

# Biosociology

Subjects: **Sociology**

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Biosociology is an emerging discipline that needs to be well understood and presents many challenges. This research approach shares biological and sociological theories and concepts. However, for many sociologists, the use of biology in the social domain reminds them of fascism or social darwinism. Therefore, biosociology needs to move away from these misinterpretations and focus on generating new methods and perspectives that will move the discipline forward.

Biosociology

Social Sciences

Causality

## 1. Introduction

Biosociology is a discipline studies interrelationship between biological and sociological knowledge. It covers a broad set of topics and perspectives where biology provides data and information helps sociology to provide causal explanations. In this sense, for example, microbiological knowledge supports us to understand how the microbiome affects human beings, something similar happens with genetics or epigenetics that supports us to understand some of the conditioning factors of human beings. There are other fields of knowledge relevant to biosociology: biochemistry, molecular biology, evolutionary theory, primatology, ethology, etc.

## 2. Causality

Richard Machalek<sup>[1]</sup> indicated that biosocial scientists consider as social behaviour is produced by two types of causes: proximate causes and ultimate causes. First ones are understood as a set of biological processes that trigger physiological activity. Last, the ultimate causes, are interpreted as adaptations resulting from an evolutionary process. However, according to this great sociologist, not all biosocial theories delve into understanding the intricacies of evolution, limiting themselves to understanding the proximate causes of behaviour.

Complementing Machalek's contribution, Rosemary Hopcroft<sup>[2]</sup> showed us that this new discipline needs to be aware that the concept of causality in sociology is not similar to that of biology. In the social sphere, causality is probabilistic, so that the expression of a gene, for example, does not have a direct relationship with a particular behaviour or social manifestation. Hopcroft points out that in order to understand this causality in detail, a series of experiments would have to be carried out, which, for ethical reasons, cannot be done.

To all this, it is important to add that human beings are complex organisms that, as a group, form social niches where biological conditioning factors are modulated<sup>[3]</sup>. We know that genetics is expressed and manifests itself in

the phenotype. In turn, the phenotype will manifest itself in a particular socio-type. This concept was proposed by Berry<sup>[4]</sup> as a conceptual framework for understanding the interactions between social, cultural and environmental inputs. All of these will influence the growth, development and behaviour of individuals, their relationships, their modes of communication, their lifestyles, etc.

The socio-type shapes the social niche in which it lives through a process of co-evolution between the different socio-types among themselves, the socio-types with the environment and the conditioning factors that the environment generates for the evolution of the socio-types. Araya-Ajoy et al.<sup>[5]</sup> analyse social evolution through the study of the phenotypes of individuals. This perspective is limited to the biological approach and is therefore structured according to these structures. However, from the perspective of biosociology, it would be necessary to introduce the socio-type as a driver of social evolution. Obviously, this socio-type will be affected by the phenotype. However, we also know that the socio-type (especially in humans) can be modulated by society itself, as well as by people's individual choices.

The last, precisely, was also indicated by Hopcroft<sup>[2]</sup> when she mentioned that most humans have the ability to decide how to behave and modulate their internal drives. For this reason, biosociology is aware of the need to incorporate new strategies of analysis to better understand social evolution, human behaviours, etc.

### **3. New Epistemological Framework**

One of the most interesting elements of biosociology is the new epistemological framework it proposes. We said earlier that this discipline links different scientific approaches, so it also needs novel methodological perspectives. This new perspective needs to build bridges of dialogue between approaches that are not similar in principle. For this reason, people who are willing to engage in such studies need to develop an open mind and hybrid knowledge. For example, if we want to study, as Mauricio Meloni<sup>[6]</sup> has done, the social impact of epigenetics, we need to broaden traditional sociological knowledge and approach biology. In the same way, biologists (and all related disciplines) who wish to do research from this perspective would need to broaden their sociological knowledge.

Biosociology is a discipline of theoretical and methodological confluence. In it, scientific simplifications need to be set aside. In fact, biosocial studies are usually understood as referring to biomedicine. This would mean admitting that social ethology, studies on cooperation, altruism, social evolution, among many others, would not be biosocial studies. This is clearly not this case.

Another important aspect has to do with the misinterpretation that the incorporation of biological knowledge into social knowledge implies social determinism, fascism or social Darwinism<sup>[7]</sup>. Rosemary Hopcroft<sup>[2]</sup> warns that social scientists often understand the biological explanation of a social reality as deterministic. This social reality has led some sociology scholars as well as scientific associations to avoid entering this field because of the Manichean use of the scientific information obtained<sup>[8]</sup>.

Another related example occurred to me at a recent meeting. When discussing a social study on prion diseases, one of the participants pointed out that the approach was a bit biologicistic. So, there are also some misgivings that biosocial knowledge is too limited and linear. Well, these prejudices towards biological knowledge need to be banished in order to move forward.

## **| 4. Future Challenges**

Biosociological studies need to overcome certain simplifying views and build bridges with biological disciplines. To this end, it is essential to investigate common frameworks for describing and understanding the world. It is also important to develop common research methods and methodologies that facilitate the exchange of data and information. Different researchers tend to become accustomed to our own way of doing research and reject, in one way or another, different approaches to analysis. Similarly, scientific journals tend to opt for conservative research perspectives and do not publish innovative articles. In this sense, it is hard to imagine that a sociological journal would accept an article based on the analysis of the geographical distribution of a certain population genetic marker or the phenotypic and behavioural alterations of a gene mutation. I suspect that the editor would argue that there are biological journals that would be willing to publish it. Similarly, I suspect that a qualitative study of the social perception of climate change could not be published in a biology journal. The reason might be similar.

I wonder if one of the most useful ways to make this process quick and operational would be to bring sociologists into biological research groups. The question would be whether any group would be willing to do so. I assume researchers from biological world would not be willing to join social research groups, because they have more financial possibilities.

The debate and researching on biosociology are alive. Who are interested in this discipline are continuing their efforts developing new research strategies, new methodologies or even developing mixed studies that facilitate biosociological progress. The challenge is exciting and necessary.

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