

Function Substitution versus Practice Emulation. Two Paradigms in Assistive Technology

Gerd Grüber^{a,b,c}

^aUniversity of Mainz, ^bUniversity of Tübingen, ^cUniversity of Dresden, Germany

Correspondence: Gerd Grüber, Forschungsstelle Neuroethik/Neurophilosophie, Johannes Gutenberg-Universität Mainz, Gresemund-Weg 4, 55099 Mainz, Germany, gruebler@uni-mainz.de, Phone ++49-6131-3924016, Fax ++49-6131-3924017

Abstract. To say that human beings ‘have a body’ is to speak in the abstract. As a detached entity, the body arises as a unit of resistance in learning, failure, akrasia, and disease/impairment. Making the body disappear in an undivided practice is the implicit aim of education, morals, therapy, and technology. Disability is a complex social phenomenon of comparing people’s actions to the practice of the average majority in a given society. Impairment preventing the disappearance of the body results in stigma. Only a technological strategy aiming at the emulation of average body practices, not a strategy of (mere) function substitution, could ever overcome disability in a comprehensive manner.

Keywords: Body, disability studies, concepts of disability, assistive technology

1. Introduction

That human beings have a body seems to be a piece of trivial common sense and is taken as a starting point by many current philosophical investigations in the interdisciplinary field of neurosciences (e.g. Gallagher 2005). Having a body in the sense of facing special physical conditions is also a core issue in disability studies. There, according to the ‘social paradigm’, it is argued that physical conditions (impairments) are not causally responsible for concrete restrictions in opportunities (disability). Therefore, impairments may be compensated for by tolerance, friendly architecture, and assistive technology (AT). Taking some rather phenomenological approaches in philosophy into consideration, these purely functional assumptions become questionable. The body is not just a given, detached entity but rather an abstraction from human practice, which is best undivided into body and mind. And disability is a phenomenon much more complex and even more thoroughly social than the social paradigm takes it to be. Many instances of AT help to ease the restrictions resulting from impairments but do not deliver impaired people from their role as ‘special’ within the average majority. But which paradigm should AT development follow when overcoming disability is the long term aim?

2. The Arising Body

Human beings are sets of competences able to perform everyday practices within social environments. In regular practice the body is absent; it just disappears into doing something. But when and how does the body surface? I propose examining this question in conjunction with the mechanism of status-change which sometimes occurs in things we use (cf. Heidegger 1996, §16). Those things, like tools for instance, are invisible in use, transparent. But sometimes one might be unable to do the envisaged work because the tool is broken or out of order. Then, the practical context of transparent use is smashed. The tool obtrudes and appears to the performer as a detached entity. A change similar to that of the tool might happen in a person’s self-awareness when prevented from carrying out an envisaged practice. Coming from a state of transparent agency, the person now objectifies him/herself or is objectified by others. The operation loses its transparency, and finally the body (or the mind) becomes an object in the focus of medicine, morals, education, etc. This happens not only in the case of mistakes, accidents or failures. It also happens in cases of illness or impairment. Here the body ‘arises’ with a life of its own, independent of ‘me,’ taking a course adverse to ‘my’ plans and routines. Therapy would have the function of reuniting the person, of pressing the body back into transparency. The body might also arise in the process of learning practical skills, or in instances of akrasia. This also applies

to aesthetics. The body as a 'thing' comes up the moment one assesses it to be beyond the boundaries of aesthetic acceptability because of whatever might conflict with average expectations. In all those cases the body becomes a burden and a unit of resistance. The implicit norm, then, is that the body has to disappear, has to become transparent, and has to stop disturbing everyday practice.

3. Concepts of Disability

In disability studies, one finds the 'social model' of disability and the distinction between disability and impairment. With the term 'disability,' the results of social exclusion and discrimination are meant. 'Impairment' is a personal condition of the body which limits one's options in doing something. Thus, disability is socially connected with impairment, but impairment does not cause disability. Although instructive in many cases, this model has its pitfalls. Whenever a practice is valuable in itself a person's inability to join in indeed causes disability. Here, social effects don't play any role. Or do they? One might say: even those practices (e.g. walking around, playing tennis, listening to concerts) are established social practices of an average majority. If nobody engaged in those practices, the impaired would not be disabled in that context. Therefore, a more radical social concept of disability would stress that any disabling effect results from a lack of competences in commonly shared social practices. But the effect only sometimes results from avoidable discrimination. In other cases it results from the simple fact that there is a culture arranged around average competences of the majority. Disability might be limited in its pervasiveness by social education or tolerant environments, but cannot be overcome by them completely. This makes a person with impairments different from the majority and this difference is 'just' given – unless all people agreed to no longer engage in the correlative practices. The social environment 'automatically' defines an average norm. The norm consists of practices, aesthetics, and forms of behaviour and it implies the required competences. It not only defines what to do, but also how we do it. One might call this the 'body techniques' (Mauss 1979) of a certain social environment. Being outside of that norm results in stigma (Goffman 1987). The person is 'recognized' as being different; the person recognizes this 'being-recognized-as-different.' So, stigma is a complex interaction of mutual observation within a social environment, not a matter of function.

4. Conclusion: Paradigms for Overcoming Disability through Technology

Any technology – be it for impaired or average people – that does not allow the body to disappear is not sophisticated technology. It may be a makeshift, but it is certainly not a 'solution' in the proper sense. This is the background for distinguishing between two different strategies of supporting impaired people by technical means:

- 1) The person is enabled to do whatever his/her social environment does, and he/she does it the same way the social environment does it.
- 2) The person is enabled to do whatever his/her social environment does, but he/she does it a different way.

Obviously, only the first version would cause the person to lose the stigma. 'Getting rid of the body' would require emulating the performance of an average body, not only being on a par with it functionally. Other technical strategies allow for personal assistance, but never overcome the distance or alienation from the social environment (stigma). The body remains a resisting unit. Sophisticated AT of the future should try to make the body disappear, to be replaced by the person's undivided practice. This gives AT development a paradigm and ideal to aim for in the long run.

Acknowledgements

This work is supported by the European ICT Programme Project FP7-224631. The paper reflects only the author's views and funding agencies are not liable for any use that may be made of the information contained herein.

References

- Gallagher S. *How the Body Shapes the Mind*. Oxford Press, New York, 2005.
- Goffman E. *Stigma*. Touchstone, New York, 1986.
- Heidegger M. *Being and Time*. State University of New York Press, Albany, 1996.
- Mauss M. *Sociology and psychology*. Routledge, London, 1979.