

Technologies of failure, bodies of resistance

Science, technology, and the mechanics of materializing marked bodies*

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While talk about the "real" at the beginning of the twenty-first century may be the source of such discomfort that it always needs to be toned down, softened by the requisite quotation marks, I believe that "we" cannot afford not to talk about "it." Positivism's death warrant has many signatories, but its anti-metaphysics legacy lives on even in the heart of its detractors. However strong one's dislike of metaphysics, it cannot be banished, and so it is ignored at one's peril. How *reality* is understood matters.

Karen Barad—*Meeting the Universe Halfway*

Asking for technology and the body at the same time almost inevitably evokes the question of what kinds of connections extend between the both. But what if it is not so much a question of connections but of entanglements? What if the terms 'technology' and 'the body' do not refer to two distinct phenomena that somehow interact with one another but rather technologies are always embodied technologies (even more so, if technology is also understood as a particular mode of knowing and being) and material bodies have to be understood as always already technologized bodies—yet in different ways and with very different ethical and political consequences? What would it mean to understand the entanglement of technology and the body not so much as a matter of epistemological but of ontological indeterminacy? That is, what would it mean to argue that the boundaries and properties of bodies and technologies are performatively enacted through particular material-discursive practices in which ontological indeterminacy is resolved locally and temporarily? What would it mean to 'read' technology and the body diffractively through one another?

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If technicity and corporeal materiality are deeply entangled with one another, the question arises how to analyze and understand the effects of technologies and technoscientific practices on material bodies. That is, how to understand the processes through which differently (re)configured bodily materialities are enacted through particular technologies and technoscientific practice? And what can be said about the role of material bodies themselves within these very processes?

Stories about the power of technologies and technoscientific practices to shape, discipline, and to objectify the body have been and still continue to be of fundamental importance for the feminist critique of power relations and social inequalities. But what if it is not only too easy but also limiting, both philosophically and politically, to assume that technologies function precisely according to particular interests or social power relations that have been inscribed into them, disciplining and objectifying a mere passive body? What if, what is needed today is perhaps *also* a story of technological failure instead of the same old tales of the domination and disciplining of the body through the means of science and technology?

Rosi Braidotti (2013) stresses the need for new stories, new methods, and new figures to emerge in order to be able to analyze our present world, which is a world thoroughly transformed by technobiopower and biocapitalism. It is in this sense that figures and concepts are not mere tools to make an otherwise mute and inaccessible world intelligible but, on the contrary, active re(con)figurings of the world with far-reaching consequences. The apparatus of bodily production—a concept deeply rooted in feminist contestations of fundamental dichotomies and certainties—might just be such a figure, such a “materializing narrative” (Haraway 1997: 151), that allows for new stories about technologies and bodies to emerge, contesting a thinking that differentiates between original and illegitimate copy, the natural and the artificial, dynamic language and passive ahistorical matter.

Departing from these questions, in this essay, I will put forward a technophilosophical re(con)figuring of the concept of the apparatus of bodily production as both a figure referring to objects of philosophical inquiries—in the sense of particular sites where biological, technological, social,

economic, and political forces intra-act and in doing so mutually materialize certain phenomena—and as a tool for feminist and other critical analyses of narratives centering on questions of power and becoming-with-technologies. Thoroughly informed by the work of Donna Haraway and Karen Barad, I will argue that such a technophilosophically reworked concept of the apparatus of bodily production might provide us with a deeper understanding of how not only particular knowledges about bodies but simultaneously also specifically (re)configured bodies—meaning, bodies marked by race, ethnicity, nationality, and sex/gender—are performatively enacted through particular technologies and technoscientific practices, along with particular ethical and political consequences. Most importantly, rather than understanding the bodies involved as mere objects or as sites on that powerful technologies and technoscientific practices act upon I will argue in what follows that such a technophilosophical account promises to provide us with a counter-narrative to stories emphasizing the omnipotence of science and technology, allowing us to philosophically take into account material bodies as generative and as potentially unruly.

Mapping the Terrain

It is no coincidence that feminist theorists, scholars of color, and those speaking from marginalized locations in particular put questions of materiality and material bodies at the center of critical analyses, given their historically long lasting identifications with nature. Queer and feminist scholars have not only deconstructed the idea of the gendered and sexed (female) body as a matter of fate but also shifted the focus toward questions of the body and embodiment. The concept of the apparatus of bodily production is only one outcome of these endeavors, although a highly promising one for analyzing questions centering on biology, politics, power, and agency in their entanglement with one another.

The term ‘apparatus of bodily production’ can be traced back to the feminist literary scholar Katie King who employed her figure of the apparatus of literary production to shed light on the question of how literature comes into existence at the crossroads of global capitalism, art, and technology

(King 1991: 92). In *The Promises of Monsters*, Donna Haraway takes up King's figure of the apparatus of literary production and reframes it as a tool for feminist analyses of technoscientific practices, highlighting the objects of knowledge as active entities. It is against this backdrop that Haraway puts forward the argument that organisms and, for that matter, bodies are not born but rather produced "in world-changing technoscientific practices by particular collective actors in particular times and places" (Haraway 1992: 297). This, however, does not mean that bodies and organisms are mere *social* constructions. Referring to biology, Haraway illustrates that organisms, as material-semiotic entities, emerge through specific apparatuses of bodily production—that is, arrangements consisting of human and nonhuman entities, discourses, technologies, as well as technoscientific and other practices.

Influenced by Haraway's insights, in *Meeting the Universe Halfway* (2007), Karen Barad shifts the focus to questions of matter and materiality, foregrounding the ontological implications of the concept of the apparatuses of bodily production. In contrast to the belief that matter is simply ahistorically given, and only mechanically following Newtonian laws Barad encourages us to rethink matter as a process rather than a mere end product. Matter, for Barad, is never settled but constantly in becoming.

It is precisely against this backdrop that, by drawing on the work of the quantum physicist Niels Bohr, Barad reframes the notion of the apparatus as an instrument for feminist analyses of technoscientific practices centering on questions of agency, materiality, and power. By understanding apparatuses as all the material-discursive practices that help constituting phenomena, of which they simultaneously form a part, Barad argues in what follows that not only meanings but also boundaries and properties manifest through particular apparatuses. For Barad, apparatuses are thus neither static arrangements nor are they "external forces that operate on bodies from the outside; rather, apparatuses are material-discursive practices that are inextricable from the bodies that are produced and through which power works its productive effects" (Barad 2007: 230). As both parts of phenomena as well as phenomena themselves apparatuses function as "boundary

making practices”, determining “what matters and what is excluded from mattering“ (ibid.: 148).

Re(con)figuring the Apparatus

Following the Latin roots of the term apparatus as ‘to bring forth something’ (*apparare*), in what follows, I propose an understanding of the apparatus of bodily production as both a metaphor and a method, a figure and an analytical tool. Figures and figurations (that is, the methodological and theoretical use of figures) are, as Donna Haraway (1997: 11) reminds us, “performative images”; “condensed maps of contestable worlds” with the power to “trouble identifications and certainties.” Although figures are images, they do not merely represent or mirror pre-existing phenomena. Rather, figures are also always performative and therefore generative. The potential of the apparatus of bodily production as a technophilosophical figure and method lies precisely in “the join between the figurative and the factual.” (Haraway 2000, 24)

However, as with Haraway’s (1992: 298) theorization of the object of knowledge as material-semiotic actor, I do not want to imply an immediate presence of apparatuses of bodily production as actual, discrete objects ‘out there.’ Apparatuses of bodily production, in my reworked understanding, are neither necessarily concrete objects nor specific spatiotemporally localizable places, but rather relational, generative phenomena or ‘sites’ where specific material-discursive reconfigurings and processes of coming-to-being-and-meaning occur. Following the idea that concepts are material reconfigurings (Barad 2007), the technophilosophically reframed concept of the apparatus of bodily production that I propose here refers to both objects of philosophical inquiry—in the sense of particular sites where biological, technological, social, economic, and political forces intra-act¹ and in doing so mutually materialize a certain phenomenon—and to an analytical tool for technophilosophical inquiries of narratives centering on questions of power and becomings. It is for this reason that such an understanding of the apparatus of bodily production not only demands a rethink of epistemology, incorporating the objects of knowledge as actively involved in the process of

knowledge production, but also of ontology: The fixed modernist ontology as essentially given and therefore as fate is deconstructed and reframed as a specific effect of intra-actions of humans and nonhuman entities—be they organic, technological, discursive, or textual. Ontology becomes visible as never solid but constantly in change, and thus as a contested ground.

I believe that such an understanding of the apparatus of bodily production, in particular as a technophilosophical tool of investigation into the nature of becoming-with-technology, allows for deeper understandings of how particular technologies and technoscientific practices performatively enact specifically reconfigured—that is, marked—bodies. What is more, I believe that such an account allows us to take into account material bodies as generative and unruly, and therefore as actively involved in the processes of their own reconfigurings, rather than understanding them as mere objects or inert matter on that powerful technologies and technoscientific practices act upon. Finally, I believe that such a technophilosophically re(con)figured notion of the apparatus of bodily production may also allow the taking into account of the ever-changing topologies of power, yet precisely without overemphasizing the omnipotence of science and technology, or ignoring the potential of bodies and organisms to be unruly, as I will demonstrate in what follows by turning to a concrete worldly example.

Materializing Authentic Bodies: UK Border Agency's Human Provenance Pilot Project

Against the background of the so called War on Terror and recent global migration movements, new biometrical identification technologies are increasingly used to complement traditional methods of border and identity control. Biometric technologies function by collecting information about the body, or more precisely about parts of the body, and translating this information into mathematical variables. Operating from the premise that bodies do not lie, biometric technologies are increasingly deployed for monitoring and controlling migration flows and the movement of individuals. In the early twenty-first century borders are progressively becoming technologized borders: satellites surveying suspicious movements from the

orbit, drones spotting small boats in the Mediterranean Sea, and instruments detecting the heat emitted by the bodies of refugees hiding in vessels, to name but a few. At the same time biometric technologies relocate the borders deep into the body as biometric analyses and DNA tests exercise surveillance from within. Even though it is important not to lose sight of the fact that borders are not democratic, meaning, that not everyone can pass through every border at any time, borders today seem to be nowhere and everywhere at the same time. They can be portable such as ID cards and biometric passports or virtual and thus accessible from everywhere, as is the case for biometric and genetic databases. This development not only transforms the meaning of migration but also that of bodies in a very material sense.

In September 2009, the UK Border Agency announced the launch of its *Human Provenance Pilot Project* (hereafter referred to as the *HPPP*). In the wake of debates about the alleged “abuse of the UK asylum system” (UK Border Agency 2009a: 3) as well as worries about so-called ‘nationality swapping’—that is, the accusation that refugees would often claim to come from certain war-torn regions such as, for example, Somalia only to have better chances for receiving asylum—UK authorities had sought for new methods to “identify a person’s true country of origin” (UK Border Agency 2009b). As a microscopic regime of seeing-knowing-materializing, the *HPPP* ought to reveal truths about the very essence of material bodies by reading off “ethnic origin” and even “nationality” (UK Border Agency 2009a; 2009b) from the bodies of African asylum seekers using genetic testing and biometrical identification technologies. As the UK Border Agency considered so called nationality swapping to be widely common especially among African asylum seekers, the project exclusively targeted refugees from Africa, in particular those claiming to come from Somalia.

The *HPPP* operated following the assumption that bodies cannot lie, and neither can isotopes and genes. Consequently, the UK Border Agency believed that a combination of DNA ancestry testing—which included mitochondrial DNA as well as Y chromosome and single nucleotide polymorphisms (SNP) testing—along with isotope analysis could reveal an applicant’s “true country of origin.” Applicants were asked to provide a

mouth swab and hair and nail samples, which then were tested for DNA and certain isotopes. Mitochondrial DNA tests are used to scrutinize the genetic information stored in mitochondria. Mitochondria are organelles, subunits located in the cells of animals and plants that not only provide energy to body cells by converting food into a form that can be consumed by the cell but also possess their own, distinct DNA. Y line tests look at specific markers on the Y-chromosome that are passed down paternal lines. Both tests, mitochondrial DNA analysis and Y-chromosome analysis, can, under specific circumstances, give information about a person's ancestral heritage since certain genetic variations are more common in certain geographical areas of the world than others. Single Nucleotide Polymorphisms are subtle variations in the genetic code of a person's chromosomes that can also correlate to 'ethnic origin.' However, all these tests are anything but accurate and only provide very limited information (see Nature 2009). Isotope analysis is used in archaeology, anthropology, and human geography to date material cultural artifacts, to track historical movements of people, and more recently also to study migration movements of endangered animals as well as environmental influences on them. In the case of the *HPPP* it was believed that certain isotopes could determine the "true country of origin of an applicant" (UK Border Agency 2009a: 8) as well as the possible routes the applicant took to get to the United Kingdom. The UK Border Agency never revealed details about the isotopes under examination. However, the use of skin and nail tissue samples suggests that the tests focused most likely on lighter element isotopes such as strontium, oxygen, and hydrogen (see Travis 2009).

Strontium is a chemical element that belongs to the group of alkaline earth metals and is mostly found in inorganic materials such as rock. Weathering allows the isotopes to trickle into the ground water from where they find their way into plants, animals, and the human body. Similar to calcium, strontium then becomes embedded in bones, hair, and nail tissue. As signatures of isotopes—that is the number of particles in the atomic nucleus—vary according to geographical location and because the isotopes incorporated are in constant exchange with the surrounding environment, analyzing the isotopic ratios in nail and hair tissue and matching them against comparison ratios from the country of which the asylum seeker claims to hold nationality

should have allowed the UK Border Agency to draw conclusions about the place of birth as well as recent migration movements of the applicants.

After two years the project was terminated in summer 2011. The announced final report was never published, the planned international review was suspended, and the UK Border Agency said that it has no intentions of continuing the project in the near future without providing any explanation for this decision (see UK Home Office 2011).

What does it mean now to consider the UK Border Agency's *HPPP* as an apparatus of bodily production? In an important sense, the *HPPP* as an apparatus of bodily production was as much concerned with the goal of producing knowledge (about the supposed essence of particular bodies) as it was concerned about enacting specific bodily materialities. As a nexus where power-knowledge-materiality in their entanglement concentrates and intra-actively materializes a certain phenomenon, namely, the alleged authentic Somali body that is eligible to receive asylum in the UK, the project materialized bodies that were allowed to legally pass through the borders and those which were not. In a certain sense, thus, the *HPPP* has not so much revealed supposed truths about the bodies analyzed but rather reconfigured them by short-circuiting technology and technoscientific practices with biology, race, ethnicity, and nationality, determining—but at the same time also materializing—what counts as an authentic Somali body. Barad reminds us that measurements have material and ontological consequences. Measurements are not “simply revelatory but performative; they help constitute and are a constitutive part of what is being measured. In other words, measurements are intra-actions [...] material-discursive practices of mattering.” (Barad 2012: 6–7) In fact, it is only through these very technologies and practices that the phenomenon the *HPPP* sought to measure came to matter. To put it bluntly, there was no authentic (biological or ethnic) Somali body before its enactment through the *HPPP*.

The *HPPP*, as an apparatus of bodily production, not only translated flows of data into material bodies and vice versa but also the bodies the *HPPP* enacted were not just any bodies but bodies marked by ethnicity, nationality, and race. What is more, the fact that in the case of the *HPPP* exclusively male² black bodies came into focus illustrates that some bodies are

obviously less trustworthy than others. The male black body claiming to come from Somalia itself became a document—one which, it was thought, not only could not lie but also one whose true essence could be unveiled by means of certain technologies and technoscientific practices.

It is against this background that it is important to recall Donna Haraway's urge not to ignore the potentially dangerous consequences that entanglements of informatics, biology, and politics bring with them. Haraway makes this point especially clear arguing that "lives" are what are "at stake in curious quasi-objects like databases; they structure the informatics of possible worlds, as well as of alltoo-real ones." (Haraway 1995: xix) And indeed, in a certain sense the *HPPP* falls in the racist history of the reification of certain human beings constructed as passive, subordinated objects for technoscientific investigations that aim at revealing their supposed truths.

Theorizing race, and even more the materiality of race, is never innocent. It took a very long time for scholars of color as well as other critical thinkers and political activists to deconstruct the belief that race is a naturally occurring attribute of the human species. However, the question remains whether or not this means that race and racialized bodies are mere socio-cultural and linguistic constructions?

For Haraway (1997: 213) it is clear that "race is the kind of category about which no one is neutral." Race clearly matters in both senses of the word and it would be shortsighted to believe that racialized bodies are mere linguistic constructions. Understanding the UK Border Agency's *HPPP* as an apparatus of bodily production illustrates this by demonstrating *how* bodies marked by race, ethnicity, and nationality were enacted through particular material-discursive practices (which are by far not only technological or technoscientific in nature), and in doing so that neither the category race nor racialized bodies are epistemologically or ontologically transcended ahistorical phenomena. Rather than being preexisting—that is, transcendental and supposedly natural—phenomena or, on the contrary, mere social and linguistic constructions, racialized bodies are reframed as effects of material-discursive relations; not matters of fact but matters of concern.

What is more, as a generative site where specifically (re)configured bodies—that is, bodies marked by race, ethnicity, nationality, and sex/gender—come to matter in both senses of the word, the case of the *HPPP* illustrates that it would be a mistake to believe that with/in genomics race would become “less meaningful” on a subdermal or molecular scale as, for example, the critical race scholar Paul Gilroy (2000: 37) argues. Analyzing the *HPPP* as an apparatus of bodily production rather suggests that genomics is far away from making race less meaningful. In fact, it could be said that race, today, does not only enter through the skin, as Frantz Fanon has put it with the notion of epidermalization, or Stuart Hall has seen it in the writing of difference on the skin of the other, but is increasingly read off of the very ‘interior’ of the body—that is, of the DNA, mitochondria, and the isotopes incorporated into the body.

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Donna Haraway reminds us that at the heart of what she terms speculative fabulation—that is, “the practice that studies relations with relations”—lies the idea that it “matters what matters we use to think other matters with; it matters what stories we tell to tell other stories with; it matters what knots knot knots, what thoughts think thoughts, what ties tie ties. It matters what stories make worlds, what worlds make stories.” (Haraway 2011) Stories, in an important sense, are not fictions or made up but are rather, as Donna Haraway (1997: 230) emphasizes, “devices to produce certain kinds of meanings” and materialities. “Stories and facts do not naturally keep a respectable distance; indeed, they promiscuously cohabit the same very material places.” (ibid.: 68)

It has to be understood in this sense that theorizing the *HPPP* with a Baradian informed and technophilosophically re(con)figured concept of the apparatus of bodily production as both a figure and a method allows for a different story to emerge; one that foregrounds the *limited* rather than *pervasive* power of technologies and technoscientific practices, and in doing so might open up a different perspective on science, technologies, and bodies in their entanglements with one another. Rather than as a case for the

technological and technoscientific colonization, disciplining, and objectification of material bodies, the *HPPP* becomes apparent as a failed attempt of silencing the forces and flows of material bodies.

Considering UK Border Agency's *HPPP* as an apparatus of bodily production, thus, not only provides us with an understanding of how bodies marked by race, ethnicity, and nationality, come to matter in their entanglement with technologies, technoscientific practices, and political discourses but also—rather than regarding material bodies as mere passive moldable matter, as not much more than a kind of information storage device that can be accessed through the means of genetic and biometric technologies—puts forward an understanding of material bodies as potentially agentic and consequently as generative parts of the very apparatus through which they come to matter. It is in this sense that analyzing the *HPPP* as an apparatus of bodily production suggests that the attempts of technologically reading off 'ethnic origin' and nationality from the bodies of African asylum seekers failed. And it would be too easy to see this as an outcome of the circumstance that the *HPPP* was scientifically flawed or that the technologies applied were not accurate enough for that such an account would only remain caught in the logics of the myths of technological progress and determinism, reproducing the very same belief in the omnipotence of science and technology that feminist and other critical scholars have been contested for decades. Rather, such a technophilosophical perspective outlined in this essay puts to the fore the idea that neither did the technologies function according to the political interests inscribed into them nor did the bodies concerned played along as expected; meaning, neither could the bodies involved been fixated on mere passive objects of knowledge, nor were the isotopes under investigation incorporated in the ways expected.

It is for this reason that theorizing the *HPPP* as an apparatus of bodily production demonstrates, on the one hand, that biometric identification technologies such as DNA and isotope testing represent new technologies of surveillance, especially in the process of migration, raising serious political and ethical questions—not only because these technologies and technoscientific practices tend to reessentialize and rebiologize race (for

example, by reworking race as referring to genotype), but also because they might lead to an understanding of kinship and family as a, primarily, biological relation. What is more, the project—as an integral part of the UK’s border machine—demonstrates that the border neither begins nor ends at the geographical or political borders of the EU, but is relocated into the depths of the body. On the other hand, however, a technophilosophical understanding of UK Border Agency’s *HPPP* as an apparatus of bodily production also suggests that even a powerful, repressive, and anti-democratic technology of control such as the *HPPP* was not powerful enough to mute the forces and flows of material bodies (human and nonhuman ones). In doing so, such an account disrupts both the idea that political interests and beliefs could be inscribed into technologies with the intended effects and the idea that material bodies would be mere passive objects on that technologies and technoscientific practices act upon.

“There is no need to fear or hope, but only to look for new weapons,” Gilles Deleuze (1992: 4) reminds us. Yet these weapons of thinking, these practices of developing new concepts and figures that, for example, allow us to take into account the potential of bodies—be they human or nonhuman—to be unruly and to “kick back” (Barad 2007: 215), as well as the fact that technologies can always fail, are precisely what gets lost in theories that emphasize the omnipotence of science and technology.³ Shifting the focus toward the question of what technologies do, rather than what technology is, what bodies can do, rather than what (the supposedly natural) body is, however, may provide us with an understanding of how technologies and material bodies in their entanglement with one another constitute the very material our world is made of—instead of only assuming that powerful invasive technologies would increasingly dominate, manipulate, and dissolve the body (whose?) or even nature itself (whatever that might be). Disrupting the belief in the omnipotence of technologies and technoscientific practices, the figure of the apparatuses of bodily production as an apparatus of investigation into the nature of becoming-with-technologies precisely allows us to turn to these questions, and in doing so “to work toward ‘more promising interference patterns’, both between words and things (allowing

for things and bodies to be active in processes of signification),” as Iris van der Tuin (2011: 26–27) puts it.

Notes

- ¹ Barad’s neologism of intra-action highlights that objects and agencies do not exist prior to the intra-actions. In contrast to the term interaction “which presumes the prior existence of independent entities or relata” (Barad 2007: 139), the notion of intra-action implies an ongoing becoming. Intra-active agencies and forces
- ² UKBA’s case owner manuals state that females “were unable to be DNA tested using the Y chromosome analysis method because they have two X chromosomes in their cells and not an X and a Y” (2009a: 3). Even though the manual also states that females, however, “can be tested using the mitochondrial analysis method and in the near future it will be possible to test women using SNPS, which is expected to begin during the life of this pilot” (UK Border Agency 2009a: 3), it remains entirely unclear whether or not females were tested during the run-time of the pilot project.
- ³ Acknowledging the potential of material bodies and things to ‘kick back’ does not mean to open up a dualism between technology and the body once again for that both technologies and bodies are always multiplicities themselves which are in various ways entangled with one another.

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