Switching “On,” Switching “Off”

Does Neurosurgery in Parkinson's Disease Create Man-Machines?

Johannes Hätscher

Introduction

Parkinson's disease is a neurodegenerative disease only occurring among the human species. On a pathophysiological level, a selective process of cell destruction is observable (Braak et al. 2004). It progresses from the enteric nervous system (neurons in the stomach and intestine) to the central nervous system in a stereotypical manner (ibid.). Once it reaches the symptomatic stage, the clinical phenotype of a complex, yet incurable movement disorder along with a variety of psychosocial consequences emerges. The chief symptoms are tremor (involuntary movement of the hand), rigidity, akinesia (inability to initiate or slowness of movement) and postural instability (inability to keep one's body in a stable or balanced position). As a consequence, the human body begins to take on a life of its own: “The first and most natural instrument of man” (Mauss 1989) defies control by its owner. There is a general decrease in the ability to catch artefacts, walk, speak, and perform gestures. Habitualized motoric skills in private and professional settings decline.

Medication, most notably levodopa, provides significant relief from symptoms in the early stages. However, long-term use is complicated by fluctuations that result in periods of severe symptoms during periods when the drug level is too low (off periods) and periods of improved symptoms when the drug level is sufficient (on periods). Moreover, involuntary movements (dyskinesia) can be induced during on periods. These fluctuations and dyskinesia become more and more irregular and uncontrollable by medication adjustments. In this stage of Parkinson's disease, an increasing number of patients decide for a new Parkinson's disease therapy: deep brain

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1 I would like to express my gratitude and thanks to the following persons and institutions who helped and supported me during the work on this chapter: Tilman Allert, Mrs. C., Maarten Coolen, Ian Copestake, Eilika Freund, Sarah Küper, Kristina Lepold, Jos de Mul, Sassan Sangsari, Dirk Spreen, and the anonymous doctors and patients involved in the project and the Frankfurt Graduate School.
An electrode is implanted into a specific region of the brain, the subthalamic nucleus. It is electrically driven by an impulse generator with a battery implanted in the patient’s chest. After successful insertion, fluctuations, dyskinesia and tremor can be significantly reduced, often allowing patients dramatic improvements in overall mobility. Following evidence-based medicine, the therapy is considered a potent treatment in advanced Parkinson's disease (Deuschl et al. 2006).

However, the renaissance of functional stereotaxy in the therapy of movement disorders comes along with clinical reports of adaptation problems in the peri- and postoperative situation (Ceballos-Baumann, Gündel 2006). Amongst the transient neuropsychiatric and psychiatric side-effects reported are mania, hypomania, apathy, anxiety, depression and hypersexuality, pathological gambling and impulsivity. Suicides also occur occasionally. The “burden of normality” (Wilson et al. 2001), identity crises and difficulties in integrating the implanted artefact into schemes of the self and the body, or the spouse’s perception of the patient, rank high among the psychosocial adaptation problems (Schüpbach et al. 2006). Continuous quarrelling or even break-ups are interpreted as a maladaptive postoperative transformation of the partnership or family network.

**Anthropological thinking in the field of neurosurgery**

I started to investigate these problems from the perspective of social psychology and the sociology of family (Hätscher 2009). The study is conducted in collaboration with two clinical centres, specifically a department for neurology and a centre for neurorehabilitation. While neuropsychiatric adaptation problems need to be explained in terms of pathophysiology, identity problems and changes in the familiar coping setting require a broader theoretical framework to be explained with sufficient depth. A sociological perspective within a biopsychosocial framework (Mullins et al. 1996) is needed. But what is evident at first sight proves to be a very difficult problem in research. In the field of adaptation processes after deep brain stimulation, clinicians and scientists have to deal with a nature vs culture problem in an increased manner: culturalistic as well as biologistic reductionisms fail to explain the phenomena of postsurgical adaptation problems. A frontal lobe disorder might be diagnosed, an unintended irritation of the limbic area by the electrode may occur, but yet this does not sufficiently explain a patient’s psychosocial problems. Practice theory and case reconstructive research on the other side fail to elucidate impulsiveness
or the phenomenon of the so called “awakening” (Sacks 1982) after surgery. Still, we are talking about a coherent event affecting cells, brain processes, bodies, biographies, partnerships and family structures. Theoretical concepts such as autopoiesis, self-referentialty or multifactoriality describe the process, but do not really help explaining and understanding it. In contrast, within the available theoretical and especially anthropological accounts Plessner’s philosophical anthropology promises to be a fruitful and attractive candidate for an appropriate conceptualization. The Plessnerian scholar gains insight into a conceptualization of human practices that surmounts the old dichotomies of the natural sciences (Naturwissenschaften) vs. the humanities (Geisteswissenschaften), of body and mind, as well as artificiality and naturality.

Still, Plessner has worked on an individual anthropology (Hauke 2000). He is also renowned as a theoretician who points to the limits of community. This is what makes it difficult to focus on a patient’s family problems using his writings – although Plessner of course has a concept of sociality called “Mitwelt.” Instead, these are problems in the patterns of communication occurring in the more intimate sphere of the couple or familial community, which are usually reconstructed using the paradigm of symbolic interactionism or “social anthropology” (Delitz 2008).

But scholars doing research in the field of family-coping and medical sociology tend to underestimate the reality of biological processes, as well as the influence of the medical system – instead discounting clinicians who neglect the importance of the patients and their relatives work in the process of coping with a chronic illness and the reality of cultural processes. Here, Plessner’s approach stands out from the rest. His writings, stemming from a trained zoologist as well as a philosopher and sociologist, are capable of reminding the mainstream (medical) sociology community of its obliviousness to the significance of the body, while on the other side is capable of reminding neurologists of their obliviousness of the social facts. But it still remains a problem of multidisciplinarity, not to mention interdisciplinarity, that sociologists know so little about pathophysiological processes and clinicians on the other hand know so little about social processes: Bridging the disciplinary gap is a far too difficult task and one has to remain humble in one’s aims as a scientist. Nevertheless, in the following I will try to investigate to what extent Plessner’s thinking in the field of philosophical anthropology can help shed light on some major problems in the project. To this end, I will focus on different oppositions such as object and subject, naturality and artificiality, inside and outside, de- and recentration, and finally, laughing and crying. I will thereby follow
two paths: 1) Investigating Cartesian and transhumanistic elements in the current neurosurgical praxis, and 2) Reflecting on the concept of the cyborg using the example of deep brain stimulated Parkinson patients.

**Radical Cartesianism and the renaissance of stereotactic and functional neurosurgery**

Clinical practice rests on scientific theories, proven knowledge of how to apply them, and last but not least, to the ideas of men. I will try to make such an account explicit by using the example of stereotactic and functional neurosurgery. Following a pragmatist and neo-Vygotskian thought collective, artefacts and tools used in sophisticated fields such as the laboratory or operation room can be considered as clotted solutions to a former action problem. Neurologists and psychiatrists working in the field of neurosurgery treat diseases, which are conceptualized as brain pathologies: Tourette syndrome, Parkinson’s disease, obsessive-compulsive disorder, depression, anxiety and even schizophrenia. Focussing on the last group of mental-health problems, a striking difference appears between psychotherapeutic and psychosurgical approaches, which nowadays reappear: No conceptual difference is made between the animal model – where experiments are performed and treatments are tested – and man. Illocutionary acts, dreams, deontic scorekeeping, narrative identity, the faculty of speech, a symbolic sphere, constitutive for humans – if we follow other anthropological accounts – are peripheral for therapeutic purposes. Instead, a direct contact between the surgical knife, electrodes or lesion tools and the structures of the central nervous system is established. Access is made using the so-called stereotactic frame. In the following section, some issues concerning the stereotactic approach and its epistemological and practical implications will be considered. For this purpose I want to examine a photographic portrait. It depicts the physician and inventor Lars Leksell (1907-1986), famous for the invention and refinement of new neurosurgical techniques, such as the Leksell stereotactic system, which is displayed in the picture (see figure 20.1).

In the picture an operating table can be seen. A cranium is placed on its upper border. The cranium is fixed in a stereotactic frame. Leksell is standing behind his setup. His stature is that of a respected and renowned expert. Already aged, his appearance is that of an elegant man. He is wearing a white coat and a tie. His gaze is concentrated. One hand is placed in his pocket, while the other one is placed under his chin. The similarity to the
figure of Hamlet, holding a skull, is an overt one (and in case the allusion was intended, one may wonder if the clinic can actually provide an appropriate ground for allegory and staging). Instead of his hands holding the cranium, it is fixed by the apparatus around it. In other words, the apparatus works as a refined extremity, in fact, it is conceptualized as a prosthesis. How can the constellation consisting of physician, cranium and stereotactic system be interpreted? For this, I would like to introduce a reading that goes back
to Plessner and Descartes. The apparatus fixes a cranium: “To be or not to be, that is the question.” This skull, although constitutive to vertebrates, is featured as an object: unanimated, immobile. In this way it does not differ from the kind of entity Plessner begins with in his phenomenological investigations in *The Levels of the Organic and Man* (Die Stufen des Organischen und der Mensch, 1928) with objects (Dinge). Using the stereotactic frame, the cranium is conceptualized as *res extensa* – if we follow Descartes’s world-fundamentalization resulting in a dualism consisting of nonmaterial entities, i.e. qualitative properties (*res cogitans*) that lack extension and motion, and material entities (*res extensa*), to which the human body belongs, having the material properties of both extensin and motion. Bodies belonging to the *res extensa* follow the laws of physics and can be measured in a quantitative way. In the picture, this result of scientific revolution is exposed in a clear way: stereotactic frames are triaxial Cartesian coordinate systems (with the exception of the Leksell system, in which polar coordinates are used) transformed into practical tools. A device can easily be moved on these axes and precisely fixed on a previously determined point. A drill and some other tools, such as electrodes or cutters, can be inserted into the central nervous system to alter the structure of a specific area. Up until this point, stereotactical and functional neurosurgery follows a deep Cartesian approach. It is important to note here that “Cartesian approach” is not meant in a strict historical, exegetical sense of the word, but more broadly, is meant to denote the Cartesian aftermath of the emergence of empirical science such as physiology and psychology. It is Plessner, who points to this historical relation in his *Stufen* (Plessner 1975, 46). By these means, parts of the human body appear only in their quantitative properties, the unanimated body following the laws of a Newtonian universe. Psychology and Physiology, as they emerged as disciplines of empirical science in the nineteenth century, were no longer concerned with or, as Plessner notes, even “blind” to the nonmeasurable properties of animated beings. This is also due to an ongoing secularization and a rejection of the so-called *Naturphilosophie* and metaphysics in general. As Plessner later notes in his *Stufen*, it would be regressive not to rely upon exact measurability (Plessner 1975, 42). But scientific problems still emerged even following the acceptance of Descartes’s fundumt principles. Plessner diagnoses a “Problemstellung,” a post-Cartesian problem position. The problem itself is also inherent in the aforementioned picture. Here, it has an ethical as well as an epistemological dimension. From an ethical point of view it must be noted that the cranium formerly belonged to a living human being whose recognition is not granted much room. From an epistemological standpoint it must be obvious that
in the context of stereotactic surgical practice the central nervous system is treated and thereby reduced to an object as well. As a result, the solution of materialistic monism appears, reducing qualitative properties of the mind (and as Plessner notes, of the pure object as well) into quantitative properties. But there still exists at least one subject apparent in the picture: Leksell himself. This seems paradoxical. Does Leksell’s mind consist of mere quantitative properties as well? Or – to follow Plessner’s interpretation of Descartes’s philosophy – is it a mere coincidence that Leksell chose to be the only subject in the picture, so to speak: The Cartesian cogito in its egologic universe, conceptualizing all objects as precisely measurable (cf. Hauke 2000)? From here one may raise the question, how is the brain able to function as a vessel for qualitative properties? And last but not least, an irreducible subjectivity exists in exactly the moment in which someone separates the cranium as an object from Leksell, the human: this gives rise to a lot of epistemological problems that materialistic monism as well as Cartesianism are unable to solve. At this point one could go back to Plessner’s Stufen and study his solutions. But I want to follow another path. What interests me, is the fact that regardless of all the epistemologic problems implied, it can hardly be denied that stereotactic approaches have had a renaissance in recent years. Neurologists in this field would not follow the Plessnerian battle cry: “Get away from Descartes!” (Plessner 1975, 42), because they are not very interested in raising epistemological questions, especially if they lack any foreseeable application for them. Their habitus is pragmatic in nature, and so was Descartes (Perler 1998; Schnädelbach 2004):

I have never made much account of what has proceeded from my own mind; and so long as I gathered no other advantage from the method I employ beyond satisfying myself on some difficulties belonging to the speculative sciences, […] I never thought myself bound to publish anything respecting it. But as soon as I had acquired some general notions respecting physics, and beginning to make trial of them in various particular difficulties, had observed how far they can carry us, and how much they differ from the principles that have been employed up to the present time, I believed that I could not keep them concealed without sinning grievously against the law by which we are bound to promote, as far as in us lies, the general good of mankind (Descartes 2008).

First and foremost, a treatment of essential tremors or dystonia using deep brain stimulation techniques appears to be effective. Localizing centres in deep regions of the brain via the stereotactic frame and stimulating specific
cores makes treatments possible that were unthinkable a hundred years ago, not to mention in the age of Descartes. Neurosurgeons treating Parkinson's disease, dementia, cancer or Tourette syndrome are at the forefront of a clinical project to overcome diseases, decay and ageing. It is performed by using technology grounded in mathematics and empirical science. The project itself is not a very new one. Let me cite Descartes once more, the technician and natural scientist, as George Canguilhem outlined him in his 1937 lecture “Descartes et la technique” (Canguilhem 2006, 8):

It is true that the science of medicine, as it now exists, contains few things whose utility is very remarkable: but without any wish to depreciate it, I am confident that there is no one, even among those whose profession it is, who does not admit that all at present known in it is almost nothing in comparison of what remains to be discovered; and that we could free ourselves from an infinity of maladies of body as well as of mind, and perhaps also even from the debility of age, if we had sufficiently ample knowledge of their causes, and of all the remedies provided for us by nature (Descartes 2008).

As Canguilhem notes, Descartes’s main concern was not to formulate another utopian goal (Canguilhem 2004, 6), but instead, his main concern was to solve practical problems. After having accepted the fact that he was bound to his own body as a living body (Leib), a body he could not substitute, he had to find other strategies. Outer organs should complement or alter inner organs. Their artificiality should help to overcome the burdens of naturality (Canguilhem 2006, 19). A promising therapy in late stage Parkinson's disease has emerged in deep brain stimulation, a treatment that helps to reduce the cardinal symptoms of a severe chronic illness, a typical old-age disease. The main strategy being used here is the transformation of the patient into a so called “man-machine,” in which human practice has not only altered the environment of the natural body, but technology surpassed the border of the skin to create a “phenomenological cyborg” (Spreen 1998). Here, the epistemic approach, the instruments being used, as well as the aim, are all Cartesian in nature.

Deep brain stimulation in the treatment of Parkinson's disease: A case of cyborgism?

Let us have a closer look at the deep brain stimulation procedure for the treatment of Parkinson’s disease. Here we find that an electrode is
implanted into a specific core of the central nervous system, the nucleus subthalamicus. It is electrically driven by a battery implanted under the patient’s chest. These electrical impulses block the electrical signals that cause Parkinson’s symptoms. In this way, the cardinal symptoms e.g. a tremor – an involuntary, rhythmic muscle movement of the hand – either vanish entirely or are reduced significantly. What is important to note is the fact that a cure is nonetheless impossible, as this treatment is only able to suppress symptoms. Although sophisticated technology is used in the surgical procedure, the implant itself is a “low tech” device when compared to technologies as they are discussed in transhumanistic discourse, for example, nano-, bio-, info- and cognotechnologies (More 1996). But it is hard to deny that deep brain stimulation features all the characteristics commonly referred to as constitutive for cyborgs: artefacts fusing with phylogenetic old structures of the brain, wedding of flesh and chrome, the control of biological functions with the use of electronic devices. What distinguishes Cyborgs from man? Or to be more precise, what distinguishes cyborgs artificiality from the natural artificiality of man? One could argue that it is the very fact that synthetic parts enhance the body’s mechanisms; implants like the cochlea implant or implanted harddisks transform man into a restorative or even enhanced cyborg. If we take this perspective, we have to agree with the distinction between “natural” versus “artificial” in a sense of “nature” vs. “culture.” In this respect, we also differentiate between “inside” and “outside,” thereby referring to glasses – which are worn outside – in comparison to, for example, the cochlea implant. But from an analytical point of view, I hesitate to follow the differentiations made. To focus on the treatment of Parkinson’s disease, we might ask: Does a fundamental difference between a medicamentous treatment and deep brain stimulation really exist? Personally, I cannot see it. The levodopa drug most often used in medical treatment is an industrially manufactured artefact, like the neurostimulator. One takes it out of the package and swallows it. Up to this point it is still an entity existing in the environment of the organism. It then passes the intestinal mucosa as the critical border. Having later passed the blood-brain barrier, the central nervous system is reached. Here the precursor is finally converted into the neurotransmitter dopamine. If we take a closer look at the deep brain stimulation apparatus on the other hand, it is noteworthy that it stays a foreign object all throughout, despite it lying under the skin. Intermediation between organism and artefact happens only beyond the tip of the electrode. From this point of view, medication is a less intrusive technology compared to deep brain stimulation: If any complications occur between the drugs substances and the organism, no
explanation seems necessary. The therapeutic effect is the same, although deep brain stimulation is certainly a more effective treatment in late stage Parkinson’s disease (Oertel and Reichmann 2008, 24), and is in fact the only option left at this point of development. If we follow these considerations, we should not apply an inside/outside differentiation that follows man’s outward contours. A patient swallowing the levodopa drug or a “brute fact” like a potato being altered by cultural practices like cooking is, in this respect, an even more cyborg-like being compared to a deep brain stimulated Parkinson patient. Yet, it does not make sense to talk of these patients as being cyborgs. In contrast, one can argue that man has been a natural born cyborg since the very beginning of cultural evolution (Clark 2003). So if we are on the wrong track, in what way is it fruitful to perceive a deep brain stimulated patient as a “man-machine”?

Eccentric positionality is the organic stage constitutive of human beings (Plessner 1975). Any other stage would be systematically impossible (Haucke 2000). To conceive of cyborgs as the next stage of man would imply introducing teleology or “progress” into philosophical anthropology. Plessner undoubtedly refused this notion (Plessner 1961, 33). What is more, it would also follow vulgar attempts to present human history as a history of technological progress in which men have begun to alter their biological determinacy by means of a new stage of technology (More 1996). Furthermore, I do not want to deconstruct the difference between the concepts of man and machine. Rather, I think it is fruitful to maintain the boundary for analytical purposes. The crucial question is: How is it that in cases like deep brain stimulation, handling of the patients’ naturality, and the world of artificial artefacts and prostheses, levelled in order to maintain a balance? How do patients re-centre themselves? To analyse these questions, it is important to take the perspective of surgically treated patients. In my empirical project, in which patients with deep brain stimulation and their spouses are interviewed, I observed cases, in which the intervention was perceived as a marvellous cure (Hätscher 2009). Patients who suffered from severe Parkinson’s disease for years, all of a sudden regained control over their entire body again. As I observed in two cases, the stimulator itself was not an entity that had to be integrated into the self-concept of the patient. Although one might want to conceptualize these patients as some kind of cyborg or man-machine, they actually did not feel like it. But this was not always the case. Some patients and their relatives reported problems while attempting to integrate the machine into their daily practice, more specifically, psychosocial adaptation problems occurred (Schüpbach et al. 2006). In our project I encountered cases in which the stimulator had to be
fine-tuned or even repeatedly switched on and off for several reasons after surgery. I will give empirical examples for both cases.

I would like to start with the complicated procedure of fine-tuning, where the goal is to find the proper adjustment among a dozen of parameters and nearly endless combinatory possibilities. The (re)programming has to be done by a specialist. But as always, time is precious and patients cannot be examined over long periods. Yet, a correct fine tuning is essential for an optimal outcome. In a way, the patient’s quality of life depends on it, because mood, temper, speech, gesture and, last but not least, motor skills, are heavily influenced by the stimulation. Most important in this respect is the administering of medication and the fine tuning of the apparatus, as it can also be performed by the patients themselves, thanks to the development of a therapy controller. This device is virtually identical to television remote controls that can be bought in electrical stores. The procedure is very difficult, as a lot of trial and error may be needed. The interaction of stimulation and effect has to be carefully observed. In some cases, long intervals appear between cause and the effect appearing, as in the case of this 68-year-old man:

Case-Report I
A: Ja ich glaub ich muss meine rechte Körperseite, also die linke Hälfte, die hat er jetzt fixiert auf einen bestimmten Kanal (1,4s) ob man da (--) noch etwas machen kann. Wenn ich nämlich – (1,5s) ich nehme ja praktisch – (1,3s) zwanzig Prozent nur noch der Medikation die ich vorher hatte (1,3s) und äh (---) da (--) hat er JETZT, da hab ich ooch so ne Durchhänger gehabt, in der letzten Zeit, wo ich also – große oder lange Zeiten, schlechtere Beweglichkeit. Äh weil ja ne größere Agonisten, ne höhere Agonistendosis das Hebepan etwas erhöht, nicht, und das ergänzt dann etwas. Darf ich natürlich auch nicht weiter äh machen. Ich würde sagen ich muss mir SELBST, ich spür das ja SELBER wie das wirkt? (---) und dann müsst ich eventuell, neige ich etwas zur ÜBERbewegungen ne? Und das wieder fein hehe auszutarieren, möglicherweise nochmal (--) wir ham ja jetzt wieder n Termin und möglicherweise muss ich das nochmal mitner (--) Schrittmacherrückstufung parallel äh erledigen.

Translation
A: I guess I have to (--) my right side of the body (--) I mean he (the physician, JH) fixed the left side (electrode in left hemisphere of the patient's brain, JH) on a specific channel (--) if something can be optimized here. Because if I, well, right now I take practically twenty percent of the medication.
And he just recently (-) I felt such a fatigue in the recent weeks when my overall mobility worsened more or less, because of taking more agonists, took more of this one preparation, it complements it a little. Of course I am not allowed to do it (administering of medication, JH) by myself. But I would say, I can feel it by myself you know? How it sinks in and then I would have to, I probably tend to hypokinesia, you know? (-) To balance it out. Probably again, we will arrange another time and date with the doctor, probably it will be necessary to downgrade the stimulator a little bit.

What we see here is an obvious struggle to regain autonomy over ones own body. High levels of neurological expertise as well as tacit knowledge and experience are required while the patient seeks to cope with this difficult situation. The linguistic structure of the text with its disrupted and discontinued phrases impressively depicts the patient’s fluctuation between moments of initiative and self-reflection (“I can feel it by myself”) on the one hand, and a disturbing sense of being subjected to an obscure disease and a complicated therapy, on the other, that makes him depend on the professional specialist. This man is striving for “self-governance,” he “wants to master his body” but in order to reach this objective, his own effort as well as further collaboration with the neurologist is necessary.

**Postsurgical adaptation problems and Plessner’s philosophical anthropology as a theoretical framework**

The other situation is even more irritating and leads back to our reflection on Plessner’s concepts in the field of neurosurgery and brain implants. In the following it will be demonstrated in how far philosophical anthropology is capable to elucidate the phenomenon: The mentioned situation appears whenever the neurostimulator is temporarily deactivated for a number of reasons. In this situation what I would like to call “front-stage-android” – borrowing the term “front stage” from Goffman’s sociology – can be seen. Using the remote control, the stimulator can be shut off, either by a physician, the patient himself, or even his relatives. Now the cardinal symptoms are no longer suppressed and reappear either spontaneously – especially in the case of tremor-treatment – or gradually. I will demonstrate two cases of suffering from severe rigidity and akinesia in a so called “OFF-state.” In both situations, either the partner or his relatives make use of the remote control. After pushing the button, the patients fall back into a situation of
total immobility. What looks like a man-machine being shut off is actually just a relapse into the former illness, the symptoms of which are now no longer repressed. Pushing the correct button-sequence again, the patients are “reactivated,” it is like switching a person “On” and “Off.” In what follows, two transcribed sequences will be presented in which the situation is conveyed through the conversations of the patients and their relatives.

**Case-Report II:**
Note: The couple makes regular use of the ON/OFF function. The patient himself is paralyzed, still he profits from deep brain stimulation. The patient’s wife shuts down the stimulator every time she puts him to bed. Once in a week she is visiting her friends in the evening. During the meetings she regularly disappears for a few minutes to follow the procedure at home. I interviewed both the patient and her.

One year follow-up interview, B: wife, E: couple, nurse and interviewer

B: Wir sind gerade beim (--) wir trinke da was oder weil jemand Geburtstag hatte; sach ich muss HEIM, ich muss meinen MANN ausschalten!
E: hehehehehehehe
B: Ich muss meinen Mann abstelle hehehehehehehe.
E: Hehehehehehehehe
B: Also ich konnt halt n dreiviertel Jahr überHAUPT net lache – aber jetzt kann ich wenigstens wieder LACHE.

Translation:
B: We're drinking something, or we are at someone's birthday and I say: I gotta go home, I have to turn my husband off! (everyone laughing) I have to turn my husband off (everyone laughing)! Well, I wasn't able to laugh for nearly nine months but now I'm at least able to laugh.

**Case-Report III:**
Note: In this second scenario, a severe episode of hyperkinesia occurred under stress. To be able to manage such a situation in the future, the physician introduced the couple to the use of the remote control.

Three month follow-up interview, A: patient, B: wife, I: interviewer

bewegen. Dann schaltet man wieder AN? Nach ner viertel Stunde nach
zehn Minuten – is alles wieder in ORDnung. (3 s) Hab ich schon gesagt –
wenn ich mich mit meiner Frau SCHLECHT stelle, dann KLAUT die
mir die Fernbedienung.
B: Hehehehehehehehehehe
I: Hehehehehehehehe
A: Und stellt mich in die ECKE.

Translation:
A: I couldn’t feel the weight in my legs. It increased slowly. After 15
minutes I couldn't move myself anymore. And then, you turn it “On.”
After 15 minutes everything is perfectly alright again! (pause of 3 sec.) I
already said to myself: If my wife is fed up with me, then she nicks the
remote control and turns me off! (I and B laugh heavily.) And puts me
into the corner!

In both cases, laughter occurs. Next, I will argue that a) this laughter com-
prises a structural, anthropological problem and hence has a universal
character, insofar as it cannot be reduced to the situation; and b) the Pless-
nerian anthropology can provide an intriguing solution to this problem.

According to Plessner’s anthropology (Plessner 1970), laughing as well
as crying can be understood as a human response to crises. In such situ-
ations, no routines or patterns of interpretations exist that assure a clear
definition. Thus, a proper alignment cannot happen. If we focus on the
linguistic transcripts as I have just presented them, it can be studied, how
a meaningful sequence, a pragmatic rule-following in conversation, is
adjourned. What is not apparent is the fact that laughing is primarily a
reaction of the body (and one can build the argument that video protocols
would provide a better basis for data). If we follow Plessner, laughing is
comprised of a special relationship between man and his body (as living
being) in its eccentric positionality. This is an even more important point
in the case of Parkinson patients, whose primary problem is the loss of body
control. Pathophysiological processes make it impossible for the person to
move their extremities, form a gesture, move themselves, or perform other
basic social practices. Chronical progrediency forces patients to withdraw
from the public appearance. Thus, Parkinson’s becomes an issue that brings
about shame in the persons affected by it (Nijhof 1995). With the sociological
thought of Plessner, it is possible to interpret this circumstantial loss of the
body as the primary tool for performing impression management: the ability
to work in a flexible way in role-taking or in Plessner’s words: the ability to
wear different “masks” in the public sphere. Instead, the pathophysiological mechanisms force the individual into a single social role, the role of the “drunk” or the “madman.” By withdrawing from the public sphere, the familial community as the only hideaway left is often experienced as a psychosocial jail. In the decision to opt for deep brain stimulation and after surgery, patients are able to explore the sphere of public life again, a possibility that within Plessner’s anthropological framework, is constitutive for the status of being a person. It can happen in a rapid manner, even after years of chronic progrediency and decay.

Going back to laughing and crying as limits of human behaviour: To become a person, a threefold entity of mind, psyche and body (as living being) (Geist, Seele und Leib) is necessary. This entity, this state of personal integrity is not of an enduring nature: Abnormal situations, actual limits, force this entity to fall apart (Plessner 1961, 161). This is also the case in laughing or crying. The body, as a living body, slips away from control and takes over: It no longer serves as an instrument, with which one can act, speak, gesture or express something but the body reacts in direct counterblast (ibid.). It is a physiological automatism causing laughter. But as Plessner points out, humanity is effectively demonstrated through an abdication of body control, body possession, demonstrated by the disintegration of the threefold entity constituting the person. In this figure, the false dichotomy of hermeneutics and biology is overthrown: It comprises a reaction of the body to a crisis in the field of sense-structured world. Only an anthropology synthesizing both layers is capable of explaining this reaction in non-reductionistic terms. But what is the matter? What exactly is the limit in this case that causes laughter in the examples above?

The symptoms of Parkinson’s disease lead to a loss of a person’s ability to master his bodily control. By now, this potential is regained with the aid of deep brain stimulation. In the process of recentring oneself, a psychosocial adaptation problem appears: The human being, in its eccentric positionality appears – at least in the patterns of interpretation operative in the patients and his or her spouses – in one of its endless aspects as an artefact itself: as a machine, as an android. But the person, who lost the possession of his body, is not an android. The technology used to suppress the symptoms only behaves much more machine-like in comparison to, for example, the levodopa medication. What fails to be an analytical difference – the difference between an ordinary human and a so called cyborg – is in fact a difference in the processual behaviour of the body as a living body. The alteration of the pathophysiological mechanisms can be controlled by buttons. This confuses us, since buttons belong to machines in our ordinary
perception. But if the human is capable of differentiating humans from things, plants and animals (Plessner 1975; Haucke 2000) than an irritation appears in exactly the moment at which the body as a living body reacts like a machine in the perception of either the patient or his spouse. This situation causes laughter in the cases presented above. But by laughing in an abnormal situation, deep brain stimulated patients remain human in their natural artificiality.

Bibliography


