

BIOLOGICAL CONCEPTS, MODELS, AND METAPHORS IN SOCIAL AND HUMAN SCIENCES

Abstracts

Snait Gissis (Cohn Institute, Tel Aviv University, Israel) – **Evolutionizing and Collectivizing**

In the period from the mid 19th century to the early 1930s biologists, social thinkers, sociologists and psychologists had to cope methodologically and epistemologically with issues related to collectivities, to collective frameworks, and to sociality, given the prevalence – if not predominance – of an individualist perspective. In the various, newly emerging “fields of psychology” some influential figures, starting with Herbert Spencer, in their explanatory mechanisms of selected, problematized, features of individuals assumed relations of dependency of individuals on collectivities. They posited – perhaps reluctantly – collectivities as necessary relational components in the construction and constitution of individuals. I shall show that the connecting mechanisms were evolutionary, and had explicit Lamarckian / neoLamarckian features. Furthermore, the deployment of the collectivities was conceived as supplying the grounds for claims of necessity and universality, and thereby making their psychology a “science.”

Alexei Kouprianov (Higher School of Economics, Saint-Petersburg, Russia) – ***Circulations of Metaphors: Science of Life and Social Discourses (Visions from the XIXth century)***

The aim of this paper is to critically examine the ways by which biological concepts circulate in the scholarly world. Employing a rather eclectic theoretical framework, borrowing partly from cultural anthropology of science, and partly from a much simplified adaptation of actor-network theory, I shall try to analyse several exemplary cases from the history of biology (somewhat shamelessly smuggling in the stories of the obscure origins of some biological ideas). In doing so, I shall try to show how the translation occurs, what can be lost and gained in it, and, finally, whether and how translation and circulation of concepts between sciences and humanities ought to be discussed, given some necessary theoretical precautions. The exemplary cases include the biological species, biological sex, and the problem of extinction, with a focus on one of them and more cursory remarks on the other two. The narrative begins with a brief analysis of some characteristic shifts in the presentation of natural history objects that may be noticed when we compare natural history texts from the 18th and the 19th centuries, and extends well beyond this initial particular problem in an attempt to make the theoretical point of the paper clearer.

Fernando Vidal (ICREA (Catalan Institution for Research and Advanced Studies), Barcelona, Spain) – **The Neurosciences of Culture**

Since the 1990s, a major instance of the dynamic interface that has long existed between the biological and the social and human sciences emerged in the form of projects we might call for short “neurodisciplines,” some of which underwent outstandingly rapid professionalization and institutionalization. These “neurodisciplines,” whose names often join the prefix *neuro* to the name of a human science, share basic assumptions about the brain-mind relationship, a

preference for neuroimaging approaches, and the goal of discovering neurobiological foundations. The label “neurodisciplines of culture” could designate all projects touching on cultural processes or phenomena, and would therefore include for example neuroaesthetics and neurohistory. This presentation, however, uses the label for areas such as neuroanthropology, cultural neuroscience, social neuroscience and transcultural neuroimaging, which specifically aim to understand the neurobiology of cultural commonalities and differences. After providing an overview of the neurodisciplines in general, we shall discuss some features, interactions and examples of the neurodisciplines of culture. These fields claim to investigate “cultural variation in mental, neural and genomic processes as a means of articulating the bidirectional relationship of these processes and their emergent properties.” We shall ask whether and how their emphasis on bidirectionality corresponds to their actual research, and whether and in what sense they contribute to an understanding of their supposed object, culture.

Ullica Segerstrale (Illinois Institute of Technology, Chicago, USA) – **Social Concepts, Models, and Metaphors in the Biological Sciences**

The topic of this conference is “Biological concepts, models, and metaphors in the social and human sciences” and many good examples will no doubt be found. But this topic might as well be turned around.

What about the social underpinnings of models, concepts and metaphors in the biological sciences? We may in fact have a Russian doll type of situation. Moreover, recent controversies in biology, particularly evolutionary biology and sociobiology, show that biologists often attach strong social meaning to their own scientific terminology, while social scientists often show professional “biophobia,” which gets only reinforced when biologists make statements about humans.

In my talk, therefore, I will address the issue of social ideas in biological thought with some historical and contemporary examples, and especially how different interpretations of the social meaning of biological terms have affected scientific controversy. Finally, since biology and the social sciences seem to be quite intertwined at the level of ideas, how might these fields understand each other better academically? Both could profit from the scientific knowledge that has been accumulated in the other’s area, albeit for different purposes and using different terminologies. There are already signs of such rapprochement.

Denis Sivkov (Russian Presidential Academy of National Economy and Public Administration, Volgograd, Russia) – **Self or other? Making a Body in Immunology**

There is a special “trading zone” where immunology and humanities meet each other. For example, philosophers like Peter Sloterdijk, Jacques Derrida and Roberto Esposito or sociologists like Niklas Luhmann used immunological concepts and metaphors in their theories. Sometimes it’s a sort of collaboration but sometimes it’s rather an intervention.

Philosophers, sociologists and anthropologists try to understand how scientists and non-scientists produce or construct immune systems in different ways and in different places. These investigations are called social studies of immunology. Immunology is very powerful today. Health, diseases, death and life are defined and redefined in terms of immunology. Since the 1980’s the number of images and popular descriptions of the immune system has increased dramatically. The social studies of the immune system enable the discovery of controversies between different ontological orders in biomedicine on the one hand, and working of coordination of these orders on the other.

The knowledge of immunity and of immune systems originates not only from laboratories and clinics, but also from different reference groups. In this sense immunology is a fragmented

discourse with flexible borders. There are at least two competing ontological models and metaphors of immune systems that can intersect, inter-lap, enter into a conflict or know nothing about each other. The first model is based on the military metaphor of split and counter “self and other.” In the second network model the immune system deals only with its own components and prepares immune response before any possible invasion. The third, a holistic model, is based on the metaphor of symbiosis and insensibility of self and other. Thus, there is no unity or consensus in body metaphors and immune system models.

John Tresch (University of Pennsylvania, USA) – **Leroi-Gourhan and the Creative CoEvolution of Technology and Society**

Inquiries into the relations between biology and society around 1900 have focused on notions of organic function, holism, and, in some cases, natural selection. The impact of Henri Bergson's “spiritualist” philosophy of biology upon social theory has been difficult to recuperate ever since mid-20th century attacks on vitalism and the ascendance of the modern synthesis between molecular biology and Darwin. Yet a distinctly Bergsonian tradition social theory developed quietly in French archaeology from the early 20th century onward in the works of Andre Leroi-Gourhan, who studied technology as the externalization of physiological capacities and as the keystone to diverse “sociotechnical organisms.” This paper examines the Bergsonian roots of Leroi-Gourhan's paleoanthropology; in particular, I will consider his work designing displays at the Musee de l'Homme in Paris. I wish to consider these attempts to convey the simultaneous technological and social evolution of Homo faber in the context of contemporary projects for making the order of the cosmos visible.

Tamás Scheibner (Eötvös Loránd University, Hungary) – **Competing Anthropologies in Hungary before and after WWII. Völkerpsychologie, Christian Socialism and Communist Pedagogy**

The predominantly Soviet inspired creation of a new type of mankind in Eastern, Central and Southeastern Europe after the Second World War has rarely been discussed, and if yes, largely as a one way process. This simplistic approach risks to conceal, on the one hand, that there was no single model of a New Soviet Man, but rather a multidirectional discourse and imagery, therefore it is misleading to standardize the Soviet example. On the other hand, and this comes to the focus in my talk, the same approach also fails to give justice to the complexity of how local variants of the New Man were negotiated. In my paper, I will map the competing visions of a New Hungarian Man that emerged in pedagogical and literary discourse between 1945 and 1949, pointing at earlier developments in these fields. Based primarily on an analysis of prominent pedagogical periodicals and the writings of Georg Lukács, I will show how the Communist Party relied on prewar pedagogical discourses under political pluralism in an attempt to legitimize communist parties as deep-rooted political forces.

Christopher Donohue (National Human Genome Research Institute, Washington, USA) – **The Biosocial Anthropology of Robin Fox: Defining an Intellectual Community**

Inaugurated in 1966 by Lionel Tiger and Robin Fox, biosocial anthropology sought to explain certain features, especially universals, of human culture from a neo-Darwinian perspective. Fox, Tiger and others, with much flourish, presented biosocial anthropology as an alternative to the

cultural relativism of Franz Boas and the descriptive methodology of much post-war anthropology. Fox and Tiger forged their inquiry from a variety of diverse sources: from the kin-selection theory of W.D. Hamilton, the anthropology of Ernest Gellner (particularly on kinship), the philosophy of Karl Popper, the ethology of Konrad Lorenz, the primatology of Sherwood Washburn and the linguistics of Noam Chomsky.

Focusing on Fox as he is perhaps the most well-known biosocial anthropologist (he is certainly among the most colorful), I will outline how Fox narrated kinship and incest along neo-Darwinian lines in the 1970s and 1980s using all of the above mentioned theorists. I will trace how important the LSE (London School of Economics) was to the development of this specific intellectual platform and to Fox's own intellectual development. I will clarify the (rhetorical and substantial) distinctions between socio-biology and biosocial anthropology in the 1970s and 1980s especially. Moreover, I will also define how biosocial anthropologists like Fox and Tiger (and more recent adherents such as Lee Cronk) distinguished themselves from social biologists in Britain, while also ignoring certain other disciplines (to their peril, perhaps). Lastly, I will evaluate biosocial anthropology (is it reductionist: no, does it represent an alternative to Boasian anthropology, also no) as well as define the key features of the community of practitioners whom selfidentify as biosocial anthropologists.

The result of the presentation will be hopefully a clearer understanding of the historical development and key features of biosocial anthropology (understood only fully when arrayed against a range of alternatives) but as importantly a significant case study which will allow for a better analysis of an intellectual community (with its features now defined) which is neither "mainstream" nor peripheral but in-between. Like public choice economics and behavior genetics, biosocial anthropology and its community has specific norms and practices (peer review, institutional affiliations) which are distinct from mainstream disciplines but differing as well from outright pseudoscience. All three are "heterodox sciences."

Alexander Bikbov (Maurice Halbwachs Research Center, Paris, France; Moscow State University, Russia) – **"Bad Sociology": Some (Ab)Uses of Biological Concepts**

After Emile Durkheim gave social science a definition, new generations of scholars (those who did not ignore Durkheim) seek to transgress it for the sake of a better explanation and integration of unnoticed variables into the ways the human behaviour may be interpreted. Some of the attempts modernized sociology bringing to a renovation and readjustments of explanatory strategies. Some drew back to pre-Durkheimian beliefs founded on naturalist views on the social world. From this point of view, we may consider three types of "bad sociology" that decline to explain social matters with social factors and turns back to various types of biologified "solidity": 1) A direct correlation of social behaviour to physical, racial and other reportedly natural variables (represented today e.g. by explicitly racist writings by J. Ph. Rushton in the USA or V. Solevej in Russia); 2) Universalist single-tenet theories giving to the social same "laws" as to the biological and more generally to the universe scale, such as system theories by L. von Bertalanffy and late T. Parsons or ANT such as proposed by B. Latour; 3) Partial suspension of social interpretation in favour of biological metaphors in examination of social phenomena, such as migration, economic production, etc. (this type proliferates the most resulting in a visible portion of current Russian publications in social sciences). What is the most intriguing in such retro-activation of naturalist views are institutional and political conditions under which such visions of the social may be re-accepted as legitimate academic strategies. A hypothesis of admissibility in re-naturalizing the social refers to a situation of academic deregulation. Biology-shaped social explanation proliferates under condition where two forms of academic regulation, collegial governance from one end and bureaucratic or neoliberal management from the other, are suspended in the discipline.

Petr Safronov (Higher School of Economics, Moscow, Russia) – **Unchain the Grain: Nascent Lyssenkoism, Genetics and the Making of Stalinist Society**

The controversy between genetics and Lyssenkoism was often represented as a model case of as an unduly suppression of a true science under harsh political conditions. Yet in my talk I'd like to outline a different perspective. My starting point is that all Soviet biologists, no matter how profoundly orthodox they were in terms of ideology, strived to enlarge their scientific authority to the field of upbringing new forms of life. Heated debates of Lyssenko and his counterparts might be therefore scrutinized as a specific kind of pedagogy – pedagogy of living.

Every open discussion between agrobiologists and geneticists was in fact a rivalry of two competing ways of seeing what is a life. While geneticists were inclined to practice analytical vision making more or less claims on genes as abstract irreducible medium of heredity, Lyssenkoists put forward a synthetic style of seeing blurring all boundaries of species in favour of the total idea of nature responsive to human interventions. Both genetics and Lyssenko were ready to “teach life,” yet the former considered it to be disseminated through individuals and the latter projected it into the broader context of collectivity.

Roger Smith (Lancaster University, UK; Institute of the History of Science and Technology, Moscow, Russia) – **Inhibition and Metaphors of Top-Down Control in Science and Society**

The languages of the natural and social sciences, like everyday languages, are full of metaphors with strong evaluative as well as expressive content. Historical research shows how even apparently neutral, objective terms have roots in such metaphors. Examples include “selection” (as in natural selection), “function” and natural “law.” I will discuss “inhibition” (*торможение*), a term much used in the psychological and physiological sciences (and in daily English, e.g., referring to an inhibited or uninhibited person). It is often assumed that order results from the exercise of a “higher” level (understood as a ruling power, reason, mind or higher brain level) inhibiting (or preventing or repressing) the automatic activity of “lower” levels (understood as the people, emotion, body or lower brain or spinal cord levels). The conceptual language of “top-down” control is present in objective natural science (the science of the nervous system) and in a host of ways about talking about people and society (e.g., by referring to “the beast within” – when a person, or crowd, loses rational control the primitive animal within breaks out. The result is that top-down models of order may appear natural, even essential to the very notion of order.

This paper will introduce elements of the history relating understanding of the nervous system and understanding of social relations. It is not that natural science or everyday social life have metaphorically used (or misused) concepts taken from other domains; rather, historically, there has been a shared linguistic context. One important illustration centres on the work (in the 1860s) of the Russian physiologist I. M. Sechenov. Notions of the hierarchical control functions of the brain are also assumed in much modern neuroscience.

The conclusion to the paper points out that the model of inhibition discussed has been historically accompanied by, and interacted with, another model. This model, an “economic” or “integrative” model, conceives order to be the result of interaction and balance between different forces or powers. I illustrate this with a number of examples (Hippocratic medicine, J. F. Herbart's theory of conscious contents, Herbert Spencer's use of “the social organism” idea, the technology of machine “governors,” and the opposition to Sechenov's “centre” of inhibition). Biological models (1) are a flexible resource, and (2) themselves use language taken from social relations.