

those most foundational categories of science and technology, that is, nature and culture” (Suchman 2008, 142). In conclusion, this book could be an inspiring reading mainly for researchers interested to further understanding of the multidimensional interplay between technology and culture.

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Roberto Abadie

The Professional Guinea Pig. Big Pharma and the Risky World of Human Subject

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They call it the new economy, the informational economy. And the other side of this informational economy is the mild *torture* economy [...] (Spam, cit. in Abadie 2010, 2).

The book written by Roberto Abadie Ph.D (Graduate Center, CUNY) starts with the reflection above and presents the results of an ethnography of voluntary participation processes by human research subjects in phases I (screening for drug's safety), II and III (screening for drug's efficacy) of drug trials.

The quotation recalls the utterance of Spam, a resident in West Philadelphia and “professional guinea pig”, which was an informant during the research conducted by Abadie. Spam is one of the many healthy human subjects that, for a long time, have lent his own body for clinical pharmacological trials. Spam's words are evocative, and they have led the book's author through a clear and effective itinerary of research to dis-

close the controversial world of pharmacological experimentation on human subjects. Human beings, in fact, whether they are volunteers who are, or who are not, patients, are increasingly more and more involved in biomedical research processes, during which their bodies are exposed to risk, medical monitoring, the “clinical” gaze (Foucault 1963) by physicians and the “molecular” gaze (Clarke *et al.* 2003) by scientists.

What happens when a new molecule – potentially therapeutic – overcomes the porous walls of the scientific laboratories and is tested for the first time on a human being? What are the perceptions and the representations of the sanitary risk correlated to the drug trials? How can the monetary compensation lavished by the pharmaceutical industries shape the perception of the risk? Can pharmacological experimentation on human beings – the weakest link of the pharmaceutical commodity chain – be considered a commodified form of the biological self?

These questions comprise the starting point that inspired the empirical research conducted by Abadie. They have long circulated in the social debate on biomedical research and, particularly, in the investigation of the pharmaceutical industry as it pertains to the wider scenario of technoscience in the neo-liberalist society. It is a complex literature that has often given unsatisfactory answers to these questions, focusing the attention on the uncontrolled professional power of scientists and physicians and on their collusion with the for-profit insurance industry. So, a critical social look towards the so-called BigPharma has more and more strengthened. Consequently, the pharmaceutical industry has been seen as an expression of a technoscientific branch responsible for the hyper-medicalization of the human experience. In this sense, human beings seem to be exposed to violent scientific manipulation through the subordination of the ethical dimension to the logic of profit (Conrad 2005). Such reflections are based primarily on institutional documents produced by public and private bodies (institutional archives, scientific magazines, different kinds of media productions and so on) and have contemplated the direct observation of the biomedical research practices in a very limited measure.

Abadie’s book, to the contrary, charts a discontinuity with these theoretical and methodological assumptions. Through a captivating prose, rather, the author searches for a theoretical bridge with the richer debate ripened in range to science and technology studies as they relate to the biocapital and to the commodification and commercialization of biological materials within the financial and industrial circuits (Sunder Rajan 2006).

The text represents an attempt to reconstruct the complex network of actors and relations through which the commercialization of a new drug or a new therapeutic regime is articulated. In particular, Abadie focuses on the professionalization processes of the volunteer human subjects involved in the drug trials (the so-called professional guinea pigs) and on the commodification of their bodies inside the biotechnological global

economy. It is about an empirical field that is particularly difficult to investigate since, both in the United States and in the rest of the world, the governmental agency responsible for supervision of pharmaceutical drugs (i.e. the FDA) publishes only a list of all drugs that receive approval. At the same time, the pharmaceutical companies do not publicize statistics related to the different typologies of the achieved drug trials or the demographic statistics of the enlisted human research subjects. So, the experimental subjects remain invisible and carefully hidden.

For this reason, Abadie has preferred to point towards an ethnographic methodology for the purpose of investigating motivations for participating in the trial economy, the professionalization practices and the commodification processes of the human subjects' bodies involved in the clinical trials. The ethnographic research led by Abadie occurred between 2003 and 2004, throughout 18 months of participant observation during which he lived in an anarchist community in West Philadelphia. The greatest part of the community's residents worked in the informal economy, and they voluntarily took part in the phase I trials. Abadie, through a first case study (chaps. I, II and III), investigated the life stories and daily-experience constructions of 18 healthy human research subjects, focusing his attention on motivations related to their participation in the phase I trials, during which they systematically exposed their bodies to risk in exchange for an economic reward. First, Abadie pays attention to the discursive productions and the risk representations promoted by the pharmaceutical industries. It is interesting to underline how the industries involved deny the clinical-experimental work to which the healthy human subjects – labelled "paid volunteers" – enlisted in the drug trials are submitted. In this regard, the monetary wage is lavished by the pharmaceutical companies, not so much as payment for the experimental activities to which the volunteers are submitted, but rather as mere symbolic compensation for travel expenses and the time spent within the boundaries of the experimental institute. Such elements are reiterated throughout the course of chapter VII (pp. 137-156), in which the informed-consent form is discussed as a tool that darkens and mitigates the risk through the use of euphemistic expressions and hypercryptic language.

Nevertheless, as shown by the author, the volunteers participating in the phase I trials dissent from this public representation, which is sustained by the pharmaceutical industry. They strongly refuse to be labelled as "paid volunteers," and prefer to represent themselves as "professional guinea pig". During the first three chapters of the book, the author describes the daily routine of a healthy human subject enlisted in the phase I trials. In a very complex way, he underlines how the profit perspective is the main motivation that pushes the professional guinea pigs to rent their own metabolism out to biomedical experimentation practices and to take unnecessary drugs. Like a refrain, many subjects clearly asserted that the drug trials represented an activity which is "better than a job at McDonald's" (p. 32). The risk, in this case, becomes a mere variable depending

on the proposed compensation. On the whole, it outlines what the author defines in evocative terms as “a weird type of work” (p. 47), directed not as much to produce something tangible, but rather to endure something throughout the subjection of one’s own corporeity to the disciplinary regime of the life sciences.

The second case study (chaps. IV and V) discussed by Abadie focuses, instead, on the experiences of HIV patients who voluntarily lend their biological selves to the final experimentations (phases II and III) of innovative drugs to treat HIV infection. As well illustrated inside the book, participation in the drug trials by this group of patients is not motivated by a mere economic purpose. In fact, their participation in the experimental processes is prompted by a desire to gain access to the best available therapies. Different from the “professional guinea pig”, these volunteers do not perceive themselves as having been inserted in the trial economy but rather as patients, and they feel treated as such by the biomedical staff members that manage the experimentation. The clinical trials of phases II and III, in this case, are not seen as strategic moments for collecting economic resources. They represent, rather, a complex process of empowerment in the wider collective struggle against the illness, a way for the subjects to better know their bodies and an attempt to remove them from the mercy of the pathology.

To fully understand the sociological importance of such complexity and ambivalence, in chapter VI (pp. 121-136), the author contextualizes his research work inside the ampler metropolitan setting where the ethnographic investigation has taken place. So, Abadie reconstructs the historical development of the pharmaceutical industry in Philadelphia starting from the ‘70s, a development that extends to the present day with an explosion of leading biomedical research organizations. Philadelphia represents, in fact, the second city in the United States – after New York – as a location for medical schools, with more than twenty-five hospitals and other ancillary health care institutions. The growth of a biomedical knowledge-based economy did not happen through a linear and neutral process, but it has been accompanied by a constant de-industrialization of the manufacturing compartment. Over the years, mass layoffs have followed one after another, and that portion of the population having a rather marginal social position has rapidly increased. This happened because, besides the emersion of an economy founded upon biotechnologies, the technical competences held by traditional industry employees revealed themselves to be obsolete and incompatible with the capitalist re-composition processes. Recalling Marxist analytical categories, Abadie reads this process as a typical reconstruction phenomenon of the neoliberalist capital that has caused the surfacing of an industrial reserve army of labour representing, to this day, an essential source of human research subjects. In the absence of alternative sources of revenue, the unemployed consider the lease of their body to the pharmaceutical companies as an instrumental action for their sustenance and reproduction.

Inside the text, on the whole, Roberto Abadie was able to investigate the ambivalence of the commodification processes and the exposure of the body to those associated with risk. Participation in the drug clinical trials is not only seen as a selfless act, but as a complex activity in which the boredom, the physical pain and the self-discipline supplant as exchange elements of a financial transaction within a disciplinary regime that the author – recalling the words of one professional guinea pig – defines as a “slow torture economy” (p. 46). Through this concept, Abadie emphasizes not only the logics of commodification of the body, but also the motivational elements that bring the subjects to mortify their own body, to expose it to risk and to submit it to pharmaceutical treatments for the purpose of receiving monetary compensation. These treatments leave their signs “embedded” on bodies. As Abadie tells us, many volunteers bring with them tangible signs of their participation in the drug trials, permanent signs caused by numerous needle punctures or by the removal of tissue to obtain samples for biopsies: signs, wounds and scars that show how such people have incorporated – carnally – their participation in the drug trials and their “rules of engagement”.

The author, by exploring the sociocultural processes that attempt to turn the body into a valued good, intends to contribute to the ampler social reflection about the body commodification (Sunder Rajan 2006; Lock and Farquhar 2007). In this sense, the most original contribution to the debate is represented by an attempt to hybridize social studies related to risk with anthropology of the body, for understanding how the commodification processes can shape, themselves, specific and peculiar perceptions of risk. Nevertheless, one must question the degree of persuasiveness of Abadie’s answers to the great questions that he put to himself at the beginning of his book. In my opinion, the main theoretical issue, or rather the relation between technoscience and capitalism, results to be one more time faced not in depth in its possible dimensions. Following the author’s principal reasoning, the human subjects involved in the experimentations seem to be mainly subjugated to a mere economic rationality that leads their options, strategies and preferences.

Such a reductionism leaves the reader feeling that this social world needs to be explored further, not only in its technoscientific dimensions, but also in relation to the process of subjectification. Besides, the recourse to a generalist-type literature is accompanied by the absence of a solid theoretical frame that is able to reflect the complexity of the relation between knowledge, technologies and bodies. Moreover, the scientific knowledge implicated in the experimental processes is often taken for granted by the author, and the technological dimension is omitted.

Nevertheless, science and technology studies researchers interested in the complex field of biomedical research can obtain a precious reconstruction of the ecology of social interactions that sustain the process of bringing a new drug to the market. Abadie’s work clearly demonstrates how such a process is far from neutral, but invests the entire body in a

way that appears to be flexible, ambivalent, restive and exposed to technoscientific and marketing logics that are strongly intertwined together.

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The Mutual Construction of Statistics and Society

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To read a book like *The Mutual Construction of Statistics and Society* for a social research methodologist who works daily with numbers, producing them, analyzing them, and then providing – sometimes – policy indications, is an interesting experience. This both for the estrangement approach, and the language and style of argumentation. Furthermore, this book forces us to deal with the "unsaid" and "taken for granted" typical in the use of "big data" or official data collected and organized at various levels, when using socio-economic indicators as those produced by national or international organizations, as well as large scale dataset based on big social surveys.

The construction of samples, of instruments created for data collection and their organization in matrix ready to be analyzed, their publication in the form of reports and indicators often used as a tool for "evidence-based" policies is a set of operations at the same time autonomous and connected with each other.