



Life, Metric and Logos

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ABSTRACT

The Biometrology is an emerging science that combines expertise in Biology and Metrology to develop critical applications in several areas, with influence on quality of life and economic impact. Having the scientific production of Brazilian Biometrology as a research object, this paper presenting a thesis to be defended at postgraduate program in Education Sciences, Life and Health Chemistry, Institute of Health Sciences, Federal University of Rio Grande do Sul, Brazil: can be found in the scientific literature in Biometrology a principle of intelligibility and analysis of the decrypted power in terms of life, metric and logos? The hypothesis put forward here is that yes, that this scientific output is an element in a strategic device power relations established according to different constituent views and discursive formations. The thesis intend to work specifically the theoretical choices in biometrological knowledge production as tension of the power over life.

KEYWORDS : Biometrology, scientific production, biopower, network analysis

The Biometrology is an emerging science that combines expertise in Biology and Metrology to develop critical applications in several areas, with influence on quality of life and economic impact, including the design of drugs, genetic diagnostics, safety and pharmaceutical effective diagnosis of infectious diseases, environmental monitoring, breeding and forensic characterization (Parkes, 2004). The need for this knowledge is of utmost importance in biopower statement, the power of life, "the new technology that installs and runs the multitude of men, not to the extent that they are summarized in bodies, but in that it forms, on the contrary, a global mass, affected by set of processes that are themselves of life, which are processes such as birth, death, production, disease, etc." (Foucault, 2005, p. 289).

The advent of biopower in the mid-seventeenth century, initially "focused on the body as a machine" (Foucault, 1999, p. 131), an anatomical and political assumption that coincides with "the abandonment of organismic image of nature in your link intimate with our own experience as living beings" (Ramos, 2010, p. 20). This experience, which for thousands of years served as a "model for the understanding of all natural, living or non-living beings" (ibid, p. 16) is not disposed of wills, desires, perceptions and feelings more appropriate to man "that at one point, marvels at the living and at other times if scandalizing by being a living, forge, for their own use, the idea of a separate kingdom" (Canguilhem, 2012, p. 3). In this sense, there is no way to approach life without talking about life; in doing so, it is no longer living, but knowledge of life, and there is no singular speaks for life, but it already is talking about life and logos.

Mechanists, to develop the model of nature as a machine, from the assumption that the animistic picture of life "would lead to the mistake of attributing human soul qualities to natural beings, which would undermine the objective understanding of the world" (Ramos, 2010, p. 20). When talking about life, "the mechanistic biologists found the machine as given, or studied its construction, they solved the problem by invoking the human calculation" (Canguilhem, 2012, p. 108): meets thus a single term the metric to life and logos. However, these etymological terms of Biometrology name are not that science. The advent of a biopolitics of the population in the eighteenth century, "body-centered-kind in the pierced body by the mechanics of living and in support of biological processes" (Foucault, 1999, p. 131) preceded three centuries of biopolitics tensions metric, life and logos, forms of power over life (policies of biological life) and power over death (racism).

In this thesis, we intend to work specifically the theoretical choices in biometrological knowledge production as tension of the power over life, power that is based "mechanisms implemented by biopolitics, forecasts, statistical estimates, global measurements of your phenomenon, and, also, the intervention at the level of what determines such phenomena, as they are global: modify, lower morbidity; lengthen life; stimulate the birth rate" (Foucault, 2005, p. 293). One can identify here two biopolitical mechanisms: on the one hand, those that allow

the diagnosis of a biological phenomenon in the exercise of power, measuring their quantities, finding it, featuring a Science of Facts; other mechanisms aimed at programming that phenomenon by performing the desired privileges, controlling it by setting an Effect Technique. Both terms underlined in italics, used by Bachelard (2012, p. 16) to address the construction of scientific knowledge will be used in this study to distinguish two constitutive vision series of scientific production in Brazilian Biometrology.

The insistence on the association mechanism term to life is not free: it persists in consideration of biopower, although that Science mechanistic facts has given way to a reversal of effects technique increasingly applied to life, seeking "the construction machine from the structure and functioning of the organism" (Canguilhem, 2012, p. 107). The pioneering example of this statement is to create prostheses and implants who became known Biometrology name, giving "greater emphasis on their application in the area of Biotechnology" (Monteiro, 2007, p. 6). Nevertheless, equipment simulating alcohol effects by way of comparative standards for breathalyzers calibration, or numerous other effects from certified reference materials that allow you to compare and calibrate measuring instruments for various biomeasurements, have been developed in the last two decades. Technology increasingly present in day-to-day life can make them aware of fever, hypertension, diabetes, pregnancy.

Daily appropriation of technologies derived from biometrological applications are almost harmless examples and displaced biopower exercise from solutions used in laboratories aimed at different purposes, whose scientific production gives materiality to this new science. Biochemical techniques for selective quantitation of cells, establishment of DNA profiling, analysis of structure and molecular dynamics in tissues, identifying and determining the conformation of proteins are examples of activities making use of biomeasurements which allow exerting the regulatory control of the health and security of billions of people. The scientific production on the one hand, based around a set of norms, standards and procedures in which it is for the public policies legislating; the other is oriented and, above all, fostered by these same policies that invest in them to common continuity: extremes meet and form this biopower ouroboros.

Apparently, it is the condition of a bio-political domain and founded "in the new ethos of science that has a dominant mode of Academic Science work for a dominant mode Industrial Science work, especially after the Second World War" (Cachapuz; Praia; Jorge, 2004, p. 367), that Biometrology had its development linked more strongly to institutes maintained by the public sphere than by private conglomerates research or universities. The fact is that the "National Metrology Institutes (NMI) are the first line in the development of new areas of metrology" (Park; Choi; Jeong, 2012, p. 420), and Biometrology, which came to be regarded as the exploitative of the final frontier of Metrology (Parkes, 2002), is a typical domain of this century. No nation that craves power condition could go through the previous decade with-

out subscribing to a scientific production with a ballast sedimented in this triad of life, metric and logos.

Since the 21th General Conference on Weights and Measures (CGPM) in 1999, bringing together representatives of all member states of the Metre Convention, including Brazil, recognized the application of metrology in the biological area as a relevant challenge to its scope, Brazilian researchers have published their scientific production within the Biometrology. However, it is considered the year 2008 as "more a starting point for the development of Biometrology in our country" (Monteiro et al., 2011, p.1), when the Brazilian Committee of Metrology has prepared a document with guidelines strategic for national metrology, providing, among other goals, "the development of basic methodologies of biochemistry and molecular biology to critically evaluate and standardize the quality of biotech products" (Idem).

Having the scientific production of Brazilian Biometrology as a research object, this thesis proposes the following problem: can be found in the scientific literature in Biometrology a principle of intelligibility and analysis of the decrypted power in terms of life, metric and logos? The hypothesis put forward here is that yes, that this scientific output is an element in a strategic device power relations established according to different constituent views and discursive formations. This is the problem at hand, and in principle, some main lines of the archaeological method of Foucault (2008): show how to organize a domain, in this case, Biometrology, they are concerned the statements, principle groupings, its description of possibilities and the effects of their arrangement on their scientific production.

Verification of the hypothesis was performed by analysis of scientific papers published in journals indexed by Digital Collection of Inmetro, access portal to digital collections of documents generated under the National Institute of Metrology, Quality and Technology (Inmetro), an institution that is at the forefront of the development of Brazilian Biometrology. The set of articles submitted worked as a archive, in the sense that Foucault used the term in the archaeological phase of his work: "all discursive traits likely to allow the reconstitution of all the rules in a given time, set at the same time limits and the forms of speakability, conservation, memory, reactivation and appropriation" (Revel, 2005, p. 18-19). The analysis of this archive sought to understand the rules, practices, conditions and operation of the scientific production of Brazilian Biometrology.

In addition to the Introduction and Conclusion, this thesis is divided into four sections: Biometrology: the new scientific discourse of biopower, discussing the concept of Biometrology, its emergence and function in the biopolitical device; Archaeological procedures in the analysis of biometrolological discourse, showing that there is in Foucault's archeology some elements that allow an analytical model for the search object; The scientific production in Biometrology, summarizing, identifying discursive formations and re-entry, summarizing and proposing two different series in the constitutive view that scientific production; Analysis of theoretical choices in Biometrology, analyzing knowledge network formed within the Brazilian Biometrology, identifying the agency statements and the hegemony of certain discursive formations.

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