Many papers in this volume discuss questions of body boundaries and processes of opening up and closing down those boundaries, including actual and perceived violations of such boundaries. They also show that discourses about processes around body boundaries are always also rooted in and feed back to socio-cultural and political contexts (one such example being the discussions around the circumcisions of babies for religious reasons in Germany). To put it more bluntly: both the drawing and the subversion of (body) boundaries and the very discourse about boundaries are deeply immersed in socio-cultural contexts, on what cultures and societies deem acceptable as well as socio-cultural imaginaries and ideal bodies [1].

Yet, when we critically reflect about body boundaries and bodily integrity, we also need to consider the various medical apparatuses itself we have at hands today to modify our bodies or penetrate body boundaries. Becoming pregnant and giving birth, for example, can today be highly technological processes that include machinery for in vitro fertilization, medical screenings and blood tests, or ultrasound. While ultrasound does not physically violate body boundaries, boundaries are penetrated nonetheless. But the end of pregnancy, giving birth and being born, does not liberate one from these medical apparatuses. I still remember when I went to the pediatrician in my childhood that sometimes I had a little needle pierce my finger and the nurse literally sucked a few drops of blood out of my finger with something like a pipette. My bodily integrity has not been violated in a radical or irreparable form (it was more the idea that scared me off), and yet, body boundaries have been breached; probably a necessary breach but a breach nonetheless.

When we think of body boundaries or the breach of body boundaries, we probably think of – at least in the first instance – about the skin as physical boundary. And yet, the question of body boundaries is more complex than that. The skin is “a” boundary, an important biological boundary, a visible boundary. But it is also a communicator, it communicates body, it blushes, it sweats, it gets goose bumps. It communicates the environment to the body, we feel the cold, heat, touch. We could say that the skin communicates the inside to the outside and the outside to the inside.

But the skin is only “a” boundary, that is: one of the many body boundaries. In fact, body boundaries are many, they are fluid, given to us, created by us socially and individually, but always also withdrawn from our grasp. To think about body boundaries, then, we first have to think about “what is body?” and “what are boundaries?” because what body is and how body is experienced has an impact on how and where body boundaries are drawn and what kind of boundary violations are deemed acceptable or, indeed, favorable. What I mean here is that body boundaries are never mere objectifiable (or natural) physical boundaries but are also very much rooted in experience. Body boundaries can be experienced and violated even if no physical harm has been done. To give an example of what I mean here: if one boards the metro in London during rush hour, it is quite acceptable for bodies to (randomly) rub against each other. But if someone walked up to a stranger on the streets or in an almost empty space and started to rub their body against the other body, it would most likely not only be deemed rude or unacceptable, but many would probably experience the behavior as a violation of body space. And body space and body boundaries are closely and intimately related because body space extends body and its boundaries into (social) space. Therefore, when we think about body boundaries, we always also need to consider body-in-space and body spaces, the boundaries these bodies-in-space create, and the body-boundaries spaces create.

I argue, therefore, that body boundaries are fluid and that the very attempt to fixate and safeguard them can turn into the very violation one attempts to prevent. Sometimes, body boundaries even need to be violated, not necessarily for medical reasons but to find something out about our very own nature. Biohackers, body hackers, or members of the biopunk community experiment with boundaries and sometimes engage in practices of pushing, transforming, or what others might perceive to be violations of body boundaries (I am aware that I am generalizing here). Members of these communities experiment with boundaries on a DNA/genetic level or they push the boundaries between body, technology, and body-technology interfaces. One example is the transgenic artist Eduardo Kac’s *GFP Bunny*, a fluorescent rabbit in which jellyfish and rabbit DNA are combined making the rabbit glow in darkness [2]. Or the plant Edunia, a petunia in which Kac inserted one of his own genes [3]. I think that Kac’s artwork and projects raises important questions about how we think of bodies, what we think
of as bodies, and how we perceive and evaluate body boundaries and possibly violations.

On a more human-physical level, we could look at wetware hackers such as the British Lepht Anonym [4]. She aims to experiment with body hacking using tools everyone of us probably has in their household or is able to buy without spending too much money. With her approach and her body-projects, she wants to distance herself from what is typically labeled trans- or posthumanist movements (again, I am generalizing here a bit) because one has to have the financial means to buy into the promises and hopes of transhumanism. In one of her experiments she implanted tiny electrical devices and stimulators into her fingertips that make her feel the tingle of electric current. One of the motivations to experiment on her body is to experiment with bodily senses, as she states in the FAQ section of her website: “Why did you do this to yourself? I’d like to say i did it because i follow a grand tradition of self-experimenters in science, or that it was because practical transhumanism is more than a philosophy to me (it’s my life), but at least partly, i did it for kicks. i just wanted more senses; still do.” [5]

What then can we learn from these extreme examples? And I deliberately said “extreme” examples to point out that when we talk about body boundaries and boundary violations we often include value judgments, and “extreme” is such a value judgment because it suggests that there is a practice that is less extreme, less deviant or subversive to the norm. And as academics we always need to critically reflect not only on social phenomena but our very own judgments and presumptions.

Artwork like Kac’s or practices like Lepht Anonym’s make obvious that the human being, that we as humans are always Grenzwänder – boundary beings – that walk, live in between or transgress boundaries. We push boundaries and explore new frontiers in an attempt to figure out who we are and what makes us human. Some of these explorations are more extreme than others, but the perception of “extreme” body boundary violations and “normal” body boundaries are never mere questions of natural body boundaries but how the natural and the social, cultural, political, and economic merge and mix to create what is considered “normal” or “natural”. And I think when Lepht Anonym states that the motivation for her experiments is for the kick she gets out of it, that she wants more senses, then this ties us back to the body, to bodily integrity, to the attempt that we want to be able to feel our bodies. It might also mean that only by feeling our bodies we can feel our very (embodied) self.

At some point, however, body experiments, do pose the question of their ethical and moral evaluation, yet any such evaluation is tricky. Therefore, I do not want to offer any guidelines for a moral or ethical evaluation (trying to do so in a short viewpoint such as this would be quite presumptuous). But as concluding thoughts I want to point to the essay Experiment Mensch. Theologisches über die Selbstmanipulation des Menschen by the Catholic theologian Karl Rahner published in 1966. Provocatively, he argues that any human (and one might add bodily) self-manipulation is an expression of the radicality of human freedom and needs to be taken serious as such: “von vornherein das heraufziehende Zeitalter der Selbstmanipulation als solches schlechthin zu verdammten, in lyrische Klagen auszubrechen [...] über die Zerstörung des ’Natürlichen’ [...] wäre nur ein Zeichen eines feig bürgerschen Konservatismus, der sich hinter falsch verstandenen christlichen Idealen und Maximen versteckt. So wenig wir uns schon ein konkretes Bild von der Gesellschaft und der Menschheit und ihrem Leben im Jahre 2000 machen können, [...] die Welt von morgen wird anders sein als die von heute. Und in dieser Welt wird der Mensch in einem früher ungeahnten und unpraktikablen Ausmass der Mensch sein, der als Einzelner und als Gesellschaft sich selbst plant, steuert, manipuliert. Der das muss, weil er gar nicht anders kann, will er in vielen Milliarden Exemplaren gleichzeitig auf der Erde existieren. Er muß der operable Mensch sein wollen” [6].

By no means does Rahner want to issue a carte blanche to transgress whatever boundaries we could transgress technologically. But we can – and need – to take Rahner’s point of the radicality of human freedom seriously and become aware that the human being is a boundary being. We exist as boundary, we live and breathe boundaries, we are boundaries. Boundaries are us, our bodies embody boundaries. Boundaries are nothing static, but fluid. They must be fluid and therefore need to be continually reworked, redefined, questioned, and subverted.

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Notes
6. “[T]o condemn the looming age of self-manipulation [...] to lament about the destruction of the ’natural’ [...] would be nothing short of an example of a cowardly bourgeois conservatism hiding behind
misinterpreted Christian ideal. We cannot picture what society, culture, and life in 2000 might look like […] the world of tomorrow will be different from ours today. And in this world, human beings will be beings who – as individuals and society – will plan, operate, regulate, and manipulate themselves to an unimagined, unforeseeable, and impracticable extent. In fact, human beings must do so because they cannot but do so if they want to exist in billions of individual specimens. They must want to be the operable human being”. Rahner K. Experiment Mensch. Theologisches über die Selbstmanipulation des Menschen. In: Rombach E, editor. Die Frage nach dem Menschen. Aufriss einer theologischen Anthropologie. Freiburg. Karl Alber; 1966, 45–69, 52f. (translation is mine).

References