Improper Bodies
Narrations of Immunity

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"Do I contradict myself?
Very well then I contradict myself,
(I am large, I contain multitudes)"
Walt Whitman [1855][1]

"Either immunology is not about the self,
or, if it is about selfhood then that self is
not cartesian"
A. David Napier[2]

"Science Fiction": A Story of mRNA-Cyborgs[3]

June 2021: According to my faded yellow vaccination card, I am immune. At least partly. However, it makes a vast difference whether my partly vaccinated body is located in Austria, where I work, or Germany, where I live. According to Austrian regulations, twelve days after my first *shot, I am free of the obligation of getting regular antigen screenings, free to breathe potentially contaminated air and to touch my own face again unencumbered by a facial mask. In Germany, however, I still pose an imminent risk to society (paradoxically: especially returning home from Innsbruck, since German officials have defined Austria a designated risk zone)*

1 Walt Whitman: Song of Myself [1855], Walt Whitman. 2004. *Leaves of Grass*, Bantam Dell, 23–76.

2 David Napier (2012): "Nonself Help: How Immunology Might Reframe the Enlightenment," *Cultural Anthropology* 27, 1, 122–127, here 125.

3 This chapter is based on my praxiographic research on the production of immunity in a clinical trial of an mRNA vaccine against COVID. A first draft was presented in the research colloquium of the Department of Medical Ethics and History of Medicine of the University Medical Center Göttingen. I want to thank my colleagues and the editors of this volume for thorough and productive feedback. A very special thanks is owed to Monique Scheer and Helen Franziska Veit for their critical reading and insightful and inspiring comments.

and will continue to do so until 15 days after my second *jab of Comirnaty. In other words: once according to EMA*[4] *and STIKO*[5] *recommendations, BioNtech's*[6] *instruction leaflet and the processual and preliminary results of uncounted clinical trials, the titer of antibodies against Corona-virus' spike antigen in my blood has reached a sufficient level to be considered immune against COVID. Immune, as in: equipped with a body capable of profoundly responding to viral contamination while in the best case – the jury is still out on this – not posing a threat of infecting others but at least contributing to national (!) herd immunity.*[7]

Depending on geographical and temporal contingencies, I am an mRNA-cyborg: "my" "natural" immune system is enhanced by a biotechnological miracle that represents no less than the promise of salvation: "health-giving information" (CureVac: n.d.)[8] *(something like: "the Gospel"), – as CureVac, a leading figure in this emerging field of biotechnology, advertises its mRNA-technology – had been implanted into my body to stimulate the production of my body's "own medicine." The gospel's stirring touch of my innermost is meant to result in self-contained and self-sustained invulnerability. In less sublime, no less miraculous words: I was injected with a very small dose of messenger ribonucleic acid fresh from the RNA-printers at BioNtech, formulated in lipidnanoparticles, which simultaneously stabilize the delicate RNA, prevent my body from allergic reaction to RNA-proteins, ensure the passage of the "healing information" into my cells, and serve as an adjuvant, triggering the immune system. This recombinant mRNA strand (that is: "artificial," even though in the world of biotechnology it makes no sense to speak of artificial as opposed to "natural") codes for coronavirus' spike antigen sequence. Reduced to pure yet crucial information, it simultaneously* is *and* is not *viral matter; as a "messenger" this sequence serves as a blueprint for my body's protein factories, the ribosomes, that translate the "construction plan" into the production of oodles of spike antigens. These are nonetheless equipped with the agency of triggering the immune system's production of antibodies specific to my DIY-Spike-antigens, thus hindering a (fatal) outbreak of disease in the likely case of infection and storing this "response-ability" in ingenious memory cells for an uncertain future. The result is immunity against COVID – as we know by now: a delicate, at best transient but most certainly highly inconclusive phenomenon.*

My awareness of being immune, however, took time to sink in, and was fully realized only after it had been partially suspended in the bureaucratic act of crossing the border back to Germany. What I, instead, had been well aware of, also through a handwritten slip of paper cover-

4 European Medicines Agency.

5 *Ständige Impfkommission* at the Robert Koch Institute, Germany. The STIKO issues recommendations on vaccines, vaccination practice and protocol.

6 The mRNA-based vaccine Comirnaty (or: BNT162b2) was developed and is produced in a cooperation between the biotech company BioNtech and the pharmaceutical company Pfizer.

7 The "herds" in "herd immunity" are predominantly nationally defined ones.

8 CureVac imagefilm: https://www.curevac.com/en/about-us/ [09.06.2023]. Note: in the German version of the image film the formulation "heilsame Information" (curative, healing) is used, while in the English version employs the rather technical notion of "health giving information."

ing the syringe, was that I was administered "BioNtech off-label": the outcome of quarrels over the legal amount of vaccine doses drawn from one vial. A disinfectant was wiped over my exposed arm, my flesh was pinched by a gloved hand in a cubicle, separated from the public by a green curtain granting isolation for the intimate act to come. The needle punctured me, tearing a hole, tiny yet considerable, into the barrier that I was accustomed to embody: my skin, which, as I had once learned to feel, separated me from the outer world and everybody in it. Almost painlessly, a colorless liquid was released into the muscle tissue of my left, passive arm, meant to trigger, or better: constitute, another embodied barrier: my immune system.

"Please sit down in the resting zone for 15 minutes," I heard the doctor say. The signs there, however, recommended 20–30 minutes and together with the sudden awareness of paramedics, defibrillators, and shock stretchers inhabiting the repurposed exhibition hall, I realized how utterly vulnerable I am to my own immune system and the power invested in it to let me live or push me into the horrors of anaphylaxis. I made sure I waited 30 minutes, pondering existence, shock, and the suspicious absence of hand sanitizing stations in the waiting room. I left, as mechanical pain was spreading in my cyborg arm. Only back in the city, I thought for the first time: I am immune; my body has been turned into a biotechnological machine granting and taking care of my invulnerability, by a biotechnological machine whose marvelous purpose is to turn "nature" into a biotechnological machine.

Complicating Narrations: The Social Life of Immune Systems

In many regards, the great story that is the coronavirus pandemic conflicts with the hitherto success story of biomedical interventions, especially the superiority of vaccinations over other forms of mitigating the devasting effects of pandemics – the proverbial "biggest success of western medicine" (Thiessen 2017). The teleology of vaccine development in the 2020s – a bona fide "science fiction" (Haraway 2016, 1991a, 1991b) of the supremacy of biomedical reason imbued with the sterile aesthetics of late modern (bio)technology and featuring scientists molded to the cast of Silicon Valley's tales of technological hegemony – has, by now, given way to intricate stories of the vulnerability of our late modern, globalized, and technologized modes of existence. If these modes of existence had once thrived on the belief in a general immunity to the perils of infectious disease, coronavirus has exposed the utter contingency of that very immunity, both figuratively and literally. The pandemic thus tells different stories of the limits of technological immunization against critical threats on a societal-semiotic level as well as of the limits of biomedical immunization against the coronavirus on a corporeal-material level; these two aspects are intertwined in the practice of vaccination.

Through the pandemic we learned to think of immunity as an extremely contingent phenomenon. It is contingent on the velocity of vaccine research and production, on progress in emerging biotechnology, on political decisions, medical dis-

course (informing or counteracting those decisions), medial discourse (commenting all of the former), time (between spring 2021 and spring 2023, the equitation of "having been vaccinated" and "being immune" has dissolved), and on national borders (different countries had different liberties adhering to the vaccination status). In short: immunity appears not only as a biological or bodily feature but rather as a sociocultural category. And as such, it is dependent on meaning, on discourse, or – simply – narrations of immunity.

However, many of the alternative stories about immunity that have emerged during the pandemic seem incompatible with classic narratives of the immune system, in public discourse and not least in cultural anthropology as the discipline concerned, among other things, with quotidian representations. In other words: coronavirus has fundamentally challenged cultural anthropological approaches to immunity as well their underlying theories of the body. At the same time, those cultural anthropological approaches have laid the groundwork for other narratives of immunity. The argument unfolded in this chapter is as follows: immunity, especially as perceived by cultural anthropological studies, used to speak in terms of "modern" concepts of the body and the individual. They are modern in a Latourian sense (1993) insofar as they render the function of the immune system to be keeping the demarcations of the body and the individual intact (Brown 2019; Cohen 2009). In this light, the immune system is the body's (and therefore nature's) apparatus to defend an individual's physical integrity (ibid.). It is, however, not only the novel coronavirus that complicates the inherent modernity of immunological thought. It is furthermore the very practice of vaccination against COVID that demands a reconceptualization of the "social life" of immune systems and their inherent relationality underpinned by biotechnological reason and practice.

To achieve this reconceptualization, this chapter revisits seminal conceptual approaches to immunity from medical anthropology, the history and philosophy of the body, the history of science, as well as political theory to identify the actors, plots, and plot twists they offer for the complicated stories about immunity that "have never been modern" (Latour 1993) and presumably never will be. It sets out with a reading of Barbara Duden's feminist-phenomenological history of the body and her insistence on the disembodying nature of abstract immunological discourse. In stark contrast to this, cultural anthropologist Emily Martin analyzes the cultural logics of this very immunological discourse and its potential for informing popular discourse on post-Fordist bodies, highlighting the cultural meanings of the immune system, while failing to acknowledge the practical embodiment of immune systems. Nevertheless, these accounts underscore the paradigm of "self-non-self discrimination" as the purported telos of immune systems and thus the "modern" axioms of immunology as seen by its interpreters in the social and cultural sciences. These can also be traced to a political theory of immunity as suggested by philosophers Roberto Esposito and Peter Sloterdijk. By help of feminist science and technology

scholar Donna Haraway's work, and drawing on suggestions of immunologist Niels Kaj Jerne, the inherent contradictions of the cultural logics of immunity are mapped out, a reading of the immune- as a commune-system (Cohen 2009) is proposed, and its active role in the constitution of equally contradictory bodies and subjects is analyzed. These are "response-able" (Haraway 2016) body-subjects, that challenge conventional and fundamental conceptualizations of responsibility, solidarity, and autonomy manifest in vaccination policies and the practice of immunization.

The complicated stories unfolded in this chapter are ironic, metaphoric and contradicting – they are SF in Haraway's notion:

> SF is a sign for science fiction, speculative feminism, science fantasy, speculative fabulation, science fact, and also, string figures. Playing games of string figures is about giving and receiving patterns, dropping threads and failing but sometimes finding something that works, something consequential and maybe even beautiful, that wasn't there before, of relaying connections that matter, of telling stories in hand upon hand, digit upon digit, attachment site upon attachment site, to craft conditions for finite flourishing on terra, on earth. (Haraway 2016, 10)

In this light, narrations of the immune system are not mere representations of medical or even natural facts, nor are they simply about language. As the argument will show, narration is a practice[9] and practice is a nexus of "sayings" and "doings" (cf. Schatzki 1996, 89), that is: a way of practically relating to, enacting, – or simply: being – our body (cf. Mol 2002). They are, ultimately, semiotic-material practices (Haraway 1991a, 1991b) active in the constitution of bodies and subjects.

Bipod Immune Systems

Historian Barbara Duden expresses her outrage about having been told to identify herself with her "immune system" (Duden 1997, 260)[10]:

> I am no more a writing surface, cinema screen, or political manifesto than I am an immune system. I am not ready to identify what many researchers today call "my body as the carrier of cultural encoding and the projection surface of social constructs" with that tangible and palpable self with which I have familiarized myself in women's history. (Duden 1997, 262)

9 Or: "language game," as Wittgenstein (1953) would have it, who will, as the narrations unfold, make multiple (and somewhat surprising) appearances.

10 All quotes from Duden 1997 are my translations from her German original.

Duden understands the trajectory of a history of the body in analyzing "past and present "embodied" certainties, hence in denaturalizing and historicizing cultural perceptions and conceptualizations that are inscribed into the body and appear there as ineluctable, natural facts" (Duden 1997, 262). Consequently, Duden asks how a "cultural construct" becomes "flesh" (263), a subjective, tangible and inhabitable body. Paradoxically, however, Duden renders the immune system as the mere discursive reduction of living and feeling persons to "a function notation, to a system […], that annuls [them]." Accordingly, referring to the "system under the skin" is the epitome of "total disembodiment" (Duden 1997, 272). The immune system, she argues, is not tangible, not perceptible, and, therefore, not subjective flesh: it is the forced – but ultimately impossible? – embodiment of complex, uninhabitable abstracta. In this logic, immunologic discourse alienates us from our flesh. Discourse, as it appears for Duden, is the opposite of flesh: "non-flesh" that has no business under our skin.[11]

Cultural anthropologists would beg to differ wondering what it is we embody if not abstract and complex concepts. What part of our body is unmediated and concrete? And isn't this precisely what Bourdieu's theory of habitus and hexis (Bourdieu 1987, 97–121; 1977, 78–95), or, for that matter, the history of the body (Sarasin 2003, 2001), have taught us? Why should "heart" and "head" (Duden 1997, 272) be less defined by cultural representation and therefore less abstract than, say, T-helper cells, B-lymphocytes, or macrophages? What is more, aren't the pandemic experience, having grown up in the times of HIV/AIDS, vaccination against measles or tetanus, or the consumption of lemon juice when faced with a common cold, specific ways of practically relating to, embodying, and *doing* the immune system? Aren't using condoms, being identified by a yellow vaccination card, submitting your body to a clinical trial study, or discussing your Comirnaty-induced side-effects or superpowers[12] with friends ways of making the "abstract" system concrete, tangible, palpable? Shouldn't one, therefore, ask *how* the immune system is embodied *in practice*, how having and embodying an immune system is part of the late-modern condition of what it *is* to be a subject and a body (cf. Martin 1994; 1990)? Shouldn't one take the immune system as the central arena of answering the question "of what 'health' is, what it includes, what a body is made up of, what a person is made up of […], what disease

11 It is insightful how Duden, scrutinizing immunological discourse, involuntarily reproduces immunological arguments of the integrity of flesh/proper bodies threatened in their integrity by an improper "outside." Her alienation argument is, in *sensu stricto*, an immunological argument; the flesh and the subject that are threatened with annulment are "immunological."

12 A participant of one of the first clinical trials for a COVID vaccine told me about his children's reaction to his being vaccinated with an untested mRNA vaccine. They were exhilarated by the idea of their father acquiring superpowers and becoming "something like Spiderman."

is, and how the terms in which people come to understand themselves yield particular answer to questions like these," as was the way paved by cultural anthropologist Emily Martin (1994, xiv)?

Duden shares Martin's assumption that the immune system gives "a novel, corporeal, hence consistent expression to epochal sensitivities in late 20th century" (Duden 1997, 264). Yet, instead of insisting on immunology's disembodying discourse, Martin wants to inquire how the immunological discourse generates "our taken-for-grantedness about the body" (Martin 1994, xiii). She analyzes how "[t]hat what goes to make up a person in these times [of the AIDS pandemic; JH] is being reconfigured" (Martin 1994, xvi) by a shift from the hygienic logic of polio in the 1950s to an "immuno-logic" (my term; JH). This shift was brought about by the first successful vaccination against polio and fully realized during the heyday of the HIV/AIDS pandemic. Doing so, she shows how immunologic discourse links up to or interacts with the logic of "flexible specialization" (Martin 1994, 40) of late capitalism, thus constituting flexible subjects in post-Fordist bodies as complex, and ultimately open-ended systems governed by the invocation of their self-responsibility.

However, immunity's power to constitute and govern subjects and bodies, to Martin, stems predominantly from the power of language, of metaphor. Very much in line with Susan Sontag's work on "illness as metaphor" and on AIDS (Sontag 1978; 1989), Martin's interest is exclusively in *representations* of the immune system[13]: representations in media, scientific, and lay discourse, as well as their underlying and emerging cultural grammars defined by the logics of late capitalism. She meticulously reconstructs how her interlocutors *make sense* of their own immune system and how they *perceive* of it, how immunological discourse is imbued with the vocabulary of flexible accumulation and vice versa. But she disregards what the immune system *is*, or what it *does*.[14] She scrutinizes *understandings* of the body and what it *means* to be a subject. Thus, the constitution of subjects, to Martin, owing to post-structuralism and the linguistic turn, is nothing but a language game[15]; she has no

13 Hence, *Flexible Bodies* (1994) is, by and large, a collection of inquiries into the "immune system as seen by XYZ."

14 As a result, Martin pays astonishingly little attention to the fact that the majority of her interlocutors share the conviction that their immune system "does" something or acts self-sustained, respectively. Moreover, even though she wants to scrutinize the taken-for-grantedness of the body, Martin widely disregards her interlocutors' insistence on the body as something that belongs to them individually. From the perspective of a history of the body, however, it is precisely this notion of "I *have* a body," which is in need of explanation (Sarasin 2001) and, thus, hardly to be taken for granted.

15 Consequently, also Martin's view on biopolitics is about the power of representation: "Accepting vaccination means *accepting* the state's power *to impose a particular view* about the body and its immune system" (1994, 194; my emphasis).

interest in the (multiple) ontologies of the immune system let alone their embodiment or, simply, what it *is to be* a late modern subject.

Bodies at War

In all fairness to Martin: one can hardly overestimate the power of language, narrative and metaphor in immunology – not least because the discipline of immunology itself has embraced that very notion of language and metaphor more often than not. Historians of immunology such as Anderson et al. (1994) accuse Martin and Haraway for having reduced immunological discourse to the metaphor of self-nonself discrimination and for thereby having omitted the situatedness and location of that metaphor. Nonetheless, it is worthwhile taking a look at the language game of self v. nonself that immunology and its interpreters have played: immunology appears as "the science of self/nonself discrimination" (Klein 1982) – a significant part of the history of immunology (written from within or from outside the field) revolves around this notion, either underpinning or undermining it. Ample debate has gone into the question of what the immunological "self" is, and whether the immune system's function is to either recognize self (and therefore nothing else; with "nonself" posing a problem for not being recognized) or to recognize "nonself" (and therefore being blind to self). Usually, the concept of tolerance is used to explain why immune response is only triggered by "foreign" entities.

Albeit a shortsighted vantage point (as Anderson et al. [1994] elaborate in their "Unnatural History of the Immune System"), the "science of self/nonself discrimination" renders immunology inherently "modern-" The immunological self is impregnated with modern conceptualizations of subjectivity and personhood (Cohen 2009). Immunity, thereby, serves as a way of thinking about integrity and differentiation as it distinguishes elements that sustain integrity from those which are threatening it. Thus, it is seen a boundary concept: it draws a seemingly clear boundary between inside and outside, between "proper" ("eigentlich" or one's own) and "improper" ("uneigentlich" or common) (Esposito 2011), between individual and environment, between self and nonself. "At the heart of the immune system is the ability to distinguish between self and nonself. Virtually every body cell carries distinctive molecules that identify it as self" (Schindler 1988 in Martin 1990, 411). In this light, "self" is the body, its material, its produce; "nonself" are the contagious entities – pathogens, viruses, antigens: they are contagious because they are nonself, they are nonself because they are contagious.

The juxtaposition of self and nonself as a conflicting relationship is at the heart of immunological thought – or at least its cultural theoretical readings: in 1881, immunology's founding father Elie Metchnikoff "deduces an entirely new way to perceive how organisms coexist and thereby ushers biological 'immunity' into the world

as an organismic form of 'defense'" (Cohen 2009, 2). To Cohen, this is, however, "a classic example of […] *action under the form of description*. In other words, by construing his experimental protocol as an intrusion, Metchnikoff *enacts* it as such and then reasons that, however the larva reacts, this reaction represents the intrusive catalyst's logical antithesis" (ibid.; my emphasis). These "defensive poetics of modern medicine" (206) render the function of immunity to demarcate the boundaries of our bodies, to render them other-than-environment and to vigorously keep these borders intact. The immuno-logical body is a "nation-state" with clear borders to the outside and gendered division of labor on the inside (Martin 1990, 416) "at war." As the body's armament immune systems counter attacks from a threatening, contagious outside. This is based on binaries such as "purity/normality" and "contamination/pathological," which have been analyzed by cultural anthropologist Mary Douglas (2001 [1966]) as a crucial structure of Western thought and which sociologist Bruno Latour (1993) regards as the fundamentals of a "modern" epistemology. From this perspective, immune response is an act of literal dis-infection, of purification,[16] and thus a way of relating to and ensuring us of our selves. In the words of phenomenologist Jean-Luc Nancy's reflections on his heart transplant and the need to suppress his immune function in order to "tolerate" the donor heart: "if you weaken the immunity, you also weaken the identity" (Nancy 2000, 35; my translation, JH), or so "the moderns" have us believe. In this light, immunity is the epitome of the "modern" integrity of the body – its apotheosis, even (Cohen 2009) – and the individual.

Uncommon: Proper Bodies

This invocation of the individual is also at the heart of philosopher Peter Sloterdijk's (2015) concept of immunization, which, to him, is equivalent to individualization and particularization. It is the technique of creating spheres of one's own (cf. Esposito's idea of the "proper") in order to make the (naturally) hostile environment breathable, livable, inhabitable. With the aid of, for example, air conditions – a prototypical immunization technique for Sloterdijk (71–106) – the *common* air is conditioned, particularized and individualized into individual atmospheres, inhabitable spheres of breathing. In the postmodern condition, this notion of shared spheres is more and more compartmentalized, privatized and individualized; bigger spheres evaporating into smaller and smaller, non-communal ones: "foams."[17] This opposi-

16 Another one of Latour's concepts.

17 Sloterdijk's body of work on the matter is titled "Schäume," which translates to "foams." The notion of spheres of breathing being more and more compartmentalized could be witnessed during the pandemic: Individual households were treated similar to "shared immune systems," thereby freeing their members from the obligation of wearing facial masks. The lat-

tion of immunity and community is interpreted by philosopher and political theorist Roberto Esposito (2011) as the epitome of subjectivity and integrity. To him, *immunitas* is to be freed from social obligation ("munus"); immunitas is "proper", "un-common" (Esposito 2011, 5–6), one's own, whereas *communitas* refers to social obligation, the common, the improper (ibid.). This opposition is alive today in concepts such as political or legal immunity. Martin demonstrates how immunity had once exclusively referred to the individual's capacity of warding off the state (as in being exempt from obligation[18]) and only in the 19th century acquired the meaning of warding off disease (Martin 1994, 193; Cohen 2009, 1–31).

Seen from this perspective, immunity is embodied *noli me tangere*, the capacity of being "untouchable," unaffectable, and the blueprint of modern subjectivity and corporeality: one subject in one body, a literal "in-dividual," rendered by and able to draw a clear-cut boundary between "me"/"my body" and the Other. This immuno-logical self is located in an invulnerable castle-body confined and rendered by a boundary (the skin?), whose disturbance can exclusively be conceptualized in the realm of the pathological: as wounding, violation, infection or disease. As signifiers of life's vulnerability, these disturbances are commonly thought of as opposed to and restraining human agency and, consequently, as counterproductive of subjectivation (Asad 2003). However, what if one were to think about the constitution of subjects and bodies, of subject-bodies and their agency, not from the vantage point of self-determination and self-containment, but, as Asad and others suggests, from their very vulnerability? How modern, how "proper" would they be?

Donna Haraway's work – pioneering in "post-alienation" and "post-representation" thinking and in the critical analysis of the social making of the body in technoscience – is instructive for understanding the precarity and impurity of the process of the constitution of subjects and bodies. To Haraway (1991a), the cyborg – that I have become through being vaccinated and yet simultaneously always have been – is an impure and improper body. It has never known pure, proper substance from which it could have deviated and from which abstract discourse it could have been alienated it in the first place. Accordingly, concepts such as immunology or the immune system in technoscience are not a mere representation of a pre-existing body but "a plan for meaningful action to construct and maintain the boundaries for what may count as self and other in the crucial realms of the normal and the pathological" (Haraway 1991b, 204). From this vantage point, immunological discourse is neither a mode of disembodiment (as it is for Duden), nor is the immune system a representation signifying what bodies mean, how they are perceived of and thought about

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ter, in turn, can be seen as the pinnacle of the individualization of breathing/breathable air in the pandemic (Hinrichsen 2021).

18 Note that immunity, from Latin: *immunitas*, bears the original meaning of being exempt of military service.

(as for Martin). As an "elaborate icon for principal systems of symbolic and material 'difference' in late capitalism" (Haraway 1991b, 207), the immune system is a material-semiotic actor, an epistemic object, active in the constitution of bodies. "Organisms are made; they are constructs of a world-changing kind. The construction of an organism's boundaries, the job of the discourses of immunology, are particularly potent mediators of the experiences of sickness and death for industrial and post-industrial people," she argues (Haraway 1991b, 208). That means: because bodies are *made*, they need an agency that makes them. Because they are not stable, not self-evident, they need boundary work. The immune system accomplishes that. With Haraway, the immune system is a practical relation, a *way of being a body*. Inquiry into immunology, thus, tells us not how bodies are seen, but rather what they *are and how they are made*. And if bodies are made, this making (and doing) renders bodies fundamentally vulnerable and precarious.

This vulnerability and precarity, however and much in line with an ethics of care, is, according to Esposito, the crucial element for understanding immunity. He, accordingly, analyzes the dialectic of the "protection and negation of life" that underlies the logic of immunity: in order to protect life, the practice of vaccination introduces something into the organism, that is, in essence, harmful – a negation of a life that is protected by that negation. In his analysis, contagion, impurity, or infection are not so much threatening life (and immune systems prevent that threat) as they are constitutive for life itself to flourish: to be immune is therefore to be utterly vulnerable in the first place; along the same lines, Nik Brown borrows from Mary Douglas and argues "purity is danger" (Brown 2019, 215). From this perspective, immunity is less a closure and confinement of life into a body/individual of integrity, than it is an essential opening to the world.

Emily Martin draws on Ludwik Fleck (1980 [1935]), an immunologist responsible for one of the earliest, yet most influential works on the social – which to him, *avant la lettre*, also means the practical – construction of scientific facts, to argue for a relational understanding of immunity: "Instead of the organism as a self-contained independent unit with fixed boundaries, [Fleck] proposed a 'harmonious life unit', which could range from the cell, to the symbiosis between alga and fungus in a lichen, to an ecological unit such as the forest" (Martin 1990, 420). Immunity from this perspective, refers less to "modern" self-contained subject agents confined in "modern" individual bodies than it points to precarious bodies in "naturecultures" (Gesing et al. 2019; Haraway 2016; 2003; Tsing 2015)[19] or, in the words of Esposito,

19 The concept of "naturecultures" leaves behind conceptualizations of "nature" and "culture" as two separated epistemological and ontological spheres and instead scrutinizes their binarism by stressing the fundamental relationality of "nature" and "culture," albeit critically analyzing the knowledge practices that are involved in letting them appear as two realms.

to the "endless contagion that combines, overlaps, soaks, coagulates, blends, and clones bodies" (2011, 151).

If "endless contagion" is the name of the game and if, furthermore, "contamination [i]s collaboration" (Tsing 2015, 27), then immunity is not the demarcation of rigid borders. Immune systems are not defense apparatuses shielding a self-contained subject-actor from the world around him/her. On the contrary, they are "not a minor part of naturecultures [and] they determine where organisms, including people, can live and with whom" (Haraway 2003, 31). Immune systems are, following from this, apparatuses of sensibilization and "response-abilization"[20] towards a world that is not simply an "Other," but intertwined with us, connected, and corresponding – in and by this enmeshedness, and in the endless contagion, the binarisms of self and other, of individual and society, body and technology, nature and culture, are troubled and undermined: "[S]taying alive – for every species – requires liveable collaboration. Collaboration means working across difference, which leads to contamination. Without collaborations, we all die" (Tsing 2015, 28). And it is precisely here, that immune systems engender – or rather "render capable" (Haraway 2016, 16) – bodies, selves, environments, and (significant) others (Haraway 2003).

"I Contain Multitudes", or: the "Commune System"

The armored bodies, inhabited and constituted by warring T-killer-cells, macrophages and antibodies as the classic representations of immunity have undergone ample critique (Napier 2012; 2002; Haraway 1991b; Martin 1994; 1992; 1990; Moulin 1989) – not only by feminist critical theory, science and technology studies, and anthropology, but especially by immunologist thought itself. It has questioned the very notion of "self v. nonself", as well as its diffusion into a lopsided picture of immunological reason.

A most radical requiem – and quite a literal one, as he had, in a manner reminiscent of Wittgenstein,[21] declared the pending "end of immunology"[22] a few years before – came from Danish immunologist Niels Kaj Jerne. His "idiotypic network theory" declared the "completeness" of the immune system. This means "that the

20 This is in reference to Haraway's (2016) notion of "response-ability."

21 Wittgenstein famously declared that, having written his first book, he had solved all the problems of philosophy. Not quite as bold as Wittgenstein, Jerne's "end of immunology" is not the end of his Wittgenstein moves: in his Nobel price acceptance speech, Jerne inquired into the "generative grammar of the immune system" in an attempt to "establish an analogy between linguistics and immunology" (1993, 211). Immunology, a "language game" after all?

22 Jerne declared in 1969: "[I]mmunology will be completely solved within 50 years from now" (quoted in Anderson et al. 1994, 575).

immune system can respond, by formation of specific antibodies, to *any molecule existing in the world*, including […] to molecules that the system has never before encountered" (Jerne 1993 [1984], 220; my emphasis; JH). How is this possible? In short: "[T]he immune system of a single animal, after producing specific antibodies to an antigen, continues to produce antibodies to the idiotopes of the antibodies which itself has made" (Jerne 1993 [1984], 216). The body produces antibodies to its own antibodies, against which it produces antibodies, which trigger the production of antibodies…. Completeness is endlessness. To Jerne, this not only makes obsolete the differentiation between "recognizing" (the antigen) and "being recognized" (by the antibody) (219), but furthermore results in an enormous repertoire, exceeding 10,000,000 in variety, of antibodies *of any specificity* in the body present all the time. That means 3000 antibodies to *every single possible* antigenic combination of proteins. Jerne: "Antibodies are not echoes of the invading antigen, but were already available to the animal in its repertoire of B cells *before the antigen arrived*" (222; my emphasis; JH). In Jerne's theory, the immune system is a "self-centred," closed, and yet endless network, all the while it already contains the entire world, it "contain[s] multitudes" (Whitman 1855, 76).[23]

If recognizing and being recognized is the same thing, a self can't be distinguished from the outer world. It contains this outer world, is made up of it, made up of "atoms belonging to me as good as to you," as the poet of a self which has never been modern, Walt Whitman, would say (ibid.). If this self "contains multitudes," it is, thus, not a self, at least not in a Cartesian sense (Napier 2012, 125), but at best a contradictory one.[24] To such a self – as to the cyborg – the skin is not a clearly rendered boundary. And if David Napier is right, then the modern cosmology of immunity is unhinged and the immune system – the apotheosis of modern castle-subject-bodies – becomes apparent as its own contradiction: the *commune system*. "How different might we live in the world imagining that our 'commune system' mediated our living relations with and in the world?" (Cohen 2009, 281).

Outlook: Improper Bodies, Commons, Responsibility.

From the perspective of a self-declared mRNA cyborg, "immunity" is neither a biological, nor physical, let alone corporeal phenomenon. Furthermore, vaccination – as the practice of making subjects and bodies – is the literal incorporation of (bio)technology. This sheds light on the pressing question, posed by cultural

23 It appears, Jerne was not just Wittgensteinian, but also Whitmanian, a truly postmodern romantic.

24 "Do I contradict myself? / Very well then I contradict myself, / (I am large, I contain multitudes)" (Whitman 1855, 76).

anthropologists Niewöhner, Kehl, and Beck (2008) of "how culture gets under the skin,"[25] whereas at the same time it complicates the notion of "culture" and skin as the apparent barrier between the body and the environment "under" which culture has to "get" in the first place is scrutinized. From the perspective of an anthropology of knowledge and science, immunity and the immune system, thus, inform us of how bodies are made social(ly), that is how they are both constituted and inhabited as social entities, utterly precarious and contingent and thus responsible for one another. Finally, given that those immune systems serve as the primary target of the global response against the COVID pandemic and, accordingly, vaccination as the embodiment of (governmental) technology, the immune system not only appears as the neuralgic center of the biopolitical governing of life (Esposito 2011). Furthermore, it allows for conclusions about what the body of biopolitics *is*, how bodies are made into political matter, how they are made to respond to and align with – and become! – technologies of government, paradoxically *because* immunity turns the individual body into a common, social good, a social apparatus, responsible for itself *and others*. If immunity is investigated at the intersection of organism and technology, subject and society, biology and culture, the immune system becomes manifest as the very interface of those categories. It is the very practice of vaccination – injecting an epistemic object, mRNA strands "packed in" lipidnanoparticles, into the muscle tissue – that, in one and the same process, underlines the binary character of these categories, while it simultaneously complicates, discards, overthrows and re-negotiates it. What is more, in the way I don't simply "have" or "own" a body, I don't simply "have" an immune system, but rather in processes of acquisition, manipulation, and inhabitation, my immune system, my body, as well as the "I" are co-constituted.

My inquiry into "how culture gets under the skin," how skin-enclosed bodies are made social(ly), and how these bodies become the arena for the biopolitical response to the COVID pandemic draws on the concepts of Donna Haraway to understand how the immune system makes a body/subject "response-able." That is: how bodies and subjects are "rendered capable" (Haraway 2016, 16), granted agency and assigned responsibility, while and by being sensitized for their environment. What, therefore, "gets under the skin" by way of vaccination is biotechnology as aggregated social knowledge, as material form social practice coagulates into. What is embodied – in the most literal sense: becoming body or corporeal "nature" – is political reason and its efforts of governing "life itself" (Rose 2001); is economical reason with biotechnology as an arena of both venture capitalism and state intervention; is, first and foremost, social knowledge, concepts, and norms: the differentiation between the normal and the pathological, definitions of what health and what disease is. And it

25 My translation of the German title of their book *Wie geht Kultur unter die Haut?*

is, ultimately, morality and ethics[26]: who is responsible for whom and what, who and what is deemed vulnerable and in need of protection, whose deaths are grieveable and whose lives are disposable (Butler 2006). Consequently, what is embodied by the act of vaccination are the sociomaterial epistemologies of what life is and what it is to live one, what a body is and what it is to have one, what a subject is and what it is to be one, what society is and what it is that it is made up of. With this embodiment, the immunized subject-bodies are invoked as "response-able" (Haraway 2016) yet "improper," "common" (Esposito 2011) subject-bodies to whom normative invocations of social responsibility and mutual care are – both implicitly and explicitly – addressed. In the course of this, immune systems become the central arena of the negotiation of the most fundamental issues of bio- and medical ethics: autonomy, responsibility, and solidarity.

Read in this way, immunity ultimately leaves behind its "modern" veneer. The immune system does not produce self-sufficient, self-contained subject-actors confined in bodily boundaries, which are clearly distinguished from the outside world; immunity is not about rational and self-responsible agents withdrawn from the social and its affordances, but on the contrary: it is about precarious multitudes in naturecultures, which are constitutively vulnerable – as Haraway says: "Life is a window of vulnerability. It seems a mistake to close it" (1991b, 224).

Immunitas and *communitas* are inversed or they fall into one and drift – like all modern phantasmas and metaphors of immunology and its dichotomies – into a zone of indistinguishability ("common immunity" (Esposito 2011, 165–177), when "being immune" becomes a "social" obligation (think of the discourse on mandatory vaccinations etc.) – social in every sense of the word: its epitome is herd immunity. *Communitas* and *immunitas* are interdependent; we remain healthy because we are vulnerable.

How precarious our existences are, how much we can only live in society, has been shown to us every day by the COVID-19 pandemic. Because we are constitutively vulnerable, we are dependent on each other and because we are dependent on each other, we are vulnerable. That is the most crucial assumption of an "ethics of care" (Butler 2006, Ferrarese 2016, Laugier 2016, Mol 2008); if we are dependent on each other, "we owe each other everything," as anthropologist Marcel Mauss (1990 [1950], 77) would say. Vaccination – as was clearly communicated in the German sphere at least – is then an act of solidarity and the recognition of a mutual obligation; and, thus, it is not surprising that the countless vaccination campaigns and appeals rarely omit the moral imperative. Vaccination, as the German Red Cross advertised on twitter and in a brochure, is "love" (DRK Kreisverband Müggelspree e.V. 2021). Seen from this perspective, protecting oneself with a vaccination is a service

26 Didier Fassin: "When biomedicine speaks the truth it also speaks morals" (quoted in Cohen 2009, 269).

to society, an act of charity and altruism (*Nächstenliebe* (EKMD n.d.) – and this is yet another allusion to the new "gospel."

Somewhat less sacred: the immune system becomes the field of negotiation of community and the common good. The analysis of its "sayings" and "doings" (cf. Schatzki 1996, 89)[27] – that is: of its *practical* negotiation – shows how bodies become political objects as well as subjects, a political issue as well as matter in its material sense identified by way of a yellow vaccination card or an electronic vaccination certificate. In other words: it shows how immunity turns the supposedly individual body into a social one, a social body through and through, responsible for itself and the others.

As vaccines engender response-able bodies, the immune system becomes a commons – which is astonishing given the fact that this is in no way true of the vaccines themselves. The biotech giants steadfastly refuse to make the vaccines royalty-free; the vaccines themselves are not public domain, not a creative commons, but hard-fought, hard-currency commodities that enable our freedom and make us immune by denying others, for example the countries of the global South, their immunity.

To conclude: as vaccines produce response-able bodies, the immune system becomes a commons. A response-able subject with a "commune system" is not a modern subject for whom responsibility was an indication of self-assertion. A response-able subject *is* a semiotic-material relation, situated and embodied. A response-able body is not a modern body whose boundaries are clearly defined, which belongs to us and vice versa, but also a semiotic-material relation, situated and embodied. It is an improper body, a social body, a common body; and as such it is never "immune" in the common sense.

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27 This is yet another Wittgenstein move: Schatzki's approach to "Human Activity and the Social" is, as promised in the title, decidedly "Wittgensteinian."

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