Evangelos Koumparoudis

Medicine in the Post-consumerist Society

A Philosophical Overview

STUDIES IN MEDICAL PHILOSOPHY

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Preface

A. Introduction

Over the last 30–40 years, digital technologies have become a considerable part of our daily life. We could not imagine ourselves not exchanging emails, short texts, and interacting on digital platforms. Furthermore, from an economic perspective, these technologies can be considered as the basic motors of production, distribution, and storage of information, the new commodity which almost substitutes for the fossil fuels and natural resources exploited massively in industrial society. This does not imply that the production and sustainability of these technologies do not demand the consumption of electricity or the fabrication of plastic, which is a product of oil refineries, or have a direct linkage with natural resources and the pollution of the environment. But if we consider that information and communication technologies gave rise to the emergence of companies like Google, Amazon, Facebook, Apple and Microsoft, known as GAFAM,[1] playing a vital role in the American and global economy, both concerning their market value, estimated in 2020 at over 4 trillion dollars,[2] and the regulatory and often biased role that they play in real politics, reaching the point where Congress was concerned enough to call for explanations from their CEOs,[3] we can understand their massive impact.

But how can we approach our computer-mediated communication and community? Is this kind of community one that retains its traditional communal characteristics? Or do digitalization, as expressed in the cyberworld, and its consequences in the real world, lead to impersonal relations? Or is something even beyond it, leading to a totally different conception of a being's identity in information society? From a broad perspective, there seem to be variable changes in our conception over

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1 Juan Carlos Miguel, Miguel Angel Casado del Rio, "GAFAnomy (Google, Amazon, Facebook and Apple): The Big Four and the b-Ecosystem," *Dynamics of Big Internet Industry Groups and Future Trends,* (2016): 127–148.

2 J. Clemnet, "Google, Amazon, Facebook, Apple, and Microsoft (GAFAM)—statistics & facts," Statista.com, https://www.statista.com/topics/4213/google-apple-facebook-amazon-and-microsoft-gafam/, last accessed, December 20, 2020.

3 Brian Contrearas, "Bezos, Zuckerberg and other Big Tech chiefs answer to Congress on antitrust concerns," Los Angeles Times, July 29, 2020,https://www.latimes.com/politics/story/2020-07-29/congress-to-grill-tech-industry-chiefs, last accessed, December 20,2020.

space and time. David Harvey, in his *The Condition of Postmodernity* (1989), speaks about such a time-space compression, the revolutionary processes brought about by technology that modify the objective qualities of space and time, and—consequently—the way we represent the world to ourselves.[4] From another perspective, Zygmunt Bauman, in his *Liquid Modernity* (2000), describes the passage from **"hard" and "solid"** to liquid modernity, from the society of solid and heavy machinery to the lightness of an email. But this does not only have to do with the means of production; people live in uncertainty and perceive time as an objective instantaneity. People act faster and move faster; their conception of time is under the domination of individuality, which always seeks ways to escape. This differential access to instantaneity is equal to such an unpredictability connected by the new social status with freedom, something peculiar for example in the feudal society since the workers were stuck in immobility in the courts of their landlords.[5]

Bauman also states that in the society of producers, health was set as a standard; in the society of consumers,[6] the ideal is fitness. They may have a synonymous use as they relate to the care of the body, but they are different to a certain extent. Health in the society of producers was a normative concept, which was related to endurance—a general well-being with easily measurable parameters so that the social role of the producers could be achieved—and this was the capacity to work in the factory, to perform heavy tasks, etc. In our consumer society, fitness becomes like any other concept—anything but solid; there is no real criterion to define fitness. It is something that lies in the future and is connected with the adaptability and flexibility of the body. It should always be seen as something in excess, ready to meet the extraordinary, that which is not mundane. If health is something normative, fitness is the breaking of all norms. Fitness has no real end; it concerns a momentary satisfaction of reaching a goal in the breaks between hard-working days. But as normative as health can be, in the age of liquid modernity it is even more fragile. What yesterday was considered normal today could be worrying or pathological.[7] New states of the body can be taken as reasons for medical intervention. In this case, we should consider not only states that may facilitate life—for example, a hip-replacement oper-

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4 David Harvey, *The Condition of Postmodernity* (New Jersey: Wiley-Blackwell, 1989), 241.

5 Zygmunt Bauman, *Liquid Modernity* (London: Polity Press, 2000), 120–121.

6 Bauman introduced the term in his *Life in Fragments* (Polity Press, 1996).

7 Zygmunt Bauman, *Liquid Modernity*, 79.

ation—but, more importantly, the medical interventions biased by the dominant beauty standards promoted massively through mass and social media, like plastic surgeries and interventions of weight loss without a serious reason, such as diabetes or cardiovascular problems. The definition of disease also becomes quite blurred. It is not something with a start and end, but always implies an awareness of being healthy, something grasped by the existence of all kinds of healthy diets, nutrient supplements, etc. At this point, we could also account for ideas that may have a political or ecological signification, like veganism, the non-consumption of meat and dairy products, or even herbalism, the consumption of herbs rather than chemically manufactured drugs (although most of them could be conceived of as beneficial supplements). Bauman ends with the assumption that health tends to be similar to the instability of fitness, generating uncertainty and anxiety.

This instantaneity of time and space, from another perspective, can be linked with an urge of instantaneity in decision-making. This decision-making, however, today, in some cases, is based on algorithmic automation. Algorithms in a broad sense are encoded procedures for transforming input data into the desired output, based on specific calculations. The procedures name both a problem and the steps by which it should be solved.[8] In general, they seek to create patterns based on certain causation and correlation; they also have capacities of adaptability which are "machine learning" techniques, something that will be analyzed extensively in our fifth chapter. These algorithms are used, for example, in spelling correction, fraud prevention, risk analysis, and medical science. To this very introductory point, we only question how human rights and dignity can be safeguarded by these technologies. Are there any racial, ethnic, or gender biases more or less likely in these systems? Is there a chance through a process of automated (or semi-automated) profile categorization for a person to be excluded from health insurance or employment, or even be regarded as a criminal?

Rafael Capurro describes some aspects of medicine in this kind of information-based society.[9] One basic element is how information over-

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8 Gillespie Tarleton, "The Relevance of Algorithms," in *Media technologies: Essays on communication, materiality, and society*, ed. by T. Gillespie, P. J. Boczkowski, and K. A. Foot (Cambridge, Mass.: MIT Press, 2014), 167–94.

9 Rafael Capurro, "Medicine in the Information Society and Knowledge," Keynote at the European Summit for Clinical Nanomedicine and Targeted Medicine (CLINAM), Basel, Switzerland, June 23–26, 2013, http://www.capurro.de/Medicine2_0.html, last accessed, December 20, 2020.

load affects physicians and patients with the large amounts of information that are generated by medical research and experimentation, which is linked today to what is called Evidence-Based Medicine. This may lead to possible disorientation or reshaping the role of the doctor from someone who knows to someone whose knowledge is under consideration by a well-informed patient. Secondly, he focuses on the interactivity between doctors and digital native patients, as in the possible attribution of negligence to a hospital that does not provide digital information-based interaction—for instance, information on patients' conditions and recovery processes. He also points out issues of privacy, as in what manner personal data will be used, its security and safety, and its use for a maleficent reason or with poor consequences. Furthermore, he strives towards the implications of new technologies on personalized medicine and the possibility of computer-mediated systems of communication to regulate the doctor-patient relationship, consequently reducing patients' autonomy and excluding, for example, elder patients. Finally, he speaks about the possible transformation of the "corpus", from "Habeas Corpus", into "Habeas Data". This is a relatively good briefing on some of the changes, but what else should we consider in our approach?

B. The Goal and Objectives

What is the general goal of this book? It is to point out, from a philosophical perspective, certain aspects of medical practices correlated to the spectrum of biological and social sciences, in a society that we have called post-consumerist. First, we have to define the society characterized by high technology and digitalized infrastructure and called post-consumerist. We will describe the changes revolving around the new conception of commodity, the forms of its unconditional investment without equivalences, the symbolic dimension it may take, and how it is reproduced in a manner leading to economic speculation. Second, we describe the changes in the perception of time and space, how, on the one hand, time is compressed and the subject is submerged into instantaneity, and, on the other, everything becomes liquid. Additionally, the new status of being's identity in the post-consumerist society is given in our analysis of the term **trace** and how it is involved in **impersonal personality** relations, used as **an abstract statistical unit** in various forms of **conversions (real-semblances),** which can remain real for all practical purposes. This kind of society not only produces and distributes information but also various forms of disinformation spread by the elites,

aiming at manipulation. Therefore, we will try to reveal these mechanisms, mainly through the way meaning and sense are produced, how intersubjective relations change, and how proximity, real-semblance, and trace dramatize a central role in the mechanisms of disinformation. Furthermore, we consider if an alternative could be proposed based on such an intersubjective relation which can surpass the dominant signification as posed by the elites, placing the correct or normative field of authority, through a process of mutual glaring. How is computational neuroscience related to artificial intelligence? What is the role of neuron mirrors and is there a possible relation with phenomenology? In which ways does being attain exteriority? Are there changes in the forms of medical reasoning? What are the roles of the doctor and patient today? Does the doctor base his diagnosis and treatment in a strictly objective way, conceiving of the patient as a diseased body, or are there models that propose that the doctor should also have knowledge of the subjective experience of the patient? How do they feel? How do their lives change in relation to their environment, their family? How are the social and cultural beliefs that they may have involved in the doctor-patient relationship? Do all these questions have to do with problems and puzzles? Thus, can we speak about paradigmatic changes in medicine (and medical philosophy)? What happens with knowledge acquisition after the explosion of Big Data? How does it apply to medicine and is it efficient? When it comes to epistemology, what are Big Data's limits? Can correlation replace the usual hypothetico-deductive medical reasoning? And lastly, is it efficient or should we reconsider reasoning by taking into account pragmatics and abduction? Is there any need for interdisciplinarity between sciences, since Big Data, in some cases, concerns more than one field? How do we approach the categorization of diseases today? What are the definitions of health and disease after George Canguilhem and the debate of normativism and naturalism?

What are the changes that information society has brought to our embodiment if we consider the various forms of virtual reality and cyber-environments? Are there new forms of control over the body after the rise of these technologies, reconstructing the traditional notions of citizens, reducing them to a form of bare life? What happens with prosthetics, organ transplantation, and 3D-printed biomaterials? How do they affect our relationship with our bodies, and do they challenge the role of medicine? How do the new theories of post-humanism and transhumanism shape a fusion of machine and organism and how the binarity of

natural systems altered? Could we visualize a new stage of evolution, in which humans in their fusion with machines will defeat death and come to increasingly dominate nature?

C. Methodology and Chapter Structure

We will try to give answers to all these questions by following political philosophy—mainly that of Jean-François Lyotard and his theory of libidinal economy and the postmodern condition; Jean Baudrillard and his theory of simulation; Zygmunt Bauman in his conceptions of consumerism; and Alexander Gungov with his notion of real-semblance in Chapter 1. Phenomenology and hermeneutics will help us clarify the way meaning and sense is produced in the post-consumerist society, just as post-structuralism will be used to describe the mechanisms of manipulation in Chapter 2. In Chapter 3, theories of neuroscience will be seen in relation with artificial intelligence and classical phenomenology; also, we will proceed to certain formalizations through which being can attain exteriority. In Chapter 4, the theory of Thomas Kuhn will help us see how medicine (and the philosophy of medicine) itself poses problems, creates puzzles, and can make paradigmatic shifts; this will be done by presenting the two models of medical reasoning: the biomedical or objective, and the humanistic or subjective. In Chapter 5, we will refer to more technical issues like the various mathematical models by which the creation and management of Big Data are achieved; specific research in medicine will illuminate its applications and limits. The categorization of disease (taxonomy) will be presented through a historical prism and, also, we will refer to the need for categorization on a molecular basis. The idea of the patient's safety will be exposed in relation to Gungov's theory and the interdisciplinarity between sciences via the theory of Anne-Françoise Schmid and Muriel Mambrini-Doudet. The relations between doctor and patient will be approached through Emmanuel Levinas and Jacques Derrida as well as through our basic assumptions. In the final chapter 6, the idea of new forms of embodiment will be seen according to political philosophy, phenomenology, and ideas belonging to the posthumanist and transhumanist tradition.

In the first section, Chapter 1 **(Post-consumption)**, we try to give a general overview of the transition from the society of producers to the society of consumers, examining some characteristics of consumerism as approached mainly by Lyotard, Baudrillard, and Bauman, and the move to a post-consumerist society, as defined by Gungov. Then, with the help

of aesthetics (theory of cinema), we formulate what we will call **trace,** as substituting a being's identity, in the second section. Very briefly, what are these aspects? In the theory of Lyotard, we emphasize the role that libido plays in the unconditional investment of capital, as the (post)consumption of desired-desires, leaving aside the general equivalences that can be utilized as a measure for the value of commodities. We also see that the postmodern world cannot subscribe to the great narratives of the modern era; he also proclaims the role that digitalization of society comes to play nowadays. Baudrillard, on the other hand, focuses his attention on the consumption of signs and messages, rather than commodities, through a general code of signification run by the system. In his early considerations, he exemplifies these commodities as simulations, as pseudo-objects which may have an over-abundance of signs but do not signify anything; he also speaks for simulations in our social relations, which in some cases are always mediated and fake, as in advertising. In his later works, he expands the symbolic dimension of exchangeability, as the exchangeability of work, commodities, strikes, and even death. The general signification of the code absorbs everything, turning the society into a factory and placing the subject between a given reality and an upper realm of hyperreality. Bauman speaks about a society in which the consumer himself becomes a commodity. He also speaks about a liquid life which reduces everything to the sphere of **nowness**, of an infinite succession of presents. Finally, it is important to mention his definitions of underclass or outcasts as the people living on the margin of society who could be perfect candidates for statistical reasons. Gungov starts from this category of marginalized citizens to reformulate them into statistical units as the actors of various converted forms (a kind of real semblances that can remain real for all practical purposes), like the privatization of public property (investors), civil protests (protestors), elections (voters), and financial crises (taxpayers, mortgage payers). In the second section, we reveal the existence of a real-sembling identity of the statistical units shaped in the post-consumerist society encapsulated by the term **trace**. The subject—from an impersonal personality placed somewhere in the big malls of late consumerist society possibly capable of ascribing a meaning to his being, or conceive otherness—is transformed into a disposable personal impersonality, consuming personally-targeted advertisements of products and services through digital platforms, but for impersonal speculation, lost in a non-linear matrix of cyberspace, and most importantly, in the horizon of “now”.

In the second chapter **(Ethics, Meaning, and Sense in the Post-Consumerist Society)**, we seek to explore how meaning and sense are produced in the post-consumerist society. We pass from a classical phenomenological and hermeneutical analysis, to an attempt to better understand issues like the perception of time, history, tradition, understanding, language, and the Other, to end up with a modified structural analysis incorporating elements of speculative philosophy to uncover the methods through which manipulation or disinformation is spread by the elites so they can impose their dominance upon the statistical units, as well as to propose an alternative. To summarize how this is achieved, it all has to do with the relationship between those who belong to the center (elites, corporations, banks, etc.) and those who belong to the periphery (statistical units), in the horizon of "now". This two-sided relation is formulated by three parameters: proximity, real-semblance, and trace. The parameter that is not shared between those two is proximity; through the non-proximal relation the domination is achieved, but as we will see it is a perplexing scheme that cannot be summarized in two lines. Then we introduce some terms, like the performativity of the action and avulsion. The first is important from an ethical, or better axiological, perspective; it refers to the decentered subject (described by structuralism onwards) and its participation in discourse or speech acts, and therefore its mediated formation of identity (that may contain social, political, and religious discourses); the second refers to a phenomenon in which in a topological space of representations, like a news feed of an application, has feedback that functions in such a manner that the production of its meaning brings an a priori stable beyond every contextualization. We then proceed with the description of what we call "mutual glaring" as a form of intersubjective "mutual understanding", beyond the maxim of signification of the center or the elites. Finally, we close by proposing an alternative that is based on the notions of arbitrariness and the Hegelian topsy-turvy world.

In the third chapter **(Self-Portrait in a Neuron Mirror)**, we first deal with computational neuroscience, a project that started in the late 1980s and has continued up to our day. It is an overall attempt to describe human brain function through networks of neurons. It is important to see this neuro-reductivist approach in relation to its fusion with artificial intelligence programs, known as connectionist. The connectionists created algorithms called "neuron networks" capable of imitating human imagination. Against the reductionism that computational neuroscience proposes, we briefly expose an alternative, which is the discovery of the

mirror neurons in macaque monkeys in the late ’80s and the existence of human analogues via indirect ways such as MRI, fMRI, PET scan, etc. This neuroscientific model can be seen as a fundamental mechanism of grasping the actions of others, as well as their emotions, and also participates in the process of learning; thus, the relation from merely subjective, as in computational neuroscience, turns intersubjective and also intentional as we open to the world and others. These findings help us to understand our intersubjective aspirations of the second chapter, defined as “mutual glaring” or “mutual understanding”. We illuminate them further with various phenomenological approaches—mainly those of Edmund Husserl and his theories of intentionality and empathy; Max Scheler and his accounts on the feelings of others and the role that they play in our experiencing of others; and the theory of embodied cognition by Maurice Merleau-Ponty, and, finally, Hans-Georg Gadamer. As for the second possible imitation of human imagination, we refer to speculative poetics with a major poem of postmodernity, John Ashbery's “Self-Portrait in a Convex Mirror”, and poetry as well as poetics as a possible distinctive characteristic of human imagination. Finally, we pass even beyond the spheres of psychoanalysis and metaphysics by describing cases in which being is enclosed (restrictive formalizations of Dehors) and its attempts to attain exteriority.

In the fourth chapter **(Objective and Subjective Medical Reasoning: A Philosophical Overview)**, we investigate how the philosophy of medicine (and medicine itself), creates puzzles, poses problems, and creates paradigms, following the analysis of Thomas Kuhn, to enrich the debate that has arisen over the last years and revolves around the question as to if the philosophy of medicine can be a separate field. We compare the two forms of medical reasoning—biomedical, or objective, and human-based, or subjective—to clarify these considerations. The first concerns the dominant biomedicine, which has as its central focus, substance matter and is therefore connected with materialism or physicalism, as well as a metaphysical presupposition—reductionism. For the second, holism or dualism is its metaphysical grounding and its metaphysical presupposition is emergentism. The first conceives of the body as a diseased entity from which the doctor should obtain objective clinical data in order to proceed to diagnosis, treatment, and prognosis, while the second focuses more on the subjective experience of the illness by the patient and the interaction with his environment, social, working, religious, etc. The models of objective medical reasoning can be based on

Bayesian analysis (when we have to predict a future event), or on frequentist statistics (when, for example, we seek the frequency of a symptom, disease, etc.) The objectivity can also be grasped through what has been called Evidence-Based Medicine, calling for more reliance on evidence obtained from current published research and randomized control trials. As for models of subjective thinking, we put forward the models proposed by Eric Cassel, whose view is somewhere between subjectivity and objectivity in reasoning, the biopsychosocial model of George L. Engel, who proposes the correction of the biomedical model on three levels (recognition of complex causation, recognition of various levels of activity, and recognition of the individual variability of disease), the infomedical model of Laurence Foss, in which information has a leading role, and—finally—the narrative model, in which the patient unfolds his personal experience in a form of storytelling.

In the fifth chapter **(The Impact of Big Data on Medicine)**, we emphasize the role of Big Data as generated in the domain of health in biological sciences. We see how it changed our medical approach and contributed to precision medicine and integrative biology. We present the methods of data analysis such as data mining, machine learning, and deep learning for their application in medicine by presenting certain research. We also uncover epistemological problems, such as how knowledge can be acquired through it, and what its efficacy and limits are. We then explore the role of the internet 2.0 in medical practice; we present the benefits for doctors, such as easier access to medical databases, and patients, such as medical information acquired and a possible active role, as well as the dangers and the major disadvantages, such as biased medical information. We then proceed to a historical overview of the taxonomy of the various diseases in order to later expose the need for categorization on a molecular basis. The limits of Big Data and Randomized Control Trials will also be analyzed, when, for example, we pass from Big Data to Smart Data; as for the RCTs, which are considered the gold standard for medical research, we can give examples of prior knowledge they may demand and the role of various policymakers. We then strive towards the obscure empiricism of Big Data, claiming that correlation is enough, and we will also reconsider if reasoning can be data-driven or hypothesis-driven, implementing hypothetico-deductive medical reasoning in comparison with Gungov's interpretation of abductive method in his *Patient's Safety: The Relevance of Logic in Medical Care* and the generic conception of epistemology as posed by Schmid

and Mambrini-Doudet. We will also reconsider the patient-doctor relationship and medical decision-making through the prism of Emmanuel Levinas and Jacques Derrida, as well as some of our basic assumptions throughout this book, such as glaring. Finally, we focus on the debate about naturalism and normativism in the conception of illness and disease.

The final, sixth chapter **(Information Society and a New Form of Embodiment)** aims to present the various changes in our embodying experience shaped by the new information, virtual, and robotic technologies, as well as their political and moral effect. The essay is also expanded to encapsulate the new conceptions in our approach to bodily transformation, medicine, and sexuality, strongly interconnected with the above facts. Our analysis is structured according to six different categories of embodiment: bodies, bodily governance, transforming bodies, virtual bodies, medical bodies, and sexual bodies. The political impact is mainly given through the description of the forms of bodily governance, like personal and biometric data collection used for massive surveillance and as a measure for defining the "ideal" standards of our social life. The possibilities provided by classical and 3D-printed organ transplantation and the use of prosthetic and cosmetic surgeries led us to rethink our bodies as transforming or as being in a process of becoming. Our immersion in virtual environments and the use of avatars raise questions about embodying and disembodying experiences and the formation of our identities in the virtual world. The dominant biomedical model seems to be challenged by more human-based approaches emphasizing the subjective narratives of the patient, consequently contributing to the more ethical and non-normative treatment of people with special needs and elder people. Furthermore, the use of robotics in the care of people with mobility or mental problems brings dilemmas in the human-machine interaction and the roles of caregivers, care receivers, and robots. Additionally, after structuralism and post-structuralism, the natural-binary systems have been thoroughly criticized; this fact gave birth to feminist theories which consider that gender is socially constructed and that the body, and therefore the gendered body, is a disembodied prosthesis of information or a fusion between machine and organism. Finally, information technologies and progress in medicine and biotechnology can be seen as a chance to surpass the limits of our humanity, defeat death, and give a totally different perspective on our evolution, cognition, and embodiment, and this is shaped by various theories on transhumanism.