Transversal
International Journal for the Historiography of Science

Transversal: International Journal for the Historiography of Science 2022 (12): 1-8
ISSN 2526-2270
Belo Horizonte – MG / Brazil

Special Issue
Michel Foucault and the Historiography of Science

Michel Foucault as a Forerunner of the 20th Century Sociology of Knowledge

Tanzilia A. Burganova[1] [https://orcid.org/0000-0003-0568-0677]
Rinat M. Nugayev[2] [https://orcid.org/0000-0001-9925-2264]

Abstract:
Foucault's distinctive creativity is elicited as a source of modern sociology of knowledge. His significant influence on the writings of T. S. Kuhn and his partisans, especially on the paradigm-change model, as well as on the strong program of sociology of knowledge (S. Barnes, D. Bloor et al.) is unfolded. It is contended that exactly 'practice' epitomizes Foucault's pivotal notion that underlies his startling impact on the sociology of knowledge.

Keywords: Foucault, sociology of knowledge, paradigm, practice.

Received: January 13, 2022. Reviewed: April 19, 2022. Accepted: April 27, 2022.
DOI: http://dx.doi.org/10.24117/2526-2270.2022.i12.08

As is well known, just at the end of the 1970s, the transition from the classical Mertonian paradigm to the so-called 'strong program of the sociology of knowledge' had famously happened. First and foremost, the transition consisted of not merely patterns of behavior and values, but scientific knowledge itself became the subject of relentless sociological analysis (see, for instance, Mulkay 2015). The Mertonian account is comprehended now not as an empirically adequate picture of science, but rather as a useful ideology concocted to promote the institutional independence of sciences.

Despite the fact that many scholars maintain that the blunt transition was caused by purely empirical reasons, associated with the increasing proportion of inextricable empirical material to survey, it seems that this is not entirely true. Of certain importance also transpired the changes in epistemological vistas caused by the assimilation of the advances of world philosophical and sociological pundits.

The aim of this paper is to exhibit the influence of Michel Foucault's distinctive writings on the becoming of the modern sociology of knowledge. In particular, the purpose of the work is not only to reveal that Foucault's work actually influenced the formation of the modern sociology of knowledge, but also to underscore the alluring facets of this influence,

[1] Tanzilia A. Burganova is an Assistant Professor in the Department of Social Science at the Kazan State Power Engineering University, 420066 Kazan, Krasnoselskaya str. 51, the Republic of Tatarstan, the Russian Federation. E-mail: tburganova@yandex.ru
[2] Rinat M. Nugayev is a Full Professor in the Department of Social Science and Humanities at the Volga Region State University, 420138 Kazan 35, Universiade Village, The Republic of Tatarstan. The Russian Federation. E-mails: rinatnugaev@mail.ru, nugayevrinat@gmail.com

which make it possible to salve the number of stale problems facing the domain. In order to do it and to elicit the pivotal ideas that are of a non-random nature and permeate all his work, we will contemplate the evolution of Foucault's ideas first, highlighting its main milestones, and examining the results that he received gradually during the transition from one stage to another.

Our research is inspired by the following Foucauldian dictum:

> In this part of the study of the penitentiary system, as in my early works, the target of analysis wasn't 'institutions', 'theories' or 'ideology', but *practices* [...] being understood here as places where what is said and what is done, rules imposed and reasons given, the planned and the taken for granted meet and interconnect. (quoted in Burchill 1991, 75; our italics)

Accordingly, the following basic research problems run through Foucault's manifold writings (Power 2011, 35-56):

- the problem of the inextricable nature of discourse and the subtle archeology of knowledge;
- the historical method adequacy problem in the sociology of knowledge;
- the problem of inextricable social action and its multifarious actors;
- the problem of the abstruse relationship between knowledge and power.

Before proceeding to an inquiry of how these inextricable problems gradually arose and intertwined in his work, let us make a following reservation. Michel Foucault himself, apparently, did not consciously strive to build an integral and coherent *system* of the sociology of knowledge; therefore, the lion's share of information about his creative ideas is proffered not only by his stupendous books, but by thought-provoking interviews that he gave to multilateral, mostly French, magazines as well (Foucault 1980).

It is commonly held that the first and especially widely known work of Foucault, which made him a name, was his masterpiece *The History of Madness* (Foucault 2009), first published in 1961 as *Folie et Deraison: Histoire de la Folie a l'Age Classique*.

Already in this work, one of his pivotal 'guiding ideas' can be traced: the stiff tendency to withstand the enlightenment and functionalist concepts of scientific progress. In this book, he convincingly exhibited that the so-called 'progress' in psychiatry consisted in the relentless and callous exclusion from the sphere of the scientific discourse of experiences, opinions and values of vast groups of people – the so-called 'insane', whom the pundits simply ceased to regard as people at all. Foucault convincingly demonstrates that in pre-modernist societies, on the contrary, the demarcation line between reason and madness was not as sharp and impenetrable as in modern societies; they did not strive to carry it out with the same ardor as in modern times. Incidentally, Foucault famously distinguished three stages in the development of any scientific discipline – pre-classical, classical and modern (for more details, see Power 2011, 36).

In the blissful pre-classical era, which lasted until the middle of the seventeenth century, the notion 'madness' was not a social category at all. But everything changed after the opening of a general hospital in Paris in 1657, in which special wards for the insane people were set up. The end of the eighteenth century until the modern era was in 1794, marked by the establishment of a psychiatric hospital and a rigidly delineated dividing line between those patients who can and should be properly treated, and the 'hopeless' ones who should be decisively isolated from society.

It is at this point that a new era in the relationship between madness and medical science starts. In his alluring *chef-d'oeuvre*, *The Birth of the Clinic* (Foucault 1994), first published in 1963 as *Naissance de la Clinique: Une Archeologie du Regard Medical*, the author is

even more obsessed by revealing the hidden rules that make possible the emergence and 'constituting' of authorized knowledge systems; even the human body itself becomes the locus of diagnoses and expert ratings. Note that Foucault takes a very restrained position in relation to common, standard humanism with its inextricable struggle with the enslavement of the patient by a group of expert doctors and does not try to oppose one stage of the advancement of medical knowledge to another.

On the contrary, the peculiarity of his approach consists merely in an attempt to display objectively, without excessive sentimentality, how the practices of considering the human body in the unity of medical and legal prerequisites are gradually changing. This specificity becomes even more apparent in his next epoch-making work – in the book *The Order of Things: An Archeology of the Human Sciences* (Foucault 1994), first published in 1966 as *Le Mots et les Choses: Une Archeologie des Sciences Humaines*. It is this work that presents in the fullest form the basic ideas of his abstruse historical sociology of knowledge. (It is no coincidence that in the same year, the pre-eminent book by Peter L. Berger and Thomas Luckmann, *The Social Construction of Reality: A Treatise in the Sociology of Knowledge* was published. The book sets up a dialectical view of society both as 'objective reality' and as 'subjective' one).

The gist of Foucault's work is to reveal the strangeness and randomness of the emergence of knowledge practices in the historical arena, to broach the subject of how these practices function and to examine the type of order that they constitute. As before, in drastic opposition to common historians of ideas, Foucault is focused on revealing the hidden conditions of the possibility of knowledge and the randomly emerging relationships between their parts that underlie various scientific classifications. Seen from this perspective, his earlier abovementioned work on insanity and medicine can be regarded as historical case studies scrutinizing how different 'regimes of truth' emerge, each in its own field.

It is no coincidence that worldly-wise scholars could not fail to note the significant affinity between the writings of Michel Foucault and Thomas Kuhn (see, for instance, Hacking 1979). Nevertheless, unlike Kuhn's standpoint, Foucault's approach is much closer to Bloor's and Barnes's strong program for the sociology of knowledge, especially to its pivotal 'symmetry postulate' in accounting for true and false beliefs (Barnes 1977; Bloor 1991).

Foucault, on the contrary, is interested not in truth as such, but in the social and especially institutional historical conditions under which authorized statements are constituted as 'true'. Therefore, in this stupendous work, Foucault recounts three realms that underwent a particularly significant transformation at the end of the eighteenth century: biology, economics and linguistics. Until that time, these domains of knowledge were purely empirical, being overloaded with all sorts of notorious primitive and superficial classification schemes that were of an emphatically objectivist nature. No attempts have been made to take into account the activity of the cognitive subject in the formation of representational practices.

Therefore, according to Foucault, the three disciplines epitomized a radical break with the past and the setup of a new '*episteme*' in the following two important respects.

(1) First, each domain of knowledge acquires an additional epistemological dimension in the form of a demand to penetrate the surface of things. For instance, there exist development processes behind the available living organisms. Behind the surface properties of money functions a whole system of production and reproduction of human well-being; and, finally, under the surface of grammatical rules are subtle mechanisms for transforming and adapting languages.

(2) Second, Foucault stresses that in each of the areas considered, the abovementioned 'gap' consists in focusing on a person as an object of research; in this sense, forsooth 'man is a recent invention' (Foucault).

In *The Order of Things*, Foucault punctuates that the actors of modern social science are contrived and invented through knowledge-based practices that individualize their

objects in ways that we today take for granted. Especially, the author of *The Order of Things* contends that the modern host of academic disciplines, including sociology, is the result of the joint emergence of the empirical field, new (Kantian) forms of philosophical reflection of the subject of knowledge, and the growing weight of mathematics in the natural sciences.

In his next masterpiece, *The Archaeology of Knowledge* (Foucault 2002), first published as *L'Archeologie du Savoir* in 1996, Foucault subjects his epistemic methods and the entire quirk conceptual apparatus to relentless philosophical reflection. In this case, he calls it 'archaeological'. Statements and propositions are the main units of analysis now, and their integrity, totality establishes discursive formations, which are the conditions for the possibility of thought and action. These specific discursive formations (or '*epistemes*') create the positions occupied by subjects in which the latter can authorize to speak. In this respect, the connection with the works of Marx (Lukács) and Freud (Lacan) is blatant (see Zizek 2009).

The staggering book *Discipline and Punish*: *The Birth of the Prison* (Foucault 1977), first published in 1975 as *Surveiller et Punir: Naissance de la Prison'*, commences with genuinely Foucauldian dramatic juxtaposition of two episodes dating back to different historical epochs and particularly clearly revealing the depth and the historical gap that took place: scenes of relentless public execution and an outlook of prison as a social institution. The author applies this juxtaposition to posit how the barbarian infliction of pain has been gradually replaced by a subtle discipline of body submission – supervision, correction and training in an enclosed space. Drawing on Bentham's 'panopticon' ideas, Foucault puts forward 'the constant possibility of supervision' as an overwhelming principle of power over the body and coordination of human behavior in relation to other people.

Further, Foucault generalizes the principle of the panopticon to the entire system of organization of public life in modern society, which embraces diverse and extremely sophisticated surveillance practices. It is no coincidence that this work laid the foundation for the celebrated analysis of power in society; though power relations are 'diffused' in society, and not simply and primitively emanate from some power center, as it might seem at first glance. Note that the concept of 'knowledge-power' (pouvoir-savoir) reflects the fact that knowledge is stiffly embedded in the blunt practice of control, as well as in the corresponding forms of resistance to them.

It is equally important that the starting point of Foucauldian reflections on knowledge-power are not legal institutions, not administrative ones, but what Foucault refers to as the low archival foundations of local and specific types of disciplinary knowledge, which are consistently objectified in documents. Accordingly, Foucault is not craving to put up a 'theory of power' in the sublime spirit of modern refined political theory. On the contrary, he directs his research gaze to completely mundane, common, banal rules embedded in numerous, often everyday practices – rules that determine what can be expressed, cognized and done, by someone and for someone.

While Foucault's analysis of prisons, hospitals, and psychiatric wards seems intuitively fair, the situation drastically changes when he addresses the notorious issue of sexuality. Though the four-volume *History of Sexuality* (Foucault 1976-2021, the first volume *An Introduction* published in 1976), is not at all about 'sex' in the modern sense of the word, but about the discourse of sexuality and, most importantly, about the inextricable hidden mechanisms for the production of socially acceptable statements about sexual behavior. Incidentally, in this work, Foucault speaks out against the popular 'repressive' hypothesis that power suppresses sex, developing instead rather profound and subtle considerations about the fine dialectic of the mutual influence and interpenetration of power and sexual relations.

As a result, Foucault's self-esteem of his work as a whole seems to be sufficiently fair: 'My books are not treatises in philosophy or studies of history: at most, they are philosophical fragments put to work in a historical field of problems' (quoted from: Burchill 1991, 74).

Foucault's most conspicuous achievement seems to be the conceiving of professional knowledge not as a given, but as an integral *part of certain practices* designed to determine and moderate human behavior. In particular, his contemplation of formal legal systems of knowledge as an ideal facet of the practice of controlling human behavior deserves a particularly high applause. In this sense, Foucault's interest in micro-technologies of power diminishes the role of the modern state and its stiff structures.

According to Reiner Keller's sober dictum,

> Foucault's fundamental achievement was to look at discourses as socio-historically situated 'practices', and not as the development of ideas or lines of argumentation, and to 'liberate' discourse analysis from the specific linguistic issues… He addresses discourses as battle fields, as power struggles around the legitimate definitions of phenomena. (Keller 2011,46)

Returning to the problem of Foucault's influence on the so-called 'historical turn' in the philosophy and sociology of science, it should be noted that his ideas had a particularly significant impact not only on Kuhn himself, but on his modern followers as well.

In good sooth, according to Thomas Kuhn and his partisans, a scientific revolution – in a far-going analogy to tragical political events, such as the French revolution or the Russian one – is taken as resolutely and completely displacing the 'Ancien Regime' scientific traditions (Westman 1994). And through the course of such relentless breakthroughs, new mature theories are so *radicalized* that they are contrived to be "incommensurable" with their fundamental predecessors. This leads to a standpoint that the great scholars like Newton, Maxwell, Darwin, Bohr or Einstein, being the instigators of revolutionary breakthroughs, may be pictured as convinced *adversaries* of the 'creative dialogue' between the research traditions, including the thrilling case of the 'old' and the 'new' ones.

Such a strong tenet (and Kuhn's startling 'imagery of warfare' used to depict the reception of the new 'paradigm') apparently punctuates the revolutionary facet of truly deep scientific change.

In our view, fierce controversies around the notorious 'incommensurability thesis' are tightly connected with another hallmark of Kuhnian epistemological doctrine. Indeed, many times Thomas Kuhn had mentioned that external factors might help decide the outcomes of some scientific revolutions. See, for instance, Sun worship in constructing Keplerian sophisticated planetary models, etc. (Kuhn 1962, 152-153). Though he vigorously stressed the fact that during the most profound scientific revolutions – for instance, the Copernican one – the scientists were responding first and foremost to the refined problems raised *within* science. What appealed to them in Copernicus's distinctive theory was its ability

> to do away with ad hoc devices in Ptolemy's system (such as the equant), to explain key phenomena in a pleading fashion (the observed retrograde motion of the planets), and to explain away otherwise inexplicable coincidences in Ptolemy's system (such as the alignment of the Sun and the centers of the epicycles of the inferior planets. (Bird 2018)

Positing himself over and over again as a 'pretty straight internalist', Kuhn asserts that in a scientific revolution, a worthy replacement (a 'new' theory) must retain *all* its predecessor's power to solve *quantitative* problems (Kuhn 1962, 169). Whereupon one can conclude that scientific revolutions should necessarily bring with them an overall increase in *puzzle-solving power*; herewith, the number and significance of the puzzles and anomalies solved by the 'new' paradigm should exceed significantly the number and significance of the 'old' one. For instance, the acme of the Copernican revolution is epitomized in the creation of the differential calculus of Newtonian mechanics capable of solving the sophisticated problems

of motion. Furthermore, a fruitful attempt to apprehend the gist of Kuhn's concept and, successfully overcome a number of its shortcomings, to advance this concept further on the basis of Foucault's provoking writings is the British paper, "Kuhn: The Philosophy of Scientific Practice" (Rouse 2002, 100-121). According to the author, the main advantage of Kuhn's concept, which favorably distinguishes it from logical empiricism, is an attempt to describe science not as a stale system of principles and rigid, logically verified rules that bind it, but as a vivid research activity as such, a sheer '*scientific practice*'.

In particular, the celebrated 'paradigms' should be comprehended not as merely beliefs (albeit implicit ones) that ensure the unity and consent of members of the scientific community, but as a powerful means of conceptualization and intervention in specific problem situations. Accepting a paradigm is more like acquiring and using many skills and abilities than gaining understanding and belief in the truth of any provisions. The skills and dexterity that put up a paradigm contain the ability to apply learned concepts to a specific situation and the capability to apply mathematical tools (the faculty not only to solve equations, but to choose the most suitable ones as well). One should apply them to a specific problem situation and be aware of the limits of their application, as well as of the possibility of bypassing them, etc.; then follows the application of corresponding measuring instruments and experimental techniques. It is important to emphasize that it is the method of analogy that is most often engaged in such a work, and not deduction, not logically correct conclusions of the particular principles from the general ones.

Note that scientists rather use paradigms to solve specific problems than really believe in the absolute validity of their ontological, metaphysical components. The main thing is that they understand how to really apply this knowledge as others do. At the same time, some scientists are completely ignored by their colleagues or even relentlessly excluded from the scientific community not at all because they share or do not share the beliefs of other researchers. They become sheer outcasts only when their work does not *interact constructively* with what others are doing. What really matters is (1) what is directly related to the work of other researchers and (2) the reliability of the results obtained.

Hence the fierce struggle between the old paradigm that is leaving the scene and the new one is not a struggle between the old and new *Weltanschauungen*, but a struggle between the old and new *types of scientific life*. Diverse paradigms reorganize the world in various ways as a field of miscellaneous possibilities, offering differently organized challenges and opportunities for further fruitful research.

Therefore, as a rule, scientific revolutions consist not in changing worldviews, but in the emergence of new research instruments like centrifuges, supercomputers, and electron microscopes. For instance, it is this circumstance that explains the transition from classical cytology to modern cell biology (Bechtel 1993; Rheinberger 1997). Even the scientific revolutions which are associated with profound theoretical shifts are always connected with radical changes in instrumental and research practices. For example, as Andrew Pickering has ascertained, the revolution in elementary particle physics that took place in the 1970s and 1980s and consisted in the advancement of gauge transformations was engendered primarily by the emergence of novel, more powerful particle accelerators (Pickering 1984).

That's why in actual scientific life, fierce controversies on the incommensurability of successive paradigms are rather rare phenomena. Coming into existence of novel ways and methods of inquiring about nature opens up such fascinating research prospects that it usually outweighs the quite commendable desire to comprehend which ontologies fit reality better. If one turns even to the science of the late 17th century, s/he will find that the main drawback of phlogiston chemistry was envisaged by Priestley and Lavoisier's contemporaries, not in the absence of empirical falsifiability of its concepts, but in its inability to direct further studies of new 'air' (i.e., gases) discovered in pneumatic chemistry.

As a result, Kuhn's concept of scientific revolutions reoriented philosophers, sociologists and historians of science towards the scrutiny of manifold scientific practices,

and not of scientific knowledge itself. Kuhn's legacy encourages one to apprehend scientific understanding, not just and not so much from the standpoint of gaining scientific knowledge. Accordingly, science sets as its goal not so much the production of systems of grounded beliefs as the transformation of human abilities for practical and discursive interaction with the world. It is necessary to distinguish paradigms – beliefs from paradigms-achievements, which, as models, direct further research activities. As a result, scientific understanding is more about the practical ability to deal with a variety of relevant situations than the acceptance of stable, well-proven truths.

The neo-Marxist analogy with social revolutions is apparent. Like the social revolution, the scientific revolution consists of changing scientific production methods. The criterion for the applicability and survival of a particular theoretical concept is grounded on research practice.

Conclusions

Thus, we may conclude that Foucault's distinctive creativity substantially influenced the becoming of the modern sociology of knowledge. And it is exactly 'practice' that epitomizes Foucault's pivotal notion that underlies his startling impact. Foucault's major influence on Thomas Kuhn and his partisans consisted of taking scientific discourses as socio-historically situated 'practices', and not as the advancement of ideas or lines of argumentation. Yet, despite the significant affinity between the writings of Michel Foucault and Thomas Kuhn, Foucault's approach is much closer to D. Bloor's and S. Barnes's strong program for the sociology of knowledge, especially to its pivotal 'symmetry postulate' in accounting for true and false beliefs.

References

Bechtel, William. 1993. Integrating Sciences by Creating New Disciplines. The Case of Cell Biology. *Biology and Philosophy* 8, 277-299.

Berger, Peter, and Thomas Luckmann.1996. *The Social Construction of Reality: A Treatise in the Sociology of Knowledge.* Garden City, NY: Anchor, 1966.

Bird, Alexander. 2018. Thomas Kuhn. The Stanford Encyclopedia of Philosophy (Winter 2018 Edition), Edward N. Zalta (ed.) https://plato.stanford.edu/archives/win 2018/ entries/ thomas - kuhn /

Barnes, S. 1977. *Interests and the Growth of Knowledge*. London: Routledge & Kegan Paul.

Bloor, D. 1991 [1976]. *Knowledge and Social Imagery*. Chicago: University of Chicago Press.

Burchell, G. et al. 1991.*The Foucault Effect: Studies in Governmentality*. Brighton: Harvester.

Foucault, Michel. 2009 [1961]. *History of Madness*. Translated by J. Khalfa. NY: Routledge.

Foucault, Michel. 1994 [1963]. *The Birth of the Clinic*. An Archeology of Medical Perception. Translated from the French by A.M. Sheridan Smith. NY: Vintage Books.

Foucault, Michel. 1994 [1966]. *The Order of Things: An Archeology of the Human Sciences*. NY: Vintage Books.

Foucault, Michel. 1977 [1975]. *Discipline and Punish: The Birth of the Prison*. NY: Random House.

Foucault, Michel.1980. *Power/Knowledge. Selected Interviews and Other Writings*, 1972-1977. Edited by Colin Gordon. NY: Pantheon Books.

Foucault, Michel. 2002 [1969]. *The Archaeology of Knowledge*. Translated from the French by A. M. Sheridan Smith. London and New York: Routledge.

Foucault, Michel. (1979) [1976]. *The History of Sexuality*. Vol.1. An Introduction. London: Allen Lane.

Foucault, Michel. (1992) [1984]. *The History of Sexuality*. Vol.2.The Use of Pleasure. London: Penguin Books.
Foucault, Michel. (1990) [1984]. *The History of Sexuality*. Vol.3.The Core of the Self. London: Penguin Books.
Foucault, Michel. (2021) [2021]. *The History of Sexuality*. Vol.4.Confession of the Flesh. London: Penguin Books.
Hacking, I. 1979. Michel Foucault's immature science. *Nous* 13: 39-51.
Keller, Reiner. 2011.The Sociology of Knowledge Approach to Discourse. *Hum. Stud*. 34:43-65.
Kuhn, T.S. 1970 [1962]. *The Structure of Scientific Revolutions*. Chicago: University of Chicago Press (2nd edition, with postscript).
Mulkay, Michael. 2015. *Science and the Sociology of Knowledge*. London: Routledge.
Rheinberger, Hans-Jorg. 2009.*Towards a History of Epistemic Things: Synthesizing Proteins in the Test Tube*. Stanford: CA: Stanford University Press.
Power, Michael. 2011. Foucault and Sociology. *Annual Review of Sociology* 37: 35-56.
Pickering, Andrew. 1984. *Constructing Quarks. A Sociological History of Particle Physics*. Chicago: The University of Chicago Press.
Rouse, Joseph. 2002. Kuhn: Philosophy of Scientific Practice. In *Thomas Kuhn*, edited by Thomas Nickles, 100-121. Cambridge: Cambridge University Press.
Westman, Robert S. 1994. Two Cultures or One? A Second Look at Kuhn's "The Copernican Revolution". *Isis* (85): 79-11.
Zizek, Slavoj. 2009. *The Sublime Object of Ideology*. (The Essential Zizek). L.: Verso.