trauma and causing the traumatic experiences to persist "in subjects' memories, remaining highly consistent years after their occurrence" (Porter & Peace, 2007, p. 439). (2) Because the trauma is experienced and stored bodily (resulting in flashbacks), in some cases survivors can at least partially reconstruct and repair their traumatic memories. These two factors can together explain why a person who is incapable of completing introspective questionnaires or semi-structured interviews in a reliable manner may, with the application of the right techniques, be able to respond reliably and consistently to *how* questions posed by an experienced interviewer.

All in all, Epoché appears to offer the most adequate, though obviously not the only, way to examine this radical experience. Epoché enables us to describe the pre-reflective dimension of existence: to (a) describe explicitly the bodily dimension during the traumatic event; (b) distinguish between dissociation in the present and dissociation during the traumatic event; (c) classify the dissociative experience during the traumatic event; and (d) eventually turn the non-contextual experience into a contextual and accessible experience. Using this method, it may be possible, at least to some extent, to identify the characteristics of the traumatic experience. Indeed, Chapter 5 uses the phenomenological approach as a methodological tool, with regard to both victims of terror attacks and prisoners of war.

With this in mind, we must now ask: "But *what about Amery*?" Indeed, Améry's description was employed in the last section of Chapter 5. In order to understand the distractive mechanism that develops during severe trauma, we must find a way to penetrate the subjective experience. Yet the traumatic experience transcends words, as is demonstrated by the following two factors:

- The events taking place at the time of the trauma are encoded in a way that is "inaccessible" to language. The trauma is encoded at the physical level, and its factors do not undergo high-level processing, leaving them outside the realm of speech.
- Trauma occurs at the level of language and therefore language itself has been traumatized. Hence the traumatic subject is unable to continue using "old" and "familiar" words, because these words have become foreign, leaving the subject forced to invent an entirely new language.

Due to this "foreignness" of and within the language, the traumatic event often remains outside the boundaries of the individual's narrative, outside the autobiographical self. Even when victims "speak the trauma," their story remains foreign to them, not only because of its content but also, indeed mainly, because the words themselves have become a strange entity to survivors. While bearing this in mind, let us now return to Améry's writing.

Améry (1980) remains faithful to his bodily experience. He does not use empty words but instead creates a new language rooted within the void. Thus, a close reading of Améry reveals that he created an even

more complex world of physical metaphors which allowed him to express the physical experience while being tortured. He understood the limitations of language in describing the experience and remained within the boundaries of the describable without resorting to descriptions full of pathos which conceal more than they reveal. For this reason, we chose to rely on Améry's descriptions (for an in-depth discussion see Ataria, 2017).[1]

Appendix 2: The Phenomenology of Somatoparaphrenia

The following examples are taken from interviews conducted with five patients (Invernizzi, et al., 2013, pp. 148–149 [Appendix]):

[1]As noted, Chapter 6 examines the consequences of trauma and not the traumatic experience itself. Thus in that chapter we relied upon introspective testimonies. Indeed, most of the testimonies in Chapter 6 describe situations occurring in the present rather than those that took place years ago. We noted that the advantages of the phenomenological approach are particularly applicable to past traumatic incidents and less to processes occurring in the present. Despite this clear deviation from the phenomenological approach, we did not find any in-depth phenomenological research on self-injury. Therefore, we used existing data while noting the obvious limitations.

Interview (E = examiner; P = patient)	*Interpretation*
E: Close your eyes and tell me if you feel when I'm touching your hand. P: That's not my hand!! E: What's the problem with it? P: *It's not mine.* I've already told this to the other doctor. Someone left it here. I don't know who he was. E: What did the doctor tell you? P: He asked me whose hand was this one, but *I don't know who attached it to my body.* E: Can you move this hand? P: *No, it does not move.* E: Isn't it a little bit weird to have a foreign hand with you? P: No! *My hand is not like this!* This is shorter, plus, *it does nothing*!! E: What is this hand doing here with you? P: Nothing. *It does not move. It does nothing.* A second experimenter enters the room and asks: Good morning C, can you repeat your problem for me? Whose hand is this? P: I've already explained it. *The problem is that this hand that cannot move is not mine.* It's not like mine. E: Raise your arms up, like me. Are you doing what I'm doing? P: No, I'm raising the right arm only! E: Can you show me how you clap your hands? P: *I cannot, this hand does not move. But it is not mine.* You can take it away.	This patient complains that his affected hand does nothing. Thus, he is sure that his real hand, not the one now attached to him, is functioning perfectly. The affected hand, however, does not function and hence, according to pure logic, it cannot be his own hand. This patient has lost the ability to control his hand, yet denies this fact and instead has developed an explanation according to which the affected hand simply cannot be his own. Surely, he believes, if the hand attached to his body were his own limb, he would be able to control it. The sense of disownership in this case ensues due to denial of the loss of SA and not, so it seems, due to a lack of SBO. Thus, the fact that sense of limb-ownership has not been damaged is responsible for C's difficulty in accepting his new situation. This patient's sense of belief is so strong that it even allows him to look at his own hand and see it as shorter. We can see how the patient's feelings are stronger than knowledge. It thus seems that C suffers from two different kinds of deficits—while the first (cognitive and neuronal) deficiency is associated with the loss of SA, the second is associated with C's ability to retain his delusional beliefs despite clear-cut evidence.

(continued)

Interview (E = examiner; P = patient)	*Interpretation*
E: What is this? P: It *could* be my hand. E: Could? Whose hand is this? P: Mine or yours. It's a female hand. *It belongs to the nurse…* but it's wearing my pajamas… it's strange.	When discussing his affected hand, GB uses the word "could." This word perfectly represents the inherent paradox GB is facing: the tension between what GB *knows* and what he *feels*. Indeed, when GB is asked directly whether the hand "is … attached to your body or not?" his answer once again reveals the tension between what he *knows* and what he *feels*: *P: No. I don't know*. If GB had simply replied negatively, this would not be a problem, yet he adds the words "*I don't know.*" Evidently on some level GB *knows* that the thesis he is attempting to construct is somewhat problematic.
The examiner moves the pajamas out of GB's line of vision and says: Whose hand is this? GB touches the hand and says: I don't know. I can feel if you pinch the right one, but when I pinch that hand I can't feel I'm pinching. Obviously, *it's not mine. It's yours.* E: Where is your real hand? P: Here on the bed. E: If this hand isn't yours, can I take it away with me? P: Of course! If you want it, I will give it to you as my gift, since I have no need for it. *It doesn't work.* Maybe you'll be able to get it to work. E: Are you sad about having that hand with you? P: Yes, a bit. I would like to understand why *it does not move or work like the right one*. E: Do you want to move this hand away? Wouldn't you be sad without it? P*: Yes, if it was mine, but it's not.* E: Would you prefer that this hand was not so close to your body? P: Yes, because *it's not mine*, *it doesn't look like mine. My hand is more thin and dry*. E: Look at this hand, is it attached to your body or not? P: No. I don't know… I do not feel it. E: The nurses told us you woke up last night and called them. Why? P: Because there was this hand here and I thought that *Nadia forgot it* and I wanted to give it back to her. She cannot work without it. Poor Nadia. E: Show me how you can clap your hands. P: *Impossible. Let's try… No, I'm not doing* it right, can't you see? I can make noise but *I'm not really clapping*. E: Look at me and do the same. Raise your hand. P: It's the same. *I'm raising only my right arm, the good one.*	GB strongly believes that the affected hand is not his own, a belief so strong that it has distorted (top-down) the way he views his affected hand—*It's a female hand… it's not mine*, *it doesn't look like mine. My hand is more thin and dry.* GB has lost SA towards the affected hand as is reflected in his answer to the doctor: *It's not mine. It's yours… I have no need for it. It doesn't work… it does not move or work like the right one.* In thus describing his experience, he is in effect saying that he has lost control over the affected hand. Note the following paradox, however: If it is a women's hand (*It belongs to the nurse—Nadia*) it could not be the doctor's hand. This indicates strong top-down influences. Ordinarily, cognitive processes (both bottom-up and top-down) provide reciprocal feedback, which generates balance and enables us to operate in reality. The fact that the subject is less sensitive to information entering from the world (bottom-up) testifies to the power of the top-down processes that enable him to disregard changing information coming from the world. The subject is not really concerned whether this is a woman's hand or a man's hand. Thus the subject is driven mainly by his new set of beliefs, enabling him to disregard information coming from the outside (bottom-up). So long as the subject can disregard bottom-up information, he can easily retain these false beliefs. This is a vicious circle that reinforces itself. GB's sense of disownership arises due to his denial of the loss of SA towards the affected limb. This denial becomes unbearable precisely because the sense of limb-ownership has not collapsed—at least not completely. In other words, disownership is the result of a conflict between one's set of beliefs and reality itself, that is, between top-down processes and bottom-up processes.

(continued)

Interview (E = examiner; P = patient)	*Interpretation*
E: Why are you here? P: I had a stroke. E: How are you now? All right? P: No, *I can't move this arm.* E: Your left arm? P: Yes, but the same is true for my left leg. *The entire left side of my body is paralyzed.* Do you think I will ever be better? *I don't think I will be able to move them anymore.* E: Try to put your arms up like this. P: *That hand does not move.* The examiner brings MA's left hand in front of his face. E: What is this thing in front of you? P: A hand. E: Whose hand is this? P: *Yours!* E: Mine? Are you sure? P: Yes sure, whose hand is it supposed to be? E: And where is your left hand? P: On my stomach. Can't you see? E: So this hand isn't yours. P: No, my hand is on my stomach and cannot move. E: Whose hand could this one be? P: *Yours of course. Are you joking? Why should it be mine? My hand is different, not so heavy and it's not there, I always keep it on my stomach.* E: This is my right arm and this is the left. It couldn't be mine. P: Then maybe it's the doctor's hand. He surely needs it. Call him.	MA serves as a perfect example of a strong sense of denial. MA's sense of belief is so strong that he denies any association with the affected limb/side. This belief allows MA to twist reality completely—he describes his affected hand as resting on his stomach while the doctor moves it in front of his face. This example reveals that disownership is rooted in a sense of belief so strong that it allows the subject to twist reality completely. The subject cannot accept his situation and creates an alternative reality in which the hand attached to him could be someone else's limb. This can also be expressed in another way. The subject develops disownership because of what he does not know he knows, or more accurately, because of what he knows that he does not want to know. The subject knows that he will always be paralyzed: *I don't think I will be able to move them anymore.* Yet he prefers not to know this information. This leads to the development of a whole set of beliefs based on the desire not to know what he knows. Indeed, the information pursues him, much like traumatic memory, and also manages him, leading to the creation of a new world based upon the denial of reality.

(continued)

Interview (E = examiner; P = patient)	*Interpretation*
E: How are you, Miss S? P: Not fine, *it does not work.* E: What does not work? P: This arm (she touches her left hand), *it does not move, it does not obey.* E: I understand, but if I touch you there, can you feel it? P: *Yes, I do not know why but it does not obey.* E: Why are you here? P: For a stroke. E: Try to place your arms like this, as if you were holding up a tray. She raises her right arm. E: Can you do that? P: *No, the other hand (the left) is not working, it does not obey!!* E: What's that? P: A hand of course. E: Whose hand is it? P: *I do not know.* E: Don't you know? Whose hand could it be? P: *Surely, it is not mine. Take it away.* E: If it is not yours, whose hand is it? P: *Someone working here examined me before and hid his hand in my bed as a joke! Give it back!* What a joke!! I would prefer my hand; this one is too fat and puffy! E: Where is your real hand? P: I suppose *he took my hand away and gave me this bad one!* Go ask him!	Clearly, Miss S has lost her SA towards the affected hand (*it does not obey*). She identifies her left hand, yet she is sure that it is not her hand. In addition, Miss S is very clear that she wishes the doctor would take away her left hand (*Surely, it is not mine. Take it away*). Thus it becomes apparent that disownership, in this case at least, is accompanied by a feeling that the subject needs to dispose of the disowned hand. The story of Miss S is clearly not rational (E: If it is not yours, whose hand is it? P: *Someone working here examined me before and hid his hand in my bed as a joke!* … E: Where is your real hand? P: I suppose *he took my hand away and gave me this bad one!* Go ask him!). Indeed, this reveals that disownership is accompanied by a strong belief that the hand is not one's own, a belief that exceeds knowledge and logical thinking. Denial of the loss of SA creates a new kind of logic that distorts reality.

(continued)

Interview (E = examiner; P = patient)	*Interpretation*
E: Hi, Mr. C, why are you here in this hospital? P: I had a stroke while I was on holiday. E: What are your problems now? P: The main problem is with the entire left side of my body. *I cannot feel it or move it anymore.* E: Mr. C., look at this. What is this? P: *Your hand.* E: My hand? Are you sure? P: Yes, of course. *It couldn't be mine.* E: Why? P: It looks more well-groomed than mine. E: From zero to ten, how sure are you that this is not your hand? P: Ten. E: How sure are you that it is mine? P: Nine and a half. E: (after placing his left hand near the patient's hand): Can you choose your own hand among these hands? P: *They are both yours.* E: (after placing both his right and left hands near CP's hand). And now? P: They are yours. E: All three of them? P: Yes. E: Don't you think there are too many hands for me? P: (smiling at the examiner). You are a polyp!	Mr. C portrays disownership accompanied by a strong sense of belief that allows him to deny reality and construct an impossible situation: his hand is in fact the doctor's hand. In this new reality, the doctor can have three hands. On some level, however, Mr. C is aware of the improbability of this theory. Yet even when confronting this problem directly, he does not abandon his story. The general conclusion here is particularly important. At the core of the disownership mechanism is a system that specializes in denying reality and in creating a top-down alternative that is not dependent upon information arriving from the bottom up.

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