



# MILIEU, EMBODIMENT, AND CULTURAL STUDIES OF SCIENCE. COMMENT ON ROM HARRE' THE SOCIAL INGREDIENTS IN ALL WAYS OF ACQUIRING RELIABLE KNOWLEDGE

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The article discusses the concept of milieu in its connection with a problem of embodiment as it is today posed in the cultural studies of science. It is pointed out that if we take the embodied milieu as a precondition and result of our theoretical and practical activities, then it challenges the traditional sense of the word «social» and, accordingly, the basic purposes of a social philosophy of science.

**Key words:** social philosophy, science, milieu, embodiment, symmetrical approaches, new materialism.

## ПРОБЛЕМА ТЕЛЕСНОГО ВОПЛОЩЕНИЯ И ИССЛЕДОВАНИЕ НАУКИ В КОНТЕКСТЕ CULTURAL STUDIES. КОММЕНТАРИЙ К СТАТЬЕ Р. ХАРРЕ «СОЦИАЛЬНЫЕ ОСНОВАНИИ ПОЛУЧЕНИЯ НАДЕЖНОГО ЗНАНИЯ»

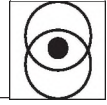
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В статье обсуждается концепция среды (milieu) в ее связи с проблемой телесности, в том виде, как эта проблема ставится сегодня в культурологических исследованиях науки (cultural studies of science). Показано, что идея телесной среды как условия и результата нашей теоретической и практической деятельности ставит под вопрос традиционный смысл понятия «социальное» и, соответственно, исходные интенции социальной философии науки.

**Ключевые слова:** социальная философия, наука, телесность, воплощение, симметричные подходы, новый материализм.



In his paper, Rom Harre draws a picture of an actual and a possible relationship between the social and natural sciences. Under the name of cultural studies, he unites all kinds of disciplines dealing with human affairs: economics, theology, history, philosophy, psychology, and so on.



Rom does not restrict himself to general statements about a necessary or desirable integration of the natural and social (cultural) sciences. He addresses himself to concrete examples and discusses concrete methods and concepts that can be usefully borrowed by the cultural studies from natural sciences and vice versa, by the natural sciences from cultural studies.

This strategy is the most effective one because the great split of science into the separate domains of the natural and cultural (or social) sciences is really well supported, — maybe, it is supported by the essence of things — and can in no way be eliminated by merely talking of their integration. It would be too superficial.

Rom presents some arguments in favor of this split: He shows that there are very specific methods and epistemological principles of the natural sciences that cannot be used by cultural studies because the latter deals with local practices and local norms rather than universal laws and timeless experimental results. Indeed, the same can be said about the specificity of the principles and methods of cultural studies. He, therefore, accepts that the distinction between natural sciences and cultural studies is essential.

Nevertheless, we can point to domains where this methodological and conceptual split does not look so obvious and where the sciences, both natural and cultural, are forced to go beyond their own boundaries in order to grasp and comprehend these domains and their phenomena.

Rom (referring to concepts from Uexkuell, Tetsuro, and Berque) finds one such domain in an intermediate space between human beings and their environment, the space that can be considered neither entirely human nor entirely natural. It is a milieu. A milieu is something like a surrounding cultured nature, or habitat. It must be distinguished from an environment that can be treated objectively by means of the scientific methods of the natural sciences.

A milieu is a concrete human *Umwelt* as experienced and interpreted by its inhabitants. It is not entirely physical because it means nothing without being purposefully influenced, or being “lived through” by humans. However, it is not entirely cultural because it holds the concreteness of materiality [Berque, 2009; Arisaka, 2003: 240–241].

In what follows, I would like to discuss the concept of milieu in its connection with a problem of embodiment as it is today posed in the cultural studies of science. Under the term “cultural studies of science”, I mean — in the same way that Rom Harre does — all kinds of social sciences and humanities dealing with science and technology.

My question is: Can a milieu be treated as a collective human body — like an anthill is for ants — in which material and “pure” human features are merged, or is a milieu a conceptual structure and, thus, must it be



studied by the disciplines that traditionally deal with disembodied meanings, values, interests, etc.?

One of the main features of a milieu, as Rom puts it, is that the relationship between a milieu and its inhabitants is not a mechanical one but one of mutual elaboration. In particular, it means, that a person reacts to a stimulus in a milieu not automatically (like a programmed machine) but like a bicyclist reacting to a signal with the appropriate action, that appropriateness depending on the entire situation, the sense of which he grasps intuitively. He thus usually crosses the street at the green light, but if the green light begins to blink, it can motivate the bicyclist to react differently: he can stop or go faster.

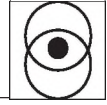
The bicyclist example refers to Michael Polanyi's famous example of tacit knowledge — according to Polanyi, bicycle riding demonstrates that “we know more than we can tell” [Polanyi, 1966: 4]. The ability to ride a bike comes not from learning physical laws and mechanical rules but from a trained body that reacts to new physical conditions and adapts to them. Extending this example, we can say that a collective body adapts to its material environment in a way that cannot be explicated with an invariant algorithm.

However, there is an authoritative point of view coming out of the contemporary sociology of scientific knowledge (SSK can be considered one of the players in the field of the cultural studies of science, or the social philosophy of science to which Rom refers) that connects the non-algorithmic adaptation of humans to their environment with disembodied, pure social relations rather than with the function of the living body.

Sociologist of science Harry Collins distinguishes between two types of human action: mimeomorphic and polymorphic [Collins, 2010]. All the mimeomorphic actions are characterized by obvious or hidden automaticity that in principle can be explicated and mimicked by machines. The only essential thing that prevents such actions from being fully explicable in terms of natural sciences (that is, in terms of the scientific understanding of causal sequences) is technical (somatic) limitations.

Balancing a bike, or any skillful action, can in principle be expressed by means of scientific knowledge purged of all context-dependent, situational references. “If we could calculate a billion times faster we could probably ride a bike using the rules of physics” [Somatic-limit, n.d.]. Thus, all somatic tacit knowledge is only conditionally tacit but essentially explicit.

Polymorphic actions are executed differently. They are really context-dependent. They depend on social understanding, which is local and changeable in the same way that social circumstances are changeable.



In the case of polimorphic actions, a human behavior obeys informal rules that can vary from situation to situation and can be grasped intuitively.

Consequently, while balancing a bike is just a physical activity that can in principle be fully explained and explicated in scientific terms, riding a bike in traffic depends on the social location of the knowledge and represents a non-algorithmic adaptation of a human being to his or her milieu. Polimorphic actions cannot be fully explained and mimicked by machines [Collins, 2010].

However, the problem is that, according to Collins, polimorphic actions are unlikely to depend on bodily functions or embodiment in general. They depend on linguistic socialization. To acquire a language, we need only a minimal body, that is we need only sensory inputs in order to be members of society [Collins, 2010: 135–138].

In this example, we can see a sociology of science that deliberately keeps its distance from scientific concepts and methods. It leaves the matter and body to the natural sciences and instead deals with the social. In this model, the split between natural and cultural concepts and methods remains intact, and the milieu is also split into two parts: the objective environment and the realm of changeable meanings.

Are there any concepts in the contemporary cultural studies of science that would offer us an alternative? I mean an alternative that would provide an opportunity to understand a milieu as a collective body? At least one such opportunity comes from science and technology studies' symmetrical approach. As an example, I have selected Donna Haraway's conception of material semiotics [Haraway, 1991; Haraway, 1997].

As we have seen, Harry Collins's approach diminishes the role of material processes and embodiment for human discourses. The alternative approach restores this role. For Haraway, human beings (like all living organisms) live in a certain place, under particular material conditions to which they need to adapt. The systems and chains of signs they create are the result of this adaptation.

Thus, "discourses are not just 'words.' They are material-semiotic practices through which objects of attention and knowing subjects are both constituted" [Haraway, 1997: 218]. As she writes, an object of knowledge is an "active, meaning-generating axis of the apparatus of bodily production" [Haraway, 1991: 200].

In this model, therefore, a milieu is our collective technoscientific body, a material embodiment of our practical needs and intentions, and this collective body reciprocally affects and changes our social behavior. Returning to the bicyclist example, we can say that the traffic situations and all the kinds of social relations they consist of are embedded in the bodies and technologies, so that there is no traffic without bicycles and no meanings without material practices.



Other symmetrical approaches from science studies that also allow us to understand a milieu as a collective body come from Bruno Latour's Actor-Network Theory [Latour, 2005; Law and Hassard, 1999] and Andrew Pickering's concept of the mangle of practice [Pickering, 1995]. What unites all of them is that they include non-human actors (material things) in the social relations and, conversely, extend social relations into material things.

These symmetrical approaches have partly inspired a new trend in the social sciences: the so-called "new materialism," which recognizes the agency of matter in all social relations and human behavior [Dolphijn and van der Tuin, 2012].

I'd now like to address the question of the social philosophy of science that Rom raises. Rom refers to a milieu as a condition for the possibility of a social philosophy of science. According to the model of new materialism (or the symmetrical approaches), the collective socio-technical body is a milieu for all its inhabitants, including scientists and scholars, a precondition for both scientific knowledge and cultural studies.

If we take the embodied milieu as a precondition and result of our theoretical and practical activities, then what happens to a social philosophy of natural science? What kinds of entities (agencies) will it study? What methods will it use and what concepts? Should it untangle the entangled and separate the social from the material, as, for example, Harry Collins insists, or should it keep them entangled? If the latter is the case then in what sense will we use the word "social"?

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