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Self across time: the diachronic unity of bodily existence

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Abstract The debate on personal persistence has been characterized by a dichotomy which is due to its still Cartesian framwork: On the one side we find proponents of *psychological continuity* who connect, in Locke's tradition, the persistence of the person with the constancy of the first-person perspective in retrospection. On the other side, proponents of a *biological approach* take diachronic identity to consist in the continuity of the organism as the carrier of personal existence from a third-person-perspective. Thus, what accounts for someone's persistence over time, is the continuity of his mind on the one hand, and the continuity of his body on the other. In contrast to those views, the paper intends to show that bodily existence represents the basis of selfhood across time, both as the continuity of the experiential self and as the continuity of the autopoietic organism. On the one hand, the lived body conveys a continuity of the self from a first-person perspective, namely a pre-reflective *feeling* of sameness or a felt constancy of subjectivity. Moreover, an analysis of awakening and sleep shows that there is a continuous transition from full wakefulness to periods of deep sleep which may thus not be regarded as a complete interruption of subjective experience. On the other hand, this constancy converges with the continuity of the organismic life process as conceived from a third-person perspective. Thus, the experiential self of bodily subjectivity and the autopoietic self of the living organism should be regarded as two aspects of one and the same life process. Finally, the lived body also exhibits a specific form of memory that results from the continual embodiment of existence: it consists of all the affinities, capacities and experiences, which a person has acquired throughout his life. Thus, it provides a continuity of self that must not be actively produced through remembering, but rather integrates the person's entire past in his present being and potentiality.

Keywords Identity · Selfhood · Self-familiarity · Persistence · Life-mind continuity · Body memory

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1 Introduction

Since the modern era, concepts of the self and the person have been influenced by the growing separation of the subject from bodily existence and aliveness. The Aristotelian–Scholastic conception of the unity of mind and body loses its power of persuasion. The new, rationalistic concept of the person in Descartes and even more in Locke is primarily bound to self-consciousness, deliberation and reasonable reflection in the first place. No longer embedded in bodily existence, the Cartesian ego exists only as long as it thinks, or remains conscious of itself: "*mens semper cogitat*".[1] But what does the *res cogitans* do when it is not thinking and is to abandon itself to life, the lived body and to sleep? Strictly speaking, a disembodied mind permits no "pauses" in thinking: "I am, I exist—that is certain. But for how long? For as long as I am thinking. But perhaps no longer than that; for it might be that if I stopped thinking I would stop existing."[2] Consequently, Descartes postulated that the mind is continuously conscious even in dreamless sleep, albeit without any memory traces of this having formed in the brain.[3]

In this respect, we confront the key problem of today's discourse on "personal persistence". Without being anchored in bodily existence, the continuity of the subject becomes precarious. Sleep is not the foremost cause of the problem of whether I am still the same person tomorrow. For even conscious self-observation is not enough to gain sufficient self-assurance, that means, a *feeling* of self-continuity. This is evident from conditions of depersonalization in schizophrenia in which the basic feeling of aliveness and self-affection are diminished or missing.[4] Then, patients try in vain to compensate the lacking feeling of being alive by continuous self-reflection, as occurs in the following case:

> "If a thought passed quickly through his brain… he was forced to direct back his attention and scrutinize his mind in order to know exactly what he had been thinking. In one word, he is preoccupied by the continuity of his thinking. He fears that he may stop thinking for a while, that there might have been 'a time when my imagination had been arrested'… He wakes up one night and asks himself: 'Am I thinking? Since there is nothing that can prove that I am thinking, I cannot know whether I exist'."[5]

One should think that for a Cartesian subject no problem should arise as long as thinking goes on. But on the mere cognitive level, the patient's compulsive self-observation obviously conveys no felt sense and certainty of his self. The experienced unity and preservation of the self are then jeopardized by every non-attention, and all

[1] "It seems necessary that the mind actually always thinks; for thinking constitutes its essence" *("Necessarium videtur, ut mens semper actu cogitet; quia cogitatio constituit eius essentiam.")*. Descartes, Letter to Arnauld, June 4, 1648 (Descartes 1996, Vol. V, p. 193).

[2] Descartes, Second Meditation, 6 (Descartes 2010a, p. 4).

[3] Descartes, Objections to the Meditations and Descartes's Replies. 5th Objections (Descartes 2010b, p. 92).

[4] Cf. Sass and Parnas 2003; Stanghellini 2004; Fuchs 2005, 2010a. The notions of aliveness and self-affection will be explained in detail below.

[5] Hesnard, A.-L. M. (1909) Les troubles de la personnalité dans les états d'asthénie psychique. Etude de psychologie clinique. Thèse de médecine. Bordeaux, France: Université de Bordeaux; quoted from Parnas and Handest (2003).

the more by every interruption to individual consciousness. Locke had already identified this as a predicament of the Cartesian subject:

> "But that which seems to make the difficulty is this, that this consciousness being interrupted always by forgetfulness (…) and we sometimes, and that the greatest part of our lives, not reflecting on our past selves, being intent on our present thoughts, and in sound sleep having no thoughts at all (…) – doubts are raised whether we are the same thinking thing, i.e. the same substance or no" (Locke, Essay, book II, ch. XXVII, § 10; cf. Locke 2006, p. 420).

But Locke's proposal of connecting a person's continuity not with any carrier substance, but with the conscious memory of earlier personal experiences again offers a merely cognitive continuity. This might be sufficient for a metaphysical notion of the person, but it suggests no way out for depersonalized schizophrenic patients who feel fragmented in time despite having adequate memories at their disposal, as in the following case:

> "I feel as parts of a whole person, but never at the same time. It is difficult to explain (…) I constantly have to ask myself 'who am I really?' (…) Most of the time, I have this very strange thing: I watch myself closely, like, how am I doing now and where are the 'parts' (…) I think about that so much that I get to nothing else. It is not easy when you change from day to day. As if you were a totally different person all of a sudden" (de Haan and Fuchs 2010, 329).

Every morning the latter patient attempted to reconstruct exactly what he had done the day before to be sure that he was still the same person. Yet he could never attain complete certainty, in the end musing about whether at some time he had not previously been replaced by a different person. Other schizophrenic patients present similar complaints:

> "Time is also running in a strange way. It falls apart and progresses no longer. There arise only innumerable dissociated now, now, now—quite crazy and without rules or order. It is the same with myself. From moment to moment, various 'selves' arise and disappear entirely at random. There is no connection between my present ego and the one before."[6]

> "You are dying from moment to moment and living from moment to moment, and you're different each time" (Chapman 1966).

Patients' memories are generally intact, and on a mere cognitive level, they are able to correctly attribute their past experiences to themselves.[7] Without a more basic continuity of affective self-experience, however, the explicit memory clearly

[6] Description given by a female schizophrenic patient of Bin Kimura (In: Psychopathology of self-awareness, Tokyo 1978, p. 18; quoted from Kobayashi 1998, p. 114).

[7] Though schizophrenia patients show an impoverishment of specific episodic memories (Riutort et al. 2003; McLeod et al. 2006), there is no actual loss or distortion of autobiographical memory.

communicates no reliable experience of identity. So what is it that conveys the sense of one's own unity and permanence over time?

2 The dilemma of persistence

The current debate on personal persistence is characterized by a fundamental dichotomy which reflects its Cartesian basis: On the one side we find proponents of *psychological continuity* who connect, in Locke's tradition, the persistence of the person with the constancy of the first-person perspective in retrospection (Garrett 1998; Lewis 1976; Parfit 1971, 1976, Shoemaker 1970, 1999; Shoemaker and Swinburne 1984).[8] On the other side, proponents of a *physical or biological approach* look at diachronic identity from a third-person perspective, taking it to consist in the continuity of the organism as the carrier of personal existence (for example, Carter 1989; van Inwagen 1990; Mackie 1999; Olson 1997). Thus, what accounts for someone's persistence over time, is the continuity of his mind on the one hand, and the continuity of his body on the other. Both positions are confronted with severe problems, however, which partially lead to rather counterintuitive consequences. Let us look at them in more detail.

According to the advocates of *psychological or mental continuity*, this consists in causal and cognitive connections between memories, beliefs, intentions, desires and volitions appertaining to a unified consciousness – in Locke's original formulation:

> "… in this [i.e. consciousness] alone consists personal identity, i.e. the sameness of a rational being: and as far as this consciousness can be extended backwards to any past action or thought, so far reaches the identity of that person" (Locke, l.c., § 9).

> „… yet it is plain, consciousness, as far as ever it can be extended (…) unites existences, and actions, very remote in time, into the same person, as well as it does the existences and actions of the immediately preceding moment: so that whatever has the consciousness of present and past actions, is the same person to whom they both belong (…) That with which the *consciousness* of this present thinking thing can join itself, makes the same *person,* and is one *self* with it, and with nothing else" (Locke, l.c., §§ 16/17).

Although there are some questions on how these passages should be interpreted ,[9] they have usually been taken to mean that retrospection and memory span the decisive bridge: the diachronic unity of the person is bound to the potential act of explicit remembering (Shoemaker and Swinburne 1984; Noonan 1989). However, a vicious circle is lurking in Locke's account which Butler (1736) and Reid (1785) have already

[8] Similar views are also common in psychology (see for example Fivush and Haden 2003; Sani 2008).

[9] Strawson (2011) has argued extensively for an interpretation according to which Locke in fact presupposes personal identity as being equal to the diachronic unity of consciousness. Its possible extension to the person's past mainly serves to identify the scope of self-concernment and forensic responsibility which may be attributed to the person (Strawson 2011, p. 10f., 23). Even if this interpretation may be adequate, the problem remains on which basis this unity of consciousness should be grounded. In any case, Locke has outlined the framework for the persistence problem as it is discussed until today.

criticized: In order to identify a memory as an experience *I* had, I have to know myself already. If memory thus presupposes my self-acquaintance, it cannot ground my identity (cf. Klein 2013). Even though solutions to this problem have been proposed, [10] it remains obvious that the self-continuity that we rely upon in our everyday life cannot be of a merely cognitive kind, but implies an *affective self-familiarity* – as also becomes manifest in the depersonalization cases mentioned above. Psychological connectedness may constitute a numerical identity of the conscious subject over time, but a diachronic identity of consciousness which is no longer *given to and experienced by the subject itself* would at best be an identity of sameness, not of selfhood.

Other problems arise. The traditional Aristotelian–Scholastic view involved connecting personal identity with the continuity of life, based on the assumption that the soul is equally the forming principle of the *organism* and the principle of *self-awareness*. Against this, Locke already invoked various thought experiments of imaginary translocations of consciousness to another body as, for example, when "the soul of a prince, carrying with it the consciousness of the prince's past life, enter and inform the body of a cobbler, as soon as deserted by his own soul, everyone sees he would be the same person with the prince, accountable only for the prince's actions" (l.c. § 15, p. 426). The person is no longer bound to a living body but a potentially free-floating subject capable of persisting in whatever vehicle.

Today's proponents of psychological persistence also refer to such thought experiments, for example, in the form of brain transplants, the transfer of all information stored in the brain into another brain or a computer, fictional duplications of a person with subsequent destruction of the initial person and other imaginary cases in which mental and bodily continuities diverge (Shoemaker 1963; Parfit 1984; Noonan 1989; Gallios 1998). They should highlight that consciousness can principally be decoupled from the living organism and transferred to other carrier systems whatsoever. Their common basis is one or the other variation of functionalism which regards the mind as a set of information instantiated either in the brain or in some other kind of hardware. There is no change to the basic Cartesian condition of defining consciousness as a disembodied inner world for which bodily existence and animate life are only an external condition, not the constitutive basis.

However, the counterintuitive outcome is that strictly speaking we can neither attribute states of sleep to ourselves nor our foetal period or our time as newborn infants. If human persons are only thinking, self-conscious beings, it follows that they must be so *in actuality*. Thus, I would never have been a foetus, and even the statement, "I was born in 1958", would be incorrect because I know nothing about this from my own experience. The external continuity of the human being that is called T. F. is not the continuity of the self-conscious being that I am. For on a Lockean account, the continuity of conscious life only exists *as consciousness of the continuity.* And following this precondition, a state of progressive dementia or sustained coma afflicting a person must

[10] For example by replacing memory with a new concept, "quasi-memory", which means a "retro-cognition" without the identity requirement (Shoemaker 1970).

Proponents of *narrative identity* also go beyond the criterion of memory by embedding episodic recollections in a more or less unitary biographical narrative and a self-concept gained from it (see for example Bruner 2003; Schechtman 1996). The narrative identity thus constructed allows to integrate one's own former states into an account of the self even when they are no longer directly accessible to memory. However, these theories are usually less interested in criteria of persistence in an ontological sense.

question his persistence as soon as he no longer has the capacity to remember his earlier experiences. If my identity has no basis in my bodily life, it will vanish as soon as I am unable to remember my earlier states and attribute them to myself.[11]

The Cartesian assumption that consciousness and selfhood are not a manifestation of organismic existence, but have a completely different ontology, has an even more irritating consequence. Not only it follows that we exist, as it were, a second time inside our living body (say, in the brain); what is more, if mental continuity is *necessary and sufficient* for our persistence, as the psychological approach claims, we could not even be human animals at all. The argument goes as follows (Olson 1997, 94 f.): Let us assume that a person lapses into a persistent vegatative state, losing all his psychological features, then *he* by definition would cease to exist, while his *organism* lives on. But if the person and the living being could thus be separated, the person *cannot be that living being.* However, since normally the organism that is our body would appear to be conscious, to think and talk, the rather absurd consequence is that there must be two conscious beings wherever each of us is located.

Faced with this aporia, the *somatic or biological approach* to human persistence, also known as *animalism,* draws the opposite conclusion: Each of us is primarily a living being or an animal. This concept of persistence is based on merely spatio-temporal factors and connections between physical states of the organism as observable from an external or third-person perspective. Situated on the other side of the Cartesian divide, however, these positions lack an intrinsic connection of organismic persistence with the continuity of phenomenal subjectivity. Their conditions of human persistence are basically not different from those applying to, say, a tree.

Moreover, faced with the classical translocation arguments, the biological approach seems to be caught in an aporia as well: Assuming a person A whose brain is transplanted into the body of a person B, and with it most of A's mental features, most people would find it intuitively obvious that A goes with the brain as the carrier of psychological continuity. Then the person who lives on afterwards would be A and not B, although B's organism continues to function and to live. It seems that in case of doubt we rather decide for psychological continuity than for the continuity of a life process that we only observe from the outside. Nevertheless, defendents of the biological approach usually bite the bullet and assert that B is the person who lives on, despite our intuition to the contrary (Snowdon 1991; Olson 1997).

In view of the problems and dilemmas which both positions find themselves entangled in, the question arises whether these are not owed to the fundamentally dualistic framework of the debate. In order to overcome this dichotomy, a novel view

[11] As an example of such a view, I quote neuroscientists Squire and Kandel: "We are not who we are because we think. We are who we are because we can remember what we have thought about (…). Memory is the glue that binds our mental life, the scaffolding that holds our personal history and that makes it possible to grow and change throughout life. When memory is lost, as in Alzheimer's disease, we lose the ability to recreate our past, and as a result, we lose our connection with ourselves and with others" (Squire and Kandel 1999, p. ix).

A similar stance is taken by Bruner, for whom a loss of narrative identity means loss of selfhood: "Individuals who have lost the ability to construct narratives have lost their selves. The construction of selfhood, it seems, cannot proceed without a capacity to narrate" (Bruner 2003, p. 73).

For utilitarian ethicists like Singer (1979) or McMahan, those in the advanced stages of dementia are therefore no longer persons, or only "post-persons" (McMahan 2003, p. 46ff., 55). Although the notion of the person is not my topic here, it becomes obvious that the rationalistic or psychological concepts of personal identity may have far-reaching ethical consequences one might not be pleased with.

on the unity of personal life seems required which is able to integrate the first- and the third-person perspective. Such a conception is proposed here, drawing on concepts of the embodied mind and a continuity of life and mind which have been developed mainly in the last two decades (Jonas 1966; Varela et al. 1991; Thompson 2007; Di Paolo 2009). My thesis is the following: The continuity of being oneself is based on bodily existence in a twofold sense:

(1) as the continuity of the life process of organismic self-preservation and self-reproduction (autopoiesis), and
(2) as the continuity of embodied self-experience, ranging from unconscious over prereflective to reflective conscious states, which is to be regarded as a manifestation of (1), i.e. of the life process as a whole (and not as a mere product of the brain).

These are two complementary and interrelated aspects of bodily existence or of being alive, seen from the side of the body-as-object (living body) and the side of the body-as-subject (lived body). They constitute selfhood both in the sense of an *organic self* and of a *subjective or phenomenal self*, and instead of being mutually exclusive criteria, I will argue that both are necessary for our persistence as self-aware human beings.

My inquiry will not be about the continuity of the *person,* however, because this notion usually implies higher-level criteria such as reflective self-consciousness, narrative identity or moral responsibility which as such already favour the psychological approach. Nor do I search for the conditions of a person's continuity in a metaphysical sense. Instead, I investigate the conditions for the continuity of *selfhood* in both senses of bodily existence, though my main focus lies on the phenomenal self. I will proceed in the following steps:

a) First I analyse the *experiential continuity of bodily existence*, based on prereflective self-awareness or the feeling of being alive (sections 3 and 4).
b) Then I give a short account of the *continuity of organic life*, including an argument against a merely brain-based account of self-persistence (section 5).
c) As I will further show, the lived body also manifests a specific form of memory whose continuity comprises not explicit memory, but all the habits, capacities and skills which a person has acquired (section 6). Looking at psychopathological examples, I will argue that this implicit bodily memory is a necessary though often neglected basis of our *qualitative* identity throughout the life-span (section 7).

3 Being alive (1): the bodily self and its continuity

The illustrations provided by schizophrenic patients already showed us that explicit self-observation is not *sufficient* for the self-assurance of the subject. No amount of reflection and recollection can compensate for a lack of basic self-familiarity. Yet, is this *necessary* anyway? Is explicit memory, as Neo-Lockeans assume, required in order for us to remain who we are? Granted, autobiographical continuity and narrative identity presuppose intact episodic memory functions and declarative self-knowledge – and this is what we often think of when considering questions of diachronic identity. But beneath this consciousness of oneself-as-object, there is a continuous awareness of

oneself-as-subject. Being aware of oneself in a basic sense belongs to a background certainty which need not be made explicit, examined or verified. "During most waking moments, I simply am I, an enduring, conscious presence given to awareness absent inferential reckoning" (Klein 2013, p. 805). To be pre-reflectively aware of oneself is part of the first-personal givenness of every experience, or in other words, it is a property of the stream of consciousness as such (Zahavi 2005, 2012). Being conscious implies a self-acquaintance or self-familiarity for which no act of self-identification is required. Let us look for the continuity of this kind of self-awareness.

In his *Lectures on Inner Time Consciousness*, Husserl famously conceived the stream of experience as a continuous synthesis of what is *not-yet*, what is *now*, and what is *no-longer*, or of protentions, primal impressions and retentions, resulting in a certain *width or duration* of lived presence. The diachronic unity of consciousness is thus brought forth by a self-referential process in which each succeeding moment implies an awareness of the next-to-come and the just-past. This does not result in an anonymous flow, however, but already includes a pre-reflective *self*-awareness:

> "The flow of the consciousness that constitutes immanent time not only *exists* but is so remarkably and yet intelligibly fashioned that a self-appearance of the flow necessarily exists in it, and therefore the flow itself must necessarily be apprehensible in the flowing. The self-appearance of the flow does not require a second flow; on the contrary, it constitutes itself as a phenomenon in itself" (Husserl 1966, p. 83).

Thus, the diachronic extension of consciousness also implies a continuous self-awareness which is not based on self-observation, self-reflection or remembering (cf. Zahavi 1999, p. 73). This basic self may be defined as the *self-manifestation of experience* and not as a separately existing entity or a product of higher-order thought. However, the intentional microstructure of time consciousness as analysed by Husserl still does not seem to suffice for the *self-familiarity* of subjectivity that we are searching for; otherwise the patient quoted in the introduction would not desperately seek to gain self-assurance through self-reflection. Like most other patients with severe depersonalisation, he does not show a disturbance of the continuity of conscious processes. What he is lacking, however, is the affective quality of basic self-awareness, namely the *self-affection* of the stream of consciousness. It may also be described as a background *feeling of being alive*, which is mediated by the lived body and conveys, as it were, the affective tonality of the self to all experience (Fuchs 2012a). A lack of basic self-affection in extreme cases of depersonalized depression results in the so-called *Cotard syndrome:* Here, the patients typically report not only a lack of bodily background feelings, but even deny their own existence as well as the existence of the world, or they literally claim to be dead (Fuchs 2005).

Taken together, the basic and unquestionable evidence of being and remaining oneself is mediated both by the *self-referentiality* of the stream of consciousness and by its continuous *self-affection*, based on the lived body. We are dealing here with what Dainton (2008) has termed *experiential continuity* of the self: Our experiences remain unified irrespective of whether we are thinking about them or not, because these experiences belong to a unified stream of consciousness (Dainton and Bayne 2005). There is no need for being reflectively self-conscious, remembering our past, or other forms of explicit psychological connectedness which Lockeans have in mind. We could

persist as selves with a minimal consciousness, based on the background feeling of the body, even though this is normally superimposed by multiple facets of self-reflection, self-knowledge, self-concepts and memories, or in other words, by the *self-as-object*.

4 Unconscious continuity

As I have argued in the preceding section, the persistence of embodied selfhood is based on the experiential continuity and self-givenness of the stream of consciousness: experiences at different times are united through an overlapping chain of phenomenal connections, experienced with one and the same self-awareness. However, this account faces a problem, namely of how the *interruptions* of consciousness created by sleep, anaesthesia or coma may be bridged.[12] What makes us sure to be still the self-same subjects after awakening, say, from deep and dreamless sleep? After all, the protentional-retentional connections of the stream of consciousness have broken up. One could argue that we instantly become aware of who we are, and in a Lockean way, through activating our memory, reconnect with the day before. However, this is not necessarily the case: frequently, a moment of confusion may arise, for example on my travels, when it takes some time to remember where I am, what time of day it is, or even who I am. And yet even before I explicitly remember all this, in the first moment of awakening, there is already a basic bodily self-awareness in which I find myself. To this end, there is no need to remember falling asleep the night before, nor to recall my name or any other autobiographical knowledge. My self-familiarity and self-givenness precede any such reflection. In everyday terms we are accustomed to say that in waking up I come "to myself". However, this means I *come back to myself* and do not encounter an anonymous stream of consciousness, which I would have to make my own by remembering. The experiential continuity establishes itself without any comparison, identification or conclusion.[13]

One might still doubt, however, whether the immediate self-familiarity of awareness suffices to bridge the gap of non-conscious states. Do we then have to postulate a "timeless" or even "absolute" subjective self beyond the process of life in order to guarantee its diachronic persistence?[14] I think not. A number of observations on sleep and dreaming suggest that there is no absolute discontinuity of experiencing subjectivity at its most basic level:

[12] Dainton's solution to what he calls the "bridge-problem" is to finally attribute the continuity in question to a "Potentially Conscious Self" (PCS) or an "Experience Producer" (EP) capable of activating a conscious self (Dainton 2008; Dainton and Bayne 2005). However, this comes down to give up on experiential self-continuity and to resort to a physiological system such as the brain as "EP" instead – an unsatisfactory move as I will try to show in what follows.

[13] As William James wrote, "even when there is a time-gap the consciousness after it feels as if it belonged together with the consciousness before it, as another part of the same self" (James 1950, p. 237). As James' subsequent explanation shows, this feeling does not actually mean an 'as if', but a self-evident or self-familiar experience: He also describes it by the affective qualities of "*warmth and intimacy*", and continues: "whatever past feelings appear with those qualities must be admitted to receive the greeting of the present mental state, to be owned by it, and accepted *as belonging together with it in a common self. This community of self is what the time-gap cannot break in twain …*" (l.c., p. 239, emphasis added).

[14] The "timelessness of the subjective self" has been suggested by Klein (2014), based on the observation that in severely amnesic patients the sense of self is still situated in the very year of the loss of episodic memory; in a way, they live in a locked and continuous present.

- Leibniz already pointed to the "*petites perçeptions*" that occur without consciousness even in dreamless sleep, for example when one feels cold at night and adjusts the blankets without becoming aware of it (Leibniz 1960, p. 23f.). Somnambulism may be regarded as a climax of this kind of ecological awareness and corresponding oriented behaviour during sleep (Kales et al. 1966). Similarly, subliminal perception of verbal stimuli with subsequent priming effects after awakening has been demonstrated in subjects undergoing general anaesthesia (Merikle and Daneman 1998; Ramsøy and Overgaard 2004). Hence, experiencing in the most basic sense is not restricted to wakefulness.
- When I awake, I experience myself as gradually emerging from sleep, which means that there is no clear-cut separation between both states. Moreover, I am also *retentionally aware of having been asleep* for some (undetermined) time without having to look at a watch to make inferentially sure that time has passed.[15] Apart from that, it is possible to wake up at an unusual hour if one intends to do so which indicates that there is a sense of passing time during sleep.
- In dreaming, there is an immediate sense of being oneself even though autobiographical memory may be seriously compromised or completely absent – one may even dream to be another person. Nevertheless, when awakening, there is no question that it was me who dreamt and not somebody else, even though I may be astonished about the strange experiences I had.
- Dreams are not restricted to REM sleep; as sleep research has demonstrated in the last years, more or less vivid dreams are found in all phases of sleeping (see e.g. Oudiette et al. 2012; Siclari et al. 2013). This suggests that there is a continuum of subjectivity from extreme tiredness over falling asleep to sleep itself, and that even deep and dreamless sleep is only a limit state at the pole opposite to full wakefulness.

In sum, these observations indicate that there is no state in which subjectivity completely disappears, and a merely physiological or subpersonal continuity is all that is left. Even during deep sleep or anaesthesia, there remains a basal experiencing and in principle awakable self, connected with and embedded in the process of life without absolute discontinuities.[16]

Granted, quite soon after awakening, I can also identify myself as this particular person in the historical, geographical and social context. But this narrative self-

[15] The problem of how we know that we were asleep when awakening is treated in detail by Thompson (2015, 231ff.), referring to Indian Yoga and Vedanta traditions for whom deep and dreamless sleep still remains a mode of consciousness. The somewhat paradoxical conclusion of their considerations is that in awakening *I am retentionally aware that I have been unaware before,* which means that the state of unawareness was somehow experienced by me during deep sleep (l.c. 244).

[16] On this, cf. also Zahavi (1999, pp. 206–210) as well as Linschoten (1987, p. 110). "This means that we never sleep through and through. But then perhaps 'complete sleep' is a mere theoretical construction, a limit-idea. When in my sleep I-in-my-origin have slid back into an almost plantlike mode of existence, then still a last, extremely vague kernel remains ready to unfold itself again into a living center of interests at the slightest signal. In my sleep I have not disappeared; *I* am sleeping … [and I] am continuously ready to wake up as I-myself … *in the passivity of sleeping there is continuously hidden a readiness for the activity of waking-up.*" This seems to resemble Descartes' view (see footnote 2 above), however, with the crucial difference that for him there is no gradation from conscious to unconscious states during sleep, but only a fully conscious mind whose sleeping states we do not remember.

identification is only possible on the basis of a preceding self-familiarity.[17] Memories of yesterday, of the place where I fell asleep, even about my biographical identity only bring this basal implicit continuity to explicit consciousness (cf. Jacobs 2010, pp. 338f.). Of course, this applies not only to awakening – most of the time, I am implicitly aware of myself without any need of a self-concept or self-reflection. In other words: the continuity of pre-reflectively felt self-awareness is the primary continuity of myself. It precedes any self-attribution and self-identification.

In Waldenfels' terms (2002, pp. 191f.), pre-reflective self-being can also be described as *self-withdrawal* (*Selbstentzug*). Our enactment of life is withdrawn from immediate self-observation and always precedes reflecting determination. The sensation of a feeling is not yet to be conscious of that feeling: when noticing my hunger or my headache, for example, I find that I already *had* it for some time without having become aware of it. An experience only becomes conscious as such when it acquires a certain degree of intensity. Nonetheless, it was *my* experience from the outset. In other words, there is a continuum from (a) unconscious life as in dreamless sleep to (b) awakening consciousness, implying a pre-reflective self-awareness, further to (c) peripheral consciousness (being only marginally aware of something, e.g. being hungry), up to (d) full-blown waking alertness and attention, including finally the possibility of reflective self-consciousness (explicitly directing one's attention to oneself as an object). Thus, consciousness does not appear instantaneously, but as the gradual *coming-to-awareness* of animate life; in other words, there is a fundamental continuity between *Leben* and *Erleben* (living and experiencing). Life is what has always already affected us as bodily beings before we can respond to it. Indeed, what is at the core of being ourselves is something that we can neither foresee, effect nor command.

It is even true of intentional acts of thought and deed that we do not fully have them under control, but rather "allow them to happen". Merleau-Ponty therefore speaks of the "passivity of our activity": "… it is not I who makes myself think any more than it is I who makes my heart beat" (Merleau-Ponty 1968, p. 221). The movements of my thought, like of my arm, are *self-movements*, which I cannot make, but at best, release and direct. This is even more true in the case of involuntary processes such as breathing, falling asleep, walking, crying or even feelings like joy or rage: they occur spontaneously *of their own accord*, and any deliberate act of will tends to disrupt them. Therefore, within ourselves we experience a ground of becoming, an origin of spontaneity and movement that is removed from our determination and precise definition. Yet, the basis of our self-being is precisely this *being of its own accord*. Similarly, our individual life story already commences prior to birth with an unconscious pre-history of the self. And nowhere is there any obvious point at which a purely biological

[17] To narrate one's own story presupposes to be continuously aware of oneself in prereflective first-personal experience in order to know who the story is about (therefore a robot may issue an account of events it was involved in, but it cannot *narrate*). The distinction is also made by Thompson: "The instant of awakening thus reveals two kinds of self-experience (…) – the bodily self-experience of being alive in the present moment, of being sentient, and the autobiographical self-experience of being a person with a story line (…) Although we may forget many things about ourselves when we first wake up – where we are, how we got there, maybe even our name – we never have to turn around to see who it was who was just asleep and unknowing, if by 'who' we mean the subject of present moment experience in contrast to the self as the mentally represented object of autobiographical memory" (Thompson 2015, 236). – On the foundational relation of the basic or minimal self to the narrative self see also Zahavi 2007.

development would suddenly convert to consciousness. Life is self-being from the outset (more on this in the next section).

It follows that life can neither be attributed to a pure, disembodied consciousness nor to the objective side of the physical body alone. Instead, life manifests itself in a basic *bodily subjectivity*. It always precedes the act of becoming conscious, and the conscious self is only revealed to itself in the mode of its self-withdrawal. Consequently, Merleau-Ponty described the lived body as the "*natural subject*": "There is, therefore, another subject beneath me, for whom a world exists before I am here, and who marks out my place in it. This (…) natural spirit is my body (…)" (Merleau-Ponty 1962, 228). Pure consciousness without a subjective body is a dualistic abstraction which forgets that all thinking owes its emergence to the preceding process of life – considered here as the primordial or transcendental life of subjectivity itself.

5 Being alive (2): the continuity of organic life

In order to overcome the Cartesian dichotomy mentioned at the beginning, we now have to show, at least in principle, how this persistent life of subjectivity may be related to the continuity of *organic or biological life* as its necessary basis. This requires three steps:

(1) to demonstrate that the process of life constitutes a continuous *self* also from a third-person perspective, namely as a process of organismic self-preservation and self-reproduction (autopoiesis);
(2) to show that subjective self-experience should be considered as a manifestion of the life process as a whole (and not a product of the brain only);
(3) to argue against thought experiments of a possible translocation of the mind via brain transplantation or by other means.

(1) If identity means the coherence and constancy of a self over time, we find it already on the biological level, that is, in the living organism. From the monad to the highest life forms, every organism is an "autopoietic" system that constantly reproduces itself and maintains its own structure despite the continual metabolism of its material substance. Hans Jonas, in his philosophy of life, emphasized this *biological identity* of the organism: "The introduction of the term 'self', unavoidable in any description of the most elementary instance of life, indicates emergence, with life as such, of internal identity" (Jonas 1968, 242). This has been taken up and specified in the theory of autopoiesis put forward by Varela (1991, 1997), Thompson (2007) and others: the living system is constituted by a semipermeable membrane that delimits it from the environment, while at the same time allowing for the metabolic exchange by which the system constantly regenerates itself.[18] Moreover, sentience and movement allow the living being to actively regulate its interaction with the environment, to adapt itself to changing

[18] "An autopoietic system – the minimal living organization – is one that continuously produces the components that specify it, while at the same time realizing it (the system) as a concrete unity in space and time, which makes the network of production of components possible" (Varela 1997, p. 75). See also Weber and Varela 2002 and Thompson 2007, pp. 149ff.

circumstances, or in other words, *to put itself in a relationship to what is other than self*. "Life is thus a self-affirming process that brings forth or enacts its own identity" (Thompson 2007, p. 153), namely by maintaining an inner order and homeostasis against the entropic processes of the physical environment. Such a system, by virtue of its operational closure and autonomy over and against its surroundings, is equivalent to an organismic individual or *self:*

> "The challenge of 'selfhood' qualifies everything beyond the boundaries of the organism as foreign and somehow opposite: as 'world', within which, by which, and against which it is committed to maintain itself. Without this universal counterpart of 'other', there would be no 'self'" (Jonas 1968, 242f.).

(2) The autopoietic process of life is not just an external or enabling condition for conscious experience to arise. Rather, the emergence of the bodily self or "natural subject" (Merleau-Ponty) turns out to be rooted precisely in the biological processes of self-preservation. Here we have to take into account the concepts and results of affective neuroscience (Damasio 1995, Panksepp 1998), pointing out that the basic feeling of aliveness is closely connected to the homoeostatic processes that regulate the constancy of the body's "inner milieu". For this, various centres in the upper brain stem, hypothalamus, thalamus, insular and medial parietal cortex process the neuronal and humoral signals from the body and integrate them into a felt "body landscape". It includes the current state of the inner milieu (hormone concentration, glucose, oxygen, carbon dioxide, pH-value of the blood, etc.), interoceptive and proprioceptive signals from the viscera, the musculoskeletal system, the heart, blood vessels, skin and the vestibular system. The inner milieu and state of the body are in turn constantly modified and regulated by neuronal and neuroendocrine signals from the brain.

This ongoing interaction of brain and body is the basis for what Damasio terms "core consciousness", "background feeling" or the "feeling of live itself": "The somatic background feeling never subsides, though we sometimes rarely notice it, because it does not represent a particular part of the body, but the over-arching state of virtually all domains" (Damasio 1995, p. 210). The systemic unity of the organism thus becomes the precondition of the unity of self-experience ("one person, one body", ibid. 142).[19] Along the same lines, Panksepp (1998), Solms (2013) and Solms and Panksepp (2012) have argued for a primary, vital-affective consciousness that integrates the body's internal conditions at the diencephalic level of the brain, implying basic motivational states such as lust, panic, seeking, etc., and fueling higher-order cognitive consciousness.[20]

[19] It is true that Damasio still conceives the brain-body unity within a representationalist framework, speaking of a „mapping" or „representation" of the body landscape by higher brain centers. For a more radical embodied concept of affectivity as arising from the interaction between brain and periphery see Rockwell (2005, p. 37–50), Fuchs (2011a).

[20] „Above all, the phenomenal states of the body-as-subject are experienced *affectively*. Affects do not emanate from the external sense modalities. They are states *of the subject*. These states are thought to represent the biological value of changing internal conditions (e.g., hunger, sexual arousal). When internal conditions favor survival and reproductive success, they feel ‚good'; when not, they feel ‚bad'. This is evidently what conscious states are *for*" (Solms 2013, p.7).

The basic feeling of being alive is thus ultimately rooted in the circular homeodynamic interactions of brain and body, and, in a sense, manifests the current state of the entire organism. In this way, the living, physical body becomes the lived and experienced body. Hence, it is not the brain alone, but the organism as a whole whose autopoietic processes are constitutive for the feeling of being alive as the basis of consciousness. This feeling turns out to be a most important evidence of the embodiment and enlivenment of subjectivity: There is a deep continuity between processes of life and processes of experience, or between *Leben* and *Erleben*.[21]

(3) The aliveness of the embodied subject also throws a different light on the various thought experiments of brain transplants, brain fission, or downloads and translocations of the mind which are common in the persistence debate, usually advanced in favour of the psychological approach: The person goes with the brain, or with its assumed software, respectively. These thought experiments all start from the intuition that our identity consists essentially in mental dispositions, preferences, knowledge and information about ourselves which we can retrieve anytime and which is stored in structures and engrams of our cerebrum. However, this only grasps the self-as-object, not the underlying self-as-subject. The translocation arguments presuppose a Cartesian view of the person as being localized in the brain as an ensemble of information, memory traces, programmes and algorithms, that means, as a disembodied mind. Selfhood, however, primarily consists in a self-acquaintance which is bound to the background feeling and self-affection of the living body and thus ultimately emerges from the life process of the entire organism. The processes of vital self-regulation in the brainstem and diencephalon imply a complex interaction of neuronal, neuroendocrine and humoral processes. This embeddedness of the brain in rather slow-acting biochemical interactions may not be described as digital information processing in analogy to a computer. It is these circular processes, however, which are arguably necessary for the emergence of basic self-awareness.

Hence, what is presupposed by those thought experiments as a matter of course, namely the continuation of phenomenal self-experience after the transplantation of the brain is anything but clear – we do not know in the least what an interruption of the life-mind continuity entails. A successful transplantation would certainly not consist in merely inserting the brain in the skull and making it work; rather, the complex interaction and feedback cycles between brain and body would have to exactly fit again. But even if we assume that the brain or cerebrum could be connected to another organism in such a way that self-awareness arises from the new interaction, the identity of the resulting person could by no means be taken for granted. Once the continuity of basic subjectivity or aliveness is broken, would the retrieved memories of past experiences still be embedded in the former self-familiarity, that is, would they still be *my* experiences? Even if this is granted too, we would still have to expect serious disturbances of embodied self-experience. To begin with, the entire endocrine, autonomous and interoceptive emotional reactions as well as the habitual facial and gestural expressions would no longer fit to the brain-based components of the person's emotions, arguably resulting in a severe affective self-alienation.[22]

[21] Cf. Thompson 2007, pp. 128ff., and Fuchs 2012a, where I have argued extensively for the bodily basis of the feeling of being alive and for a continuity between life and experience.

[22] Cf. Fuchs and Koch 2014 for an embodied account of emotions.

> Similarly, the sexual functions are dependent on a complex interplay of brain and body to such a degree that even provided sex-congruent brain transplantation serious disturbances of sexual functioning and identity would ensue. Moreover, all bodily skills based on procedural memory – think of simple movements such as running, not to mention playing piano or other fine-motor skills – are bound to brain-body feedback cycles including a most subtle coordination with the proprioceptive and geometric conditions of the body; they would all have to be relearnt anew. Finally, the impact of an alien body image, facial appearance, voice, etc. on one's sense of identity may hardly be underestimated. Taking all these things together, it seems justified to assume that a transplantation of the brain would not preserve a person's identity, but rather create a new, and in fact a severely disturbed individual which would be neither continuous with the donor nor with the recipient.[23]

In sum, what I have argued for in this section is the inseparability of the experiential self and its persistence from the continuous process of life, including in particular the constant circular interaction between the brain and the organism as a whole. As human beings, we are living beings whose experience of identity over time is necessarily based on our biological identity, i.e. the continuity and self-reproduction of the autopoietic organisms that we are. This puts my argument in proximity to the animalist approach. However, its proponents usually accept the full psychological continuity in the transplant case and nevertheless claim the continuity of the organism as the carrier of a person's diachronic identity.[24] Instead of arguing for a truly embodied subjectivity, their concept of identity is only based on a third-personal view of the living being, thus remaining on the physical side of the Cartesian dichotomy which I seek to overcome. The continuity of both subjective life and organic life are necessary for us to persist as human beings over time, for they are only two conjoined aspects of the unified process of life.

6 Body memory as "embodiment of existence"

In this section, I return to the experiential continuity of the prereflective bodily self as analyzed in the preceding sections. Even if this continuity has gained plausibility, one could argue that it does not involve an individual, but an anonymous self-being, or a "minimal self" (Zahavi 2005) that scarcely fulfils our expectations of individuality and personality. Bodily existence would give us just an abstract identity or sameness, namely the diachronic coherence of a basic bodily self, but no *qualitative* identity – being the sort of persons that we are. However, this would mean to neglect the *history of the lived body* that increasingly becomes the medium of our individual existence

[23] For reasons of space, I won't discuss the related thought experiments of a "brain in a vat" that is allegedly conscious though separated from the organism, provided it receives the appropriate nutrient supply and sensory stimulation. They too omit the multiple interactions of brain and body necessary for consciousness to emerge. For a critical discussion cf. Cosmelli and Thompson (2011).

[24] Cf. for example Olson 1997: „… the person who ends up with your cerebrum in the Transplant Case is in an important sense psychologically continuous with you. She has inherited your mind" (p.11). Nevertheless, this „psychological continuity is neither necessary nor sufficient for a human animal to persist through time" (p.17.).

during the course of a biography. For all enactments of life are integrated into the memory of the body, and here they remain preserved as experiences, dispositions, inclinations and skills. The body is, as Merleau-Ponty proposes, "... solidified or generalized existence, and existence a perpetual incarnation" (Merleau-Ponty 1962, p. 148). What does this mean?

Conscious or explicit recollection, which usually is termed *episodic memory* (Tulving 1993), in no sense exhausts the phenomenon of the memory. Most of what we have experienced and learned is not made accessible to us in retrospect, but rather through the practices of everyday life: habits formed through repetition and practice are activated of their own accord; well-rehearsed sequences of movements have been incorporated, thus becoming a bodily capacity – like the upright gait, speaking or writing, using instruments like a bicycle, a typewriter or a piano. We can define the entirety of established habits and skills as *implicit or body memory* that become current through the medium of the lived body without the need to remember earlier situations. This bodily memory, which was first considered by Maine de Biran (1953) and Henri Bergson (1991), does not 'presentify' the past, but rather re-enacts it as a grown and presently effective experience (cf. Fuchs 2012b).

Body memory is thus the ensemble of all habits and capacities at our disposal. It conveys the founding experience of "I can" (Husserl 1952, p. 253), an *embodied knowledge* or *knowing how.* I can dance a waltz because my lived body attunes of its own accord to the rhythm of the music and completes these movements. I can type with all 10 fingers, yet without being able to describe the position of the letters on the keyboard. I have long since forgotten the clear assignment of fingers and letters that I learned when I started out with typing. Now, the knowledge is "in my fingers", and they type of their own accord. Bodily familiarity with things means biographical forgetting, the descent of conscious deeds and experiences into a substrate, from which consciousness has withdrawn, and yet which carries our everyday being-in-the-world.[25] I am familiar with an instrument, a face, or a situation as a whole because my capacity for perception and action comprises my earlier experiences in the form of types or patterns, without conscious remembering. Let us consider an example suggested by Gaston Bachelard:

> "… over and beyond our memories, the house we were born in is physically inscribed in us. It is a group of organic habits. After 20 years, in spite of all the other anonymous stairways, we would recapture the reflexes of the "first stairway", we would not stumble on that rather high step. The house's entire being would open up, faithful to our own being. We would push the door that creaks with the same gesture, we would find our way in the dark to the distant attic. The feel of the tiniest latch has remained in our hands" (Bachelard 1964, p. 92f).

Body memory thus conveys the basic familiarity with the environment: through our habits, we inhabit the world. Indeed, even familiarity with one's own body as an ensemble of affinities and capacities is based on its memory: whenever we wake up, these familiar

[25] William James already made the fitting observation: "It is a general principle in psychology that consciousness deserts all processes where it can no longer be of use" (James 1950, p. 496).

skills awaken with us, helping to assure us of our bodily continuity and to unfold our ecological self-awareness.[26]

Finally, body memory also involves the individual attitudes, modes of expression and behaviour which are an integral part of one's *bodily personality structure* (Fuchs 2006). The shy, submissive attitude of a person who is unsure of himself and dependent, his soft voice, childish facial expressions, compliance and anxiety belong to a unified behavioural and expressive pattern that comprises an essential facet of his personality. Bourdieu's sociological concept of *habitus* is also relevant here: cultural and class-specific socialization, in particular in early childhood, is incorporated into body memory. "The *habitus* – embodied history, internalized as a second nature and so forgotten as history – is the active presence of the whole past of which it is the product" (Bourdieu 1990, p. 56). Though culturally influenced in its general form, the *habitus* also composes an individual's personal way of comporting himself and dealing with others. One could say, what we have forgotten has also become what we are.

On the other hand, traumatic experiences are also reflected in emotional and bodily memory (Amir et al. 1996; van der Kolk 1994, 2014). An impressive example of this is contained in the memoirs of the Jewish writer, Aharon Appelfeld, who at the age of 7 to 13 years survived the Second World War as a refugee in the Ukrainian forests:

> "More than 50 years have passed since the end of the war. I have forgotten much, even things that were very close to me – places in particular, dates, and the names of people – and yet I can still sense those days in every part of my body. Whenever it rains, it's cold, or a fierce wind is blowing, I am taken back to the ghetto, to the camp, or to the forests where I spent many days. Memory, it seems, has deep roots in the body." – "The cells of my body apparently remember more than my mind which is supposed to remember. For years after the war, I would walk neither in the middle of the sidewalk nor in the middle of the road. I always clung to the walls, always staying in the shade, and always walking rapidly, as if I were slipping away. (…). Sometimes, just the aroma of a certain dish, or the dampness of shoes or a sudden noise is enough to take me back in the middle of the war (…). The war has infiltrated my bones" (Appelfeld 2009, p. 50, 90).

Here, an entire period of the individual's biography has imprinted itself upon the lived body, albeit deeper and more sustained than the autobiographical memory was capable of: proprioception, touch, smell, hearing, even certain weather conditions can

[26] Cf. Proust's famous description of waking up: "… and when I awoke at midnight, not knowing where I was, I could not be sure at first who I was; I had only the most rudimentary sense of existence, such as may lurk and flicker in the depths of an animal's consciousness (…) My body, still too heavy with sleep to move, would make an effort to construe the form which its tiredness took as an orientation of its various members, so as to induce from that where the wall lay and the furniture stood, to piece together and to give a name to the house in which it must be living. Its memory, the composite memory of its ribs, knees, and shoulder-blades offered it a whole series of rooms in which it had at one time or another slept; while the unseen walls kept changing, adapting themselves to the shape of each successive room that it remembered, whirling madly through the darkness" (Proust 1922, ch. 1). – Proust's description illustrates the "rudimentary sense of existence" in the first moment of awakening as well as the subsequent unfolding of the ecological self (Neisser 1988), mediated by the spatial body schema and the associated bodily orientations and possibilities of interacting with the environment.

suddenly bring the past alive again, and even the bodily pattern of movement – that is, the hurried walk close to the wall, still imitates the behaviour of a refugee.

We see how the continual embodiment of existence produces a form of memory, which does not permit the recall of singular episodes, but in a certain sense integrates a person's entire past within its present bodily self. Far from only guaranteeing an anonymous pre-reflective existence, the habitual body always forms an extract of one's personal history. This corresponds to Merleau-Ponty's conception of the temporality of the bodily subject:

> "…so I am not myself a succession of 'psychic' acts, nor for that matter a nuclear *I* who bring them together into a synthetic unity, but one single experience inseparable from itself, one single 'living cohesion', one single temporality which is engaged, from birth, in making itself progressively explicit, and in confirming that cohesion in each successive present" (Merleau-Ponty 1962, p. 363).

In sum, it becomes obvious that the embodied self or self-as-subject does not only imply an abstract selfhood, persistence or sameness, but also displays a qualitative form of identity across the life span. It emerges not from the store of explicit knowledge about oneself or one's biography, but from a history of embodied experience which has accumulated and sedimented in body memory and as such is implicitly effective in every present moment.

7 Bodily memory and psychopathology

On this background, let us have a final look at psychopathology where we can find a dissociation of body memory and autobiographical memory in both directions: In *schizophrenia*, the coherence and continuity of the embodied self may fade despite biographical self-knowledge being preserved, whereas in *dementia* or *amnestic syndromes* autobiographical memory is lost in varying degrees, while the bodily memory of self is still intact.

As I have already pointed out at the beginning, we often find in schizophrenia a loss of the basic familiarity with the self and world that results from habitual bodily existence. However, this also calls into question the continuity of self-experience. In phenomenological psychopathology, Blankenburg (1971) devised the "loss of natural self-evidence" as the basic schizophrenic disorder that affects the everyday bodily being-in-the-world. More recent ideas also refer to a "*disembodiment*" in the sense of an alienation of the subject from his own bodily existence (Stanghellini 2004; Fuchs 2005, 2010a). Let us examine one example which shows a gradual development over many years (cf. Bürgy 2003):

> A 32-year old patient with schizophrenia reports that at the age of 16, he had become more and more uncertain about whether his personal things really belonged to him or had somehow been exchanged by others. Even when he lost sight of his belongings for a short time, he already doubted their constancy. When leaving things on his school-desk inattentively, he later began to doubt whether they were still the same, and had to throw them away. More and more he lost the trust in his environment.

The patient obviously experiences a lingering alienation from things: he can no longer trust the constancy and identity of his possessions. Although he recognizes the objects, this act of recognition lacks the feeling of "mineness" and familiarity, as though the things no longer "accrue" to him and could not be embedded in the continuity of his own bodily existence. The example continues:

> At the age of 21, he also began to doubt whether it was really his own arms that performed an action or somebody else's. He had to observe his arms carefully from the hands up to the body and concentrate on the exertion of force in order to make sure that they were his own, and he repeatedly looked behind himself in order to see if there was not somebody else who moved them. Now he could not trust his own hands any more, and doubted the simplest actions. He took endless time to dress, since he had to touch the clothes several times and had to repeat his movements again and again to make sure they were his own. Every movement was like an arithmetical problem that had to be pondered over with extreme concentration. So he became stuck in his everyday performances and felt more and more desperate.

Gradually, even the self-evidence and sense of "mineness" of his own movements is lost, and should now be recreated by intensified self-observation – an attempt that must be futile. The coherence of intentional actions and automatized habits also increasingly begins to collapse. To compensate for this alienation, the patient must consciously prepare the simplest actions and explicitly compose, piece by piece, what has lost his uniform temporal Gestalt. But even then he doubts whether the movement was not carried out by someone else. In acute psychosis, this loss of mineness can result in full-blown delusions of influence – then patients feel manipulated and controlled by alien, anonymous forces.

This example clearly shows *ex negativo* how being oneself – including one's delimitation from others – depends on the self-familiarity and self-evidence that are founded in the lived body and its memory. The lack of this natural self-evidence, as Blankenburg relates, "… is mainly noticeable … in the countless small everyday activities, yet beyond this seizing one's entire life orientation" (Blankenburg 1971, p. 80). Precisely this imposes itself on the patient as an irrefutable problem, which the healthy person has *forgotten*, because he was already accustomed to this before he could pose a question about it: how it is possible to be in the world, to act and to live? It is exactly what was forgotten, in other words, what has become habitual and familiar through body memory that is no longer at the patient's disposal, thus creating the lack of self-evidence.

This results in the loss of spontaneity, in excessive self-observation and hyper-reflection like we frequently find among schizophrenic patients (Sass and Parnas 2003; Fuchs 2011b). The futile endeavour manifests itself here of still achieving a certainty of self-being – in vain, as this certainty is in fact not based on a propositional, representational or biographical knowledge, but rather on pre-reflective self-affection and bodily embedding in the lifeworld. Although self-consciousness and self-reflection mean suspending this self-evident bodily existence to a certain extent, they still continue to be based on it. In states of

depersonalization and self-fragmentation, the continuity of basic selfhood is called into question despite all reflection.[27]

We now turn to consider what in a certain sense is the opposite case, namely the loss of autobiographical memory in *dementia*. According to the conception of psychological persistence, this must culminate in the loss of personhood. However, in this case it is precisely the bodily familiarity with the world that is preserved until the late stages of the illness, since it is based on the implicit memory that is initially unimpaired, or only affected to a modest extent.[28] Thus, the familiar sensory perceptions – well-known smells, foods, melodies or touch – can awaken feelings, reactions and even capacities that are linked to past life episodes, even if the explicit memory of these has already faded. I mention an example of this (taken from one of my own patients):

> A 78-year-old patient in an advanced stage of dementia was mostly incapable of recognizing his surroundings and his relatives any longer. He seemed lethargic, withdrawn, physically frail and was hardly in a position to move about independently any more. One day his two grandchildren visited him and were playing football in front of the house. As a youngster, the patient had played for a long while in a football club; now, he suddenly stood up and played with the boys. In contact with the ball, he appeared as if transformed and much younger; he showed them his skills at dribbling, demonstrated various ball tricks and gave expert explanations about these. For half an hour, almost nothing was discernible of the illness.

The patient's skills mediated through body memory are undoubtedly part of his biography, even if he can no longer remember having learned these skills. Thus, regarding both sameness and qualitative identity, his self-continuity dates back further than his conscious memory.[29] We emerge as the kind of persons that we are no less in our *habitus* and our bodily being than we do in our cognitive and reflecting skills. If we understand self-being in this mode primarily as bodily existence, then we will also reach a different perception of the patient with dementia: not as a person, who has lost his rationality, memory and thus personhood, but rather as a person, who is still capable of realizing himself as a bodily–interbodily existence, as long as he can live in the appropriate spatial and social setting. His self-being is maintained in his body's affinity

[27] See also the quotations of schizophrenic patients in the introduction. Of course, the psychopathological notion of depersonalization should not be taken to mean that the patients are not the same *persons* as they were before. After all, the continuity of their organic life is not affected at all (the term "disembodiment" of course refers only to the bodily self-alienation), and even their autobiographical memory is still intact. Nevertheless, as I have argued, the continuity of selfhood depends both on the continuity of organismic life and of the experiential sense of self, and if the latter is missing, selfhood is no longer present in the full sense.

[28] Unlike episodic memory, implicit memory can remain largely intact even in the face of extensive damage to the hippocampi and medial temporal-lobe structures. The basis of implicit memory involves larger and more primitive parts of the brain, located mainly subcortically—structures like the basal ganglia and cerebellum as well as limbic structures such as the amygdala. The location, size and variety of these systems explains the robustness of implicit memory in dementia (see also Fuchs 2010b).

[29] Apart from that, a basic sense of self is certainly preserved even in severely demented patients, as becomes evident by their use of first-person pronouns or indexicals, self-reference through facial expressions and gestures, laying claim on their personal belongings and, last not least, self-related affects such as fear or shame. On this, compare Summa 2014.

with the natural and social environment. His life story remains present in familiar melodies, smells, touches and handling things, in bodily interaction with other people, even if he can no longer remember the origins of this familiarity nor narrate his own story.[30]

Let me mention a final example, namely the case of Clive Wearing, a British musicologist, conductor and tenor who as a result of a severe encephalitis contracted in 1985 suffers from total anterograde and retrograde amnesia.[31] Since then, he has been living in a moment-to-moment consciousness, "waking up" every 20–30 s each time the span of his short term memory elapses. In a diary provided by his caretakers, Clive records his thoughts, mostly entries like: "8.31 a.m.: Now I am really, completely awake" which he soon later crosses out to replace them by new ones ("9.05 a.m.: Now I am perfectly, overwhelmingly awake", etc.). He remembers scarcely anything of his life before 1985 and lives imprisoned, as it were, in a limbo of the present moment, in an endless loop of awakenings. Nevertheless, he still awakes as *himself,* as his entries testify. Moreover, as his wife found out over time, Clive's musical abilities of playing a piano and conducting are preserved to an astonishing degree, despite having no recollection of his musical education:

> "But when he was conducting his old choir, he performed with great sensitivity and grace, mouthing the melodies, turning to different singers and sections of the choir, cuing them, encouraging them, to bring out their special parts. It is obvious that Clive not only knew the piece intimately—how all the parts contributed to the unfolding of the musical thought—but also retained all the skills of conducting, his professional persona, and his own unique style. (…) Clive's performance self seems, to those who know him, just as vivid and complete as it was before his illness. This mode of being, this self, is seemingly untouched by his amnesia, even though his autobiographical self, the self that depends on explicit, episodic memories, is virtually lost" (Sacks 2007).

Remarkably, melodies as sensory objects that unfold over time are the paradigm which Husserl used to illustrate the temporal gestalt of inner time consciousness, and thus of ourselves as essentially temporal beings. Body memory is ultimately based on this temporal integration, for it consists of, and manifests itself above all in *Zeitgestalten* in which the person lives and re-enacts his own past. Moreover, music is the carrier of affects par excellence, and is thus capable of awakening the affective dimension of body memory. Hence, even in Clive Wearing's case, probably one of the most extreme cases of amnesia ever known, the memory of the body is preserved, enabling him to transcend the present moment which he can no longer escape by reminiscence, thus guaranteeing a continuity of the self and a kind of identity that is still implicitly felt though not reflectively known.

[30] Of course, if selfhood or personhood are defined as requiring the capacity to narrate and remember one's life (for example Bruner 2003, cf. footnote 11). the proponents of such views will not be convinced. As I mentioned at the beginning, the notion of the person is not my topic here. Nevertheless, I argue for a substantial notion of the bodily self and its continuity which is at least suited to question an autobiographical memory-based view of our persistence as persons.

[31] There are a number of reports on Clive Wearing, among them a book written by his wife (Wearing 2005) and an article as well as a chapter by Sacks (2007, 2008).

8 Conclusion

My aim was to show that bodily existence represents the basis of our diachronic identity, while autobiographical remembering as such is neither sufficient nor necessary to ground the certainty of remaining oneself over time. Bodily existence, on the one hand, comprises the basal, pre-reflective self-familiarity, which we usually rely upon as a matter-of-course, and which the disembodied subject in vain attempts to reconstruct in schizophrenia. It conveys a continuity of the self from a first-person perspective, a pre-reflective *feeling* of sameness or a felt constancy of subjectivity.

On the other hand, I have argued that this constancy of bodily subjectivity converges with the continuity of the organismic life process as conceived from a third-person perspective. The experiential self of bodily subjectivity and the autopoietic self of the living organism should ultimately be regarded as two aspects of one and the same life process which cannot be reduced to brain activities. All thought experiments of mind translocations via brain transplants, information download or similar means miss the essential anchoring of the mind in organic life. Last not least, the lived body also exhibits a specific form of memory that results from the continual embodiment of existence: it consists of all the affinities, capacities and experiences, which the person has acquired throughout his life. Thus, it also provides a qualitative continuity of self that must not be actively produced through remembering, but rather integrates the person's entire past in his present being and potentiality.

Though the notion of the person and its criteria of persistence have not been the focus of this paper, my account of the continuity of the embodied self may also cast a new light on the debate on personal persistence and could help overcoming the dichotomy that has characterized it. The concept of complementary aspects of embodied selfhood might suggest an analogous notion of personhood – comprising both bodily or organic *and* psychological continuity criteria, complemented by criteria such as autonomy, intersubjective relatedness and moral responsibility. On such an account, a person would still be primarily a living being with both its aspects, whatever other criteria are required in addition. Among them could of course be the capacity of autobiographical recollection and narration. Nevertheless, without its embedding in the continuity of pre-reflective bodily existence, the narrative self and its memories remain but a story that we tell about an alien person. It is the pre-reflective sense of self which provides the experiential grounding for any self-ascription and reflective self-identification. Once the basal self-affection of the body is impaired or almost lost, all attempts towards explicit self-assurance become vacuous self-observation and hyper-reflection, as is the case with schizophrenia. Hence, the basic continuity of ourselves consists in the unified progression of our lives, and in the temporal coherence of the lived and living bodies that we are.

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