

Rethinking a Philosophical Way of Demarcating Science from Politics

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Abstract: Ever since the Kantian turn in philosophy, if not already in Plato, Aristotle, Descartes, or Spinoza, there have been a large number of attempts at thinking the relationship between science and politics. Many of these attempts have been reductionist, in that they have tried to reduce one of the two to the other, or else have tried to think of them as different but have then posited their unity at a more fundamental level. The precise nature of explaining this reductionism has varied significantly, going from very simple cause and effect relationship to more complex forms of causal interaction between the two. For reasons that will be discussed at length in this article, a criticism of a number of such approaches will be proposed. It will be argued that trying to come up with a satisfying way of demarcating science from politics is a more pertinent philosophical undertaking. Rethinking the demarcation problem necessitates, nonetheless, that we take into account the previous philosophical attempts that have embarked on such a path, thereby clarifying the way in which this new philosophical way of thinking the demarcation problem contrasts with these previous attempts.

Keywords: Science, Politics, Political Economy, Demarcation Problem, Popper, Badiou

1. Introduction:

The relationship between science¹, politics², and philosophy is an utterly complex one. If we can find important reflections on this question already in Plato, Aristotle, Descartes, Spinoza, and many others, it is since the Kantian project of thinking the different parts of what he called the human reason that this question has been thought in a more systematic

1 It should be made clear from the beginning that the word science in this text, especially when it is about elaborating the way in which it differs from politics, signifies natural sciences, that is physics, chemistry and the life sciences, even if in certain parts of the text it can also signify mathematics.

2 In this text, by politics I mean to designate the domain which comprises the political and the economical relationships or interactions between human individuals. Marx's insistence on the complex, intertwined, nature of political and economical relationships is something with which I completely concur. I tend to think, nonetheless, that the biggest shortcoming of Marxism is its failure to clarify the precise nature of this entanglement. This has to do, to my mind, with Marx's strange way of conceiving the nature of human needs, where he argues that there is essentially no difference between the so called natural needs and the so called historical needs, going as far as saying that all human needs are essentially historical (see, for example, Marx 1990, p. 275 and Marx 1902, pp. 42-43). I would argue that in so far as the four fundamental natural (or physiological) needs - that is to eat, to drink, to have a dignified shelter, and to have access to proper health care -, are not unconditionally satisfied for all the inhabitants of the earth, it is impossible to think of the political and the economical relationships as separate. It is only the political nature of the economical relationships that can explain why a country such as the Democratic Republic of the Congo, one of the richest - if not the richest -, on earth in terms of its natural resources, is at the same time one of the poorest - if not the poorest -, in terms of its GDP per head. In addition, the proper loci of such politico-economical relationships are the different State apparatuses, but also the different political organizations that exist across the world.

way. It can be argued that, at least in the past two centuries, this relationship has been thought in essentially four different manners:

1. Trying to show that the problems of political thought and practice are mostly the result of the failure to grasp politics in a scientific fashion, and that constituting politics as a science, that is a kind of political science, is the only way to go beyond many futile debates and struggles in politics.

2. Trying to show how science and scientific practices are ultimately reducible to political issues that underlie them and that beneath the apparent autonomy of scientific practices we can find political struggles that determine them.

3. Trying to find a more fundamental, more essential level to which both politics and science are reducible, and showing that politics and science, even if apparently different, are nonetheless the different expressions of a same essential reality.

4. Trying to demarcate science from politics, that is thinking of them as two different practices, and finding satisfactory criteria in order to support and justify this distinction.

The first position was very dominant in the Enlightenment era. In the 19th century, there were many attempts at forging a science of politics, but it was Marx's critique of political economy that constituted the most serious endeavor to come up with a scientific way of understanding political action. In the 20th century and still today, much of modern neoclassical economics has been influenced by such an outlook. Especially since the second half of the 20th century, this position has embraced a naturalistic form of reductionism, that is, not only it has tried to reduce politics to science, it has, moreover, tried to constitute this political science along the methodological and epistemological lines of modern physics.

The second position has become prevalent especially since the breakout of the First World War and reached its climax in the aftermath of the Second World War and the destruction that the latter wrought³. The systematic use of science in developing advanced warfare has shown that science, far from showing the path towards a so called rational politics, can be complicit in the most obscurantist forms of politics, and can be used to bring about on earth not paradise, but hell. The Cold War and its military requirements did nothing but accentuate the systematic

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3 Many authors in social constructionism have embraced this position. It can be equally found in Habermas 1968.

integration of different scientific practices within the existing forms of political regimes, and led to the increasing militarization of scientific research. This subjugation of science to politics has reached such levels that it has led some of the greatest scientists to break ranks with the scientific world, and to rise up against such political misuses of science. Alexander Grothendieck is the most prominent example of such scientists. Even among physicists, there have been many victims of this political mishandling of science. David Bohm is the most revealing example of such physicists^{4 5}. He used to be, in his youth, a member of a number of Communist political organizations in the United States, but he later on stopped his political activism and focused on physics. But the arrival of McCarthyism in the US would not have let him get away with it, they first put him in jail and then fired him from Institute for Advanced Studies at Princeton, where he had been an associate of Einstein. After he was fired, Einstein, who considered Bohm to be one of the best physicists of his generation, did his best to help him find another position, but to no avail. No American university would accept to recruit him. This then led him to renounce his American citizenship and to find a university position first in Brazil, then in Israel and finally at the Birkbeck College in the UK, which had become, at the time, the bastion of American academic exiles in Europe. It is during this period that he developed an alternative, realist, interpretation of Quantum Mechanics⁶.

The third position was especially widespread in the 19th century but has continued to be very influential ever since, even if it has taken very different forms. In the 19th century, Hegel tried to show that his philosophical Idealism was operating not only in the political sphere of the State, but also in the scientific sphere. The second part of his *Encyclopedia of the Philosophical Sciences* deals with the philosophy of nature and he tries to show there how his dialectical way of conceiving the workings of history is also pertinent to the understanding of the workings of modern science. In the 20th century, and especially since the creation of the sociology of knowledge by Karl Mannheim, sociologists have tried to show how a sociological understanding can let us have an overarching grasp of the workings of the social totality, and the different practices - such as political or scientific ones -, that are effectuated within it.

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4 Freire, Jr 2005.

5 Olwell 1993.

6 The most satisfactory version of this realist Quantum Mechanics can be found in Bohm et al. 1993 and Dürr et al. 2009.

Finally yet importantly, a number of thinkers, especially in the 20th century, have reacted to the third position by trying to come up with satisfactory ways of demarcating science from politics. It is true that such attempts, contrary to the first three positions, have rarely constituted schools of thought. This, I think, is mostly related to the fact that demarcating science from politics, that is refusing to reduce one to the other, or reducing the two to a unity constituted at a different level, requires a kind of engagement with the two practices that is not easy to sustain. Demarcating politics from science means rendering justice to the proper specificity and singularity of each of them. It is only by grasping each practice in its own terms, and refusing to think it in the light of other practices, that one may appreciate the way in which it differs from the other. Without meaning to belittle the significant works effectuated in this direction by the neo-Kantian school and the French tradition of historical epistemology, it seems to me that Karl Popper's *Open Society and its Enemies* and Alain Badiou's *Being and Event* constitute, even if very differently, the most serious attempts at thinking the demarcation problem. One should not forget that Morris Raphael Cohen's *Reason and Nature* and Jean Paul Sartre's *Critique of Dialectical Reason* are also very important works. However, Cohen does not really try to demarcate science from politics, but rather science from that which is not reducible to science. As for Sartre, he simply assumes the difference to exist, without trying to propose satisfactory criteria to justify it. He thus contents himself with putting forward a model for thinking human action that is not reducible to the models of what he calls positive sciences, without ever clarifying what he really means by the latter.

In what follows, I will propose a brief criticism of the first three positions, before turning to the gist of this article, which is an attempt at rethinking the demarcation problem.

2. Politico-Economical Science:

Constituting political analysis as a science has taken, historically, two principal forms. The first one has encompassed all those who have tried to think of scientific methodology as unique, and who have often taken physics as their model of scientificity, and have then tried to constitute their scientific models by following naturalistic or physicist modes of

thinking. Robert Nelson⁷ and Phillip Mirowski⁸ have shown how some of the most influential economists in the 20th century, such as Paul Samuelson and John Maynard Keynes, took physics as their model of genuine scientificity. Keynes, for example, went as far as borrowing the title of his main book, *The General Theory of Employment, Interest and Money*, from Einstein's General Theory of Relativity⁹. Still, Milton Friedman's *Essays in Positive Economics* has probably been the most influential among those with this tendency¹⁰.

Friedman begins his book by introducing the distinction put forward by John Neville Keynes¹¹ between a positive science, which deals with what is, and a normative science, which deals with what ought to be. He then goes on to argue that in economics, these two different dimensions, positive and normative, can be easily distinguished, adding that it is not that much the positive aspect that depends on the normative aspect, but "normative economics and the art of economics, on the other hand, cannot be independent of positive economics. Any policy conclusion necessarily rests on a prediction about the consequences of doing one thing rather than another, a prediction that must be based – implicitly or explicitly- on positive economics"¹². He then tries to reduce economics to its positive dimension by arguing that "currently in the Western world, and especially in the United States, differences about economic policy among disinterested citizens derive predominantly from different predictions about the economic consequences of taking action – differences that in principle can be eliminated by the progress of positive economics – rather than from fundamental differences in basic values, differences about which men can ultimately only fight"¹³. As we can see, we are dealing here with an epistemology that contends that most infighting in politics is the result of the failure to understand scientifically the consequences of political actions. But the specificity

7 Nelson 2001.

8 Mirowski 1989.

9 Nelson 2001, p. 32.

10 It was the unfathomable influence of this book, and Hayek's anti-scientist outlook, that pushed the latter, otherwise Friedman's liberal bedfellow, into saying that "You know, one of the things I often have publicly said is that one of the things I most regret is not having returned to a criticism of Keynes's treatise, but it is as much true of not having criticized Milton's [Essays in] Positive Economics, which in a way is quite as dangerous a book."

11 Keynes 1999.

12 Friedman 1953, p. 5.

13 Ibid.

of the Friedmanian approach is that it is, as I said, naturalist, in that he thinks that “positive economics is, or can be, an “objective” science, in precisely the same sense as any of the physical sciences”¹⁴. I will deal with Friedman’s epistemology in the section that deals with the demarcation problem, because this type of naturalistic epistemology represents, nowadays, the dominant form of thinking the relationship between science and politics, at least in the academic milieus. As such, it constitutes the biggest challenge for any rethinking of the demarcation problem.

The second form of constituting political analysis as a science has consisted of all those who have tried to come up with scientific models that no longer follow the epistemological and methodological rules of the natural sciences, but their own independent rules. Marx’s critique of political economy and Ludwig von Mises’ a-priori science of human action are, in my opinion, the most significant examples of such efforts, even if, it is true, the historicist epistemology of Marx and the aprioristic epistemology of von Mises are nowadays rather marginalized in the academic politico-economical circles.

Popper’s critique of Marx’s historicism¹⁵ is very well known, even if most of those who have either defended or criticized his take on historicism have only read his rather superficial account of historicism in his *Poverty of Historicism*¹⁶. Still, even if his criticism of Marx’s historicism put forward in *Open Society and its Enemies* is far more convincing, it remains true that his reading of Marx has many shortcomings. This does not mean, nonetheless, that Marx’s epistemology is not fundamentally historicist: many of the most important steps in Marx’s critique of political economy will not function if one does not invoke, repeatedly, what he calls the historical tendencies at work in the object of his analysis, tendencies that are not proved but rather assumed.

Not only Marx’s critique of political economy is constructed so as to substantiate the law, very historicist, of the falling rate of profit, which he deemed “in every respect the most important law of modern political economy”¹⁷, his most fundamental premise, that of abstract labor being

14 Ibid, p. 4.

15 Popper 2013, pp. 311-320.

16 It is easy to show how much this book has influenced Friedman’s *Essays in Positive Economics*. Surprisingly though, Popper’s *Open Society and its Enemies* is very critical towards naturalistic attitudes in politics, whereas his *Poverty of Historicism* is, to say the least, very ambiguous in this regard. There is very little in Popper’s *Open Society and its Enemies* that could possibly prop up the naturalist epistemology of Friedman.

17 Marx 1993, p. 748.

the substance of value, is not thinkable outside of a non-historicist framework. For otherwise his way of conceiving the relationship between the so-called simple abstract labor, and the so-called skilled complex labor cannot stand to a critical scrutiny. The only satisfactory way of evading the problem is by saying that the historical tendencies of capitalism will push it towards a future in which different forms of labor, especially its skilled and complex forms, will be transformed into simple abstract ones¹⁸. This is one of the main reasons why Marx thought that it is only with the advent of the real subsumption of labor under capital that capitalism proper (or what he calls the specifically capitalist form of production¹⁹) begins. It is true that the development of industrial capitalism has reduced many previously complex and skilled forms of labors to simple manual forms of labor undertaken within factories. But this transformation has been accompanied by the emergence of a whole new series of skilled and complex labor, especially in the engineering and design sectors, forms of labor that are far from being reducible to simple and abstract labor. Consequently, today as in the 19th century, those who want to believe in the truth of Marx’s analysis can only do so by having recourse to historicist epistemology and saying that in the future, these newer forms of complex skilled labor will themselves be reduced to simple abstract labor without newer forms of complex skilled labor being created!

What we should nonetheless keep in mind is that Marx’s espousal of historicist epistemology was the result of specific circumstances in his life and that before finding himself in total isolation in London, he had not championed such an epistemology:

If the isolation of the early 1850s sealed their [Marx and Engels] partnership, it also transformed Marx’s thinking about the onset of revolution. Belief in an imminent revolutionary upheaval, one in which he could play an influential role, was increasingly difficult to maintain, given the ever greater strength of political reaction in continental Europe and Marx’s beleaguered position among the political exiles. It was then that Marx developed the idea that a revolution would occur in the wake of a cyclical capitalist economic crisis. Since this idea has appeared throughout the twentieth century and into the twenty-first as the quintessence of Marxism, it may be surprising to realize that Marx himself had not always advanced it. The Communist Manifesto, for instance, discussed

18 Harvey 2006, pp. 60-61.

19 Marx 1990, p. 1024.

economic crises and the workers' revolution, but did not assert that one was the origin and precondition of the other. Marx's plans for reviving the 1848 Revolution, as counterrevolutionary forces gained the upper hand, turned on a new working-class uprising in France and the revolutionary government emerging from it becoming involved in a great war against the counterrevolutionary powers. As late as the spring of 1850, he was continuing to think along those lines.

In the last issue of *The New Rhineland News: Review of Political Economy*, written after Marx's political and personal isolation had become complete, he first developed an explicit connection between economic crisis and revolutionary upheaval. A revolution would only be possible "when both factors, the modern forces of production and the bourgeois form of production come into contradiction with each other." Until this happened, "the manifold petty strife of the different elements of the continental party of order," as well as the "moral outrage and the enthusiastic proclamations of the democrats," would have no effect. "A new revolution is only possibly in the wake of a new crisis."²⁰

If Marx's underlying epistemology is historicist, that of von Mises is, as already indicated, aprioristic²¹. The a-priori science of human action, or praxeology, is, according to von Mises, a science that tries to think through the very form, or logic, of human action. He defines human action as the conscious behavior of human beings, and which should be distinguished from their unconscious behavior. The ultimate goal of an action is to ameliorate a state of dissatisfaction in which the actor may find himself or herself. His theory tries, therefore, to give us the formal framework for the understanding of all action that tries to reduce dissatisfaction and pain and to increase satisfaction and pleasure²². Now the precise contents of such actions may well be very different from one actor to the other, the theory does not say anything regarding the content of actions²³. For example, the theory is perfectly compatible with the fact that for one person, it is aiding others that may increase his or her satisfaction and pleasure, whereas for another person it may be the accumulation of so many material objects. He therefore accepts

20 Sperber 2014, pp. 273-274.

21 Von Mises 2014, p. 7.

22 Ibid, pp. 23-24.

23 Ibid, p. 152.

that people have very different value systems, but he thinks that at a formal level, they are not different. All action that satisfies such criteria (reduction of pain and enlargement of satisfaction) is for von Mises an economical action. However, economics as a science can only deal with actions about which a monetary calculation is possible²⁴. Such a formal framework of thinking human action permits the actions of different actors, which are otherwise different contentwise, to be articulated together.

The interesting point about von Mises' model is that it is not compatible with any prediction in the mathematical sense²⁵. For him, to be able to predict in such a way one should know not only the formal logic of human action, but also the precise contents of each individual's value judgments, something that he considers impossible. The main function of his theory is to let us understand the degree of compatibility of different politico-economical structures with the logical structure of human action, and he thinks that among those structures that have hitherto existed, the market economy, with its price mechanism, is the only one that is compatible with the general teachings of his theory.

In spite of the very insightful character of many of his observations, the a-priori and ahistorical epistemology of his theory is not satisfactory. We know, ever since the breakdown of the Kantian synthetic a-priori reasoning, that the so-called a-priori arguments are nothing but the forms of reasoning prevalent in an epoch. The a-priori parts of Kant's philosophy were nothing but formal statements deduced from Newtonian physics and Euclidean geometry - often thought of, at the time, as the definitive forms of physics and geometry -, and their validity could not go beyond the validity of these sciences. When geometry and physics were revolutionized in the 19th and 20th centuries, we noticed that Kant's a-priori statements had nothing a-priori about them, and that they were simply a-posteriori thoughts, derived from the sciences of his time, retrospectively a-priori-zed.

Kant's a-priori reasoning was an attempt to respond to Hume's skeptical remark concerning the fact that even if an object has always behaved in a certain way, it cannot be excluded that it would behave differently in the future²⁶. Hume's way of conceiving our relationship to objects was therefore giving too much autonomy to the latter, in that it was giving them the possibility of changing their behavior in the future. This autonomy would have rendered any eternal knowledge of objects

24 Ibid, pp. 158-160.

25 Ibid, p. 116.

26 Hume 1993, p. 131.

impossible. By arguing that our knowledge of objects is always mediated by transcendental, a-priori, categories and perceptive forms (space and time) which are subjective, and by further arguing that these categories are eternal and unchangeable, Kant found a convincing way to decouple our knowledge of objects from the unsettling autonomy that Hume had attributed to them. Our knowledge became, therefore, completely dependent on us and on our subjective constitution and much less on objects and their autonomy. And given that Kant's transcendental apparatus had been developed largely based on Newtonian physics and Euclidean geometry, his manner of theorizing our knowledge and the latter's relationship to objects remained convincing in so far as these two branches of science had not been challenged by newer forms of scientific knowledge.

However, as already mentioned, Newtonian physics and Euclidean geometry proved, later on, incapable of exhausting the range of behavior of which natural objects are capable. It is true that post-Newtonian physics and non-Euclidean geometries show that natural objects behave, often, according to typical and regular patterns, but these patterns differ radically from those that had been attributed to objects in the past by Newtonian physics and Euclidean geometry. With the failure of these past sciences to capture all the behavioral patterns of natural objects came the breakdown of the Kantian aprioristic apparatus that was dependent on them. Even if post-Kantian philosophers have been trying ever since to renovate the Kantian mode of thinking by building transcendental apparatuses based on newer forms of mathematics and physics, one thing remains certain: Kant's own a-priori reasoning was not a-priori but structured by the sciences of his time.

In a similar fashion, those aspects of Mises' science of human action that are valid are not so in an a-priori fashion, but merely based on the structure of the human relationships of his time and those times on which he had reflected. It is true that von Mises' theory is compatible with the possibility of historical change, given that he indicates that his theory is about the formal logic of human action, and not its contents, and that, for him, it is precisely these contents that can explain why human action changes from one epoch to the other. However, separating the form and the content of human action is not as straightforward as von Mises presents it. Even in terms of our understanding of the natural phenomena, the emergence of new mathematics and new physics did not simply bring about new sciences with new contents; they also made us think very differently the very form of our scientific reasoning. Our very understanding of space, time, locality, and causality has changed after the advent of non-Euclidean geometries, Quantum Mechanics and General Relativity. As such, if his theory of human action is merely about

saying that the goal of an action is to always augment one's satisfaction, and to reduce one's dissatisfaction, then this is of course satisfactory, but presenting this as a science is as satisfactory as a natural science that would seek to merely inform us that, formally speaking, natural science is about representing nature!

3. Science is Political:

I have already mentioned, briefly, the reasons why thinking of science as ultimately political is so widespread. The fact that political and economical motives determine the contours of many scientific projects (especially in terms of their funding), and that much of scientific research is conducted with the goal of furthering the economical and political power of this or that enterprise, or this or that country, is rather obvious²⁷. It is, nonetheless, important that we resist a number of issues that are mixed up in all these talks about the essentially political nature of science. One is that science being itself political is different from science being used politically. For example, Grothendieck stopped most of his mathematical works not because he thought that they were eminently political, but because he became aware of the military use that had been made of his theories, even if he had done his best to work on mathematical theories that would be useless from an instrumentalist point of view.

David Bohm, as someone who had severely suffered from the politics of his time, did not stop believing in the possibility of doing non-politically motivated science. He even thought that the fight against instrumentalist science should be effectuated from within science itself. This is why he spent so much time to come up with a new Quantum Mechanics capable of justifying itself on purely scientific grounds, and not on the technological advances to which it could have given birth. The dominant form of Quantum Mechanics, the so-called Copenhagen interpretation, embodies, on the contrary, a very utilitarian form of doing science. Most of the misunderstandings and phantasmagoric ideas associated with Quantum Mechanics are related to the instrumentalist character of the latter. Instead of trying to spend more time on the conceptual aspects of their theories in order to come up with a more satisfactory version of Quantum Mechanics, the physicists who have been working on this interpretation, especially its founders, have put forward ideas which seem very profound but which are deeply obscure²⁹.

27 Werskey 2007.

28 Wang 1999, p. 278.

29 Bell 2004, p. 160.

These obscure ideas have then discouraged many physicists from spending time on the foundational issues in physics, thinking of them as ultimately useless, and have made them think that physics is mostly about coming up with better results. However, if the conceptual and foundational dimension of physics is not part of these results, and if the better results do not give us a better understanding of the physical nature, then the only way left to explain why newer physical theories are better than the older ones is to say that they are better because they work better, and by working better we can only mean that they let us build better instruments, better tools. The main criterion for judging physical theories will then come from without physics itself. And this way of thinking physics, conjugated with the military requirements of the Second World War, and then the Cold War, but also the productivist nature of the materialistic liberal order, have led to the emergence of practices in physics whose ultimate goals and ideals are no longer set by physics itself, but by politico-economical motives.

In thinking, even lamenting, what has happened to much of scientific research in the past decades one needs to, nevertheless, be very clear as to what we can possibly expect from a pure, non politicized science. Everything depends on what those who talk about the political nature of science mean when they talk about politics. Already when we talk about politics, we can mean two very different things; we can mean, of course, those actions, undertaken by those in power, which aim at nothing but furthering the proper limited interest of their actors, and that in the most sinister way. Politics in this sense is a synonym for opportunism, charlatanism and oligarchy. However, politics does also have a second sense, it designates the action of those who are disgusted by the unjust nature of the existing political establishments, and the corrupted nature of the existing political and economical relationships between individuals. Such a politics is not about furthering the limited interest of those who undertake them, but about creating new relationships between individuals motivated by the idea of justice, that is, relationships capable of being the common creation of all participants, and not the exclusive, free, creation of the most opportunist ones.

Now those for whom politics has only one meaning, that is its first, they are cynics for whom nothing changes under the sun. The nihilistic outlook of such commentators refuses to accept that an action could be motivated by anything other than vile and corrupted interest. Given that this nihilistic outlook is incapable of recognizing any distinction between any action and any other, it is obvious that insofar as we dwell within this outlook there is no possibility of thinking any distinction whatsoever between science and politics.

This means that our critical interrogation of this second position

should be mainly concerned with those who do think that politics itself is, or at least can be, divided into two fundamentally different forms of action, and who nonetheless think that scientific action is always politically motivated. Now when it comes to politics, those who share the latter view would indeed agree that the different, justice-oriented, form of politics that they advocate represents, quantitatively, an absolute minority of the totality of actions that we often characterize as political. Still, this does not lead them to fall into the nihilist trap, by accepting that politics is reducible to its unjust forms. If they then accept that politics, in its emancipatory sense, represents a minority of actions that are thought of as political, why do they think that things should be any different when it comes to science? In other words, the fact that the majority of scientific practices are nowadays oriented towards goals that are fixed by reprehensible politico-economical agendas does not mean that science is reducible to such practices. As with politics, when we are trying to think of science as an autonomous and noble action, we have to accept that such scientific practices represent the minority of practices that are thought of as scientific. It would therefore be unfair to expect from science something that we cannot expect from politics itself. In other words, in the same way that politics designates at least two different forms of action, we should accept that science, too, designates two different forms of practices, those that are reducible to politico-economical motives, and those that are not!

4. Science and Politics as Different Expressions of One, Essentially Unique, Reality:

The final position that I will criticize before turning to the main topic of this article, which is rethinking the demarcation problem, is the position that I have already presented and which consists of accepting science and politics as different at the immediate empirical level but then dissolving their difference at another level. Hegel's philosophical Idealism and sociological thought, especially ever since Karl Mannheim put forward his sociology of knowledge, constitute two significant examples of this position.

Regarding Hegel's philosophical unification of science and politics, it is widely accepted, nowadays, that his attempt at explaining the natural sciences of his time according to his dialectical way of proceeding is not convincing. The problem with Hegel is that he remains, when it comes to science, attached to the essence/appearance form of epistemology. This way of understanding science was very characteristic of the Aristotelian scientific epistemology. However, modern mathematized science has precisely consisted of breaking loose from this Aristotelian framework.

Modern physics is therefore not about getting behind the appearances to get to the essential reality³⁰, it is rather about finding typical patterns in the world of appearance and mathematical models provide us the easiest way to describe such typical or regular patterns. The fact that there are different patterns in nature, and that not everything in nature behaves necessarily according to typical or regular patterns, is the reason why we cannot observe many of these patterns on the spot. Many of these typical patterns are difficult to observe because of the effect of other patterns, or because of the distorting influence of elements in nature that do not behave according to any such patterns. Science is therefore about proposing hypotheses regarding the existence of this or that regular pattern in nature, and coming up with experimental settings in which the distorting effects of all unrelated natural elements are abstracted from, in order to highlight the real existence of the typical pattern put forward by the hypothesis. Given the role played by experiments in modern natural science, it should be clear that science is not about gaining access to an essential, behind the scene kind of reality, because the experiments that we perform deal, always, with immediately observable appearances, even if to observe them we have to use specific instruments.

Moreover, that in every scientific theory we always deal with two sorts of data, the typical patterns that are postulated, hypothetically, by the theory (that we sometimes call natural laws), and the initial condition of the object or setting under study, is totally overlooked by Hegel. The initial condition of any object that is being studied scientifically is a simple contingent given, we cannot explain scientifically why it is given or why it is there, it is simply there because it is there, and the role of science is to explain how such an initial condition is then transformed under the influence of the natural laws. Even if we manage to explain the present initial condition of an object by referring to the previous effect of the natural laws, we then have to explain the givenness of the previous initial condition. And if we continue in this way, we notice that in the end, we get to an irreducible givenness whose presence is wholly contingent, which means that it cannot be subsumed under any necessity-oriented theorizing.

The sociological approach to politics and science is not fundamentally different from the Hegelian approach. If in Hegel, it is philosophical Idealism that is used to unify science and politics, in the sociological approaches the social totality is used to bring about this unification. In such an outlook, science and politics are thought of as

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Saying that the appearance, in Hegel, has a necessary relationship with the essence - which therefore prevents it from being reducible to a mere accidental and insignificant semblance -, would not change the fact that the epistemology of modern mathematized science has broken ranks with the essence/appearance epistemology.

two different social practices, whose different logics can be subsumed under the all-encompassing, more fundamental social logic discovered by sociology. Initially, it might seem that in the sociological approach, the more fundamental substratum that is put forward is, contrary to the Hegelian Idea, far from abstract, and that it is utterly concrete. At the end of the day, most of us often talk about society and this or that societal fact. Yet, Popper is right to take to task the holist claims of these sociological approaches³¹. Society, if it exists, is an infinitely complex set of utterly heterogeneous actions and haphazard facts about the totality of which no one can say anything sensible³². As far as I know, no sociology has ever managed to reduce, successfully, these heterogeneous actions to any set of unifying rules or principles, unless the set put forward contains, itself, so many different irreducible elements.

Now when it comes to the relationship between science and politics, if the more fundamental societal level that is postulated contains, itself, a multiplicity of elements which are not themselves reducible to any set containing but one element, then reducing politics and science to this set does not mean that we would have reduced their apparent difference to a more fundamental unity. This would simply mean that we would have reduced the difference between science and politics to a different form of difference! Sociology does obviously have the right to try to do this.

The sociological approach that I am criticizing in this section is the one that pretends to reduce the difference between science and politics not to another difference, but to a unitary fundamental level. An example of the latter is Mannheim's sociology of knowledge. The unifying principle in Mannheim's sociology is centered on the concept of interest. For Mannheim, very different societal practices are similar in that their actors are unaware of the interests that determine and orient their actions. Mannheim thus credits Marx with having discovered how different actions, and especially how different forms of scientific knowledge, are determined by "the role of class position and class interest in thought"³³. However, he takes Marx to task for having failed to notice that this is not only true apropos of the so-called bourgeois theoreticians, but equally of the proletarian ones. In other words, he thinks that Marx and Marxists have overlooked the fact that their knowledge, too, is motivated by

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Popper 1986, pp. 79-80.

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This means that it is important that we distinguish the politico-economical relationships from the social relationships in general. In other words, we should understand that the latter are not reducible to the politico-economical relationships.

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Mannheim 1936, p. 66.

unconscious interests. His sociology of knowledge therefore takes for granted that all knowledge and all practices are motivated by interest. We already discussed, in the last section, the cynical way of thinking of science and politics as being the same. Mannheim's position is different in that it pretends that sociologists, or what he calls Intelligentsia, can liberate themselves from the influence of their unconscious, limited, interests. Now we should of course ask how they could manage to do this given that all the others are incapable of it. Here is how Mannheim responds to this question:

Such an experimental outlook, increasingly sensitive to the dynamic nature of society and to its wholeness, is not likely to be developed by a class occupying a middle position but only by a relatively classless stratum which is not too firmly situated in the social order. [...] This unanchored, *relatively* classless stratum is, to use Alfred Weber's terminology, the "socially unattached intelligentsia". [...] Although they are too differentiated to be regarded as a single class, there is, however, one unifying sociological bond between all groups of intellectuals, namely, education, which binds them together in a striking way. [...] One of the most impressive facts about modern life is that in it, unlike preceding cultures, intellectual activity is not carried on exclusively by a socially rigidly defined class, such as a priesthood, but rather by a social stratum which is to a large degree unattached to any social class and which is recruited from an increasingly inclusive area of social life. [...] There arises, then, in the midst of this society, which is being deeply divided by class cleavages, a stratum, which a sociology oriented solely in terms of class can only slightly comprehend. [...] Although situated between classes it does not form a middle class. Not, of course, that it is suspended in a vacuum into which social interests do not penetrate; on the contrary, it subsumes in itself all those interests with which social life is permeated. [...] Today more than ever it is expected of such a dynamic middle group that it will strive to create a forum outside the party schools in which the perspective of and the interest in the whole is safeguarded.³⁴

It is needless to emphasize how Mannheim's view is close to the technocratic apolitical perspective of the welfare state ideology in the 20th century. However, the total disappearance of the communist threat has helped the ruling liberalism to stop giving concessions to the people, even in the moderate form of the welfare state. The aggressive

34 Ibid, pp. 136-144.

privatization of higher education throughout the world is a clear evidence of this. Even if Mannheim's academic intellectualism could seem more reasonable in the heyday of the welfare state, it would be strange to expect such unattached intellectuals to be found in universities that are increasingly inaccessible to those who are not sufficiently rich, or who do not come from the 'appropriate' milieus³⁵. Be that as it may, those who are convinced by this manner of justifying the sociological dissolution of a whole series of practices, supposedly marked by diverse unconscious interests, into a sociological understanding characterized by the alleged absence of any such interest can continue to work along the lines introduced by Mannheim and other sociologists who have worked in his wake. Those of us who are not satisfied with this way of thinking the relationship between science and politics have to think the latter differently. This is what I will now turn to.

5. Towards a Philosophy of Demarcation:

When discussing different attempts at founding a science of politics, I emphasized that reconstituting a philosophy of demarcation requires that we come up, especially, with a satisfying criticism of those who have tried to create such a science from the perspective of the naturalistic epistemology. This is important not only because the dominant epistemological outlook in today's academic philosophy, especially in the English-speaking world, is naturalistic, but also because modern neoclassical economics is so far the most serious attempt at realizing a science of politics. As I have already stated, the naturalistic epistemology of Milton Friedman has exerted an undisputable influence on the way researches in neoclassical economics have been conducted. It is therefore by proposing a critique of this epistemology that I will try to delineate the general contours of a philosophy of demarcation.

We have already seen how for Friedman it is positive economics, which should be constructed along the epistemological lines of physics, that should guide political decisions and actions that are normative. What he neglects, however, is that it is not only the "ought to", the normative economics, that depends in such a way on the "is", the positive economics, but that what already is may have depended for its coming to be on some previous "ought to be" which would have been used in order to change the positive economical situation that had preceded it. In other words, in Friedman's reasoning, we are dealing with a positive

35 That people's actions are often determined by different kinds of limited interests, or that there could be a group of people capable of orienting their actions according to a different logic are not what I am criticizing in Mannheim. It is his academic and intellectualist way of conceiving the possibility of going beyond limited interests that I am objecting to.

economics, very similar to physics, to which we may then add a normative aspect separated from it. What he fails to see is that the positive and the normative dimensions may be so much intertwined in the economical relationships that separating them in such a clear cut manner may be impossible.³⁶ His manner of articulating these two dimensions would have been more acceptable if we were to confine ourselves to our present state of affairs, and if we did not have any historical knowledge whatsoever. But as soon as we try to understand the present situation as a moment in the economical history, we cannot but notice that what “is” today “was not” yesterday, and that what is for Friedman the subject matter of positive economics today was precisely the subject matter, the yearning, of the normative economics of yesteryears.

Friedman’s very bold distinction between normative and positive economics requires therefore a kind of rigid focalization on the present, without paying enough attention to the history of the politico-economical relationships. But we simply cannot deny the fact that throughout history we have had radically different politico-economical structures, and that the sort of economical or political relationships that we are having today are not the same as those that existed among individuals in the past epochs. Denying this would lead to a position akin to historicism. Because if historicists are “trying to compensate themselves for the loss of an unchanging world by clinging to the faith that change can be foreseen because it is ruled by an unchanging law”³⁷, naturalists compensate themselves by denying change tout court!

As such, if we are not to deny the fact that there have been and there can be changes in the form of politico-economical relationships, then we are dealing with a field that is radically different from those of natural sciences such as physics. One of the basic epistemological assumptions in physics is the idea that physical laws do not change throughout space and time. For example, in modern cosmology, we postulate a fundamental principle called the cosmological principle which is usually stated formally as:

'Viewed on a sufficiently large scale, the properties of the universe are the same for all observers.' This amounts to the strongly philosophical statement that the part of the universe which we can see is a fair sample, and that the same physical laws apply

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36 Robert Nelson’s *Economics as Religion* is one of the few works that have put forward this point in a very concise and convincing manner. Donald MacKenzie (MacKenzie et al. 2007) has also written extensively on this point throughout his works but mostly by concentrating on the financial models.

37 Popper 1986, p. 161.

throughout. In essence, this in a sense says that the universe is knowable and is playing fair with scientists.³⁸

Another important example of such a principle in physics is the *Quantum Equilibrium Hypothesis*³⁹ in Quantum Mechanics. Due to the following three reasons, relying on and invoking such principles in physics is reasonable:

1. In the course of the historical experience of human beings, we have been able to observe that there exist events in nature whose behaviors follow typical and regular patterns. We have then tried to discover representative apparatuses, often by making extensive use of mathematical models, in order to represent these behavioral patterns.

2. Moreover, and once more based on the historical experience of human beings, we have never observed any change in this typical and regular behavior of natural events. It is true that since Hume, we can no longer attribute any sort of necessity to these patterns (or physical laws), in that they could change in a contingent manner at any moment. However, the fact that our historical experience does not give us any example of such changes suffices to say that these laws very probably do not change.

3. Other than the fact that it is reasonable to think that these laws very probably do not change, our historical experience has shown that we have been so far incapable of changing or modifying these laws, so that even if we know that they could change at any moment, we know that such a change would not be caused by any human intervention whatsoever.

Because of these three reasons, invoking the aforementioned principles is highly reasonable in physics and other natural sciences. In addition, it is only when we can invoke such principles, especially regarding the unchanging character of laws, that we can explicate why employing the ideal of representative knowledge with regard to nature is a right attitude, because representing a pattern and making sure that such a representation is testable and repeatable requires that the pattern does not change. However, when we are dealing with the politico-economical relationships, we know that not only there have been many changes in the

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38 Keel 2007, p. 2.

39 Dürr et al. 2013, pp. 60-65.

history of laws and structures, but that these changes have often been brought about by human interventions and that nothing excludes, at least in principle, the human intervention from intervening again in order to change the existing relationships.

This is why applying the epistemology of representative knowledge and the methods that accompany this epistemological position to the political and economical sphere is contestable. This point, nonetheless, does not require the introduction of any sort of ontological or essentialist distinction between the natural and the politico-economical domains. As we saw, it is only historical evidence that justifies such a distinction, and which gives to this distinction an air of probability at least much higher than the assumption of any continuity between them. Otherwise it is always possible to imagine that in the future we may encounter, for example, drastic contingent changes in nature, and the total absence of any change whatsoever in the politico-economical sphere. If such novelties were to emerge, our epistemological assumptions have to change. The aforementioned distinction is thus only justifiable by history, and not by any ontological reasoning.

When dealing with the political-economical sphere, it is therefore not that much the positive knowledge that should guide the normative aspirations as the other way around. It is the normative political economy, with its insistence on the possibility of change, on ideas which, if realized, could change the situation, that should preside over our studying of the politico-economical relationships as they are. I believe that Marx's eleventh thesis on Feuerbach says essentially the same thing, viz. given the fact that the politico-economical order has been marked, historically, by changes, in dealing with this order it is the realization of change that is important, and not the fact of interpreting it⁴⁰. In the natural order, given the absence of any historical proof concerning the occurrence of change, it is, on the contrary, the interpretative work that should be prioritized.

If empirical history gives us the most plausible argument to demarcate science from politics, it becomes easier to understand why Popper's and Badiou's manner of demarcating the two has not been entirely convincing. In Popper, it is his central concept of falsifiability that prevented him from coming up with a more effective way of doing so. It is true that the chapter of his *Open Society and its Enemies* that is entitled *Nature and Convention*⁴¹ does propose very rigorous arguments

40 Saying this should not make us forget that Marx later on abandoned this important insight, when he started to work on a scientific interpretation of the politico-economical tendencies.

41 Popper 2013, pp. 55-80.

in favor of making such a demarcation. However, I contend that his defense of falsifiability conjugated with his rejection of all forms of induction⁴² prevented him from getting as far as he could have. It is true that since Hume, the principle of induction can no longer be defended as an undisputable mode of reasoning. But we also saw that in most of our physical theories, we do have physical principles which postulate the presence of different forms of uniformity in nature, foremost among which the unchanging character of laws, and such principles are inductive, not deductive. I also emphasized that the absence of historical proof concerning any change in physical laws does bestow a high degree of probability on these principles. Popper was of course very critical of such principles, and especially of the cosmological principle⁴³. But I would argue that his own principle of falsifiability implicitly acknowledges the unchanging nature of physical laws.

Popper does insist on the fact that in the realm of scientific knowledge we never really gain any positive knowledge, and that all our positive knowledge remains hypothetical⁴⁴. But he contends that our knowledge does, nevertheless, progress because we do get closer to the truth not positively, but negatively, that is by weeding out false theories and ruling them out. In other words, even if we can never get to the truth, we advance towards it by falsifying more and more theories. However, if we were to refute the inductive principle that physical laws probably do not change, we can no longer rule out the possibility of having contingent changes in physical laws so that a theory that would have been falsified with regard to past laws would become suddenly true with regard to new laws! Such a possibility would mean that no theory could really be falsified, preventing us therefore from speaking of progress in science even in the negative sense.

Consequently, Popper's falsifiability relies as much on historical induction as the physical principles that he belittles. It is only by accepting this historical sense of induction that his falsifiability acquires its full weight: *given that natural laws probably do not change*, even if getting to the truth is not possible, we can at least rule out those theories that have already been falsified, and in this way we do get closer to the truth, even if only negatively.

Given that his principle of falsifiability does require the probabilistic historical assumption that natural laws do not change to make sense, we see that in the politico-economical domain, given the fact that historically

42 Popper 2002, p. 5.

43 Kragh, 2012.

44 Popper 2002, p. 278.

we have had changes, falsifiability is no longer a pertinent criterion for judging different positions. Instead of trying to criticize different politico-economical analyses by relying on his falsifiability criterion, he must have extended his remarkable insights in the aforementioned chapter of his book.

As for Badiou, it is true that the difference between science and politics is posited not ontologically, but as a historical fact. The fact that Badiou has introduced what he calls the four conditions of philosophy – science, politics, love and art –, in his ontological treatise *Being and Event* might give the impression that their existence for him is also something that can be inferred ontologically⁴⁵. However, it is clear that these four conditions are introduced not in relation to Being, but to Event. The latter, as he says it repeatedly, is that which is not reducible to Being, and of which ontology “has nothing to say”⁴⁶, even if the possible consequences of an Event, what he calls truth procedures, are formally thinkable in ontology⁴⁷. That these four conditions are posited historically and not ontologically or in an a-priori fashion shows how impertinent is the criticism of those who ask why there should be four conditions and not more or fewer. The answer is obviously that there are four conditions because historically there have been only four; there could have been possibly more or fewer, but that there have been four is ultimately reducible to the pure contingency of human history. It is therefore true that Badiou has seen the most essential point, the fact that it is ultimately historical evidence that provides the most convincing arsenal for demarcating science from politics.

However, as we have also noted in Popper, other aspects of his philosophy have prevented him from elucidating this point in a way that he should have. For example, one cannot really accept science and politics as different unless one understands what they are. Now if it is the history of each of them that shows us why they are different, it means that it is history itself that teaches us what each of them really is. One may therefore wonder what is the precise function of the meta-ontological part of Badiou’s philosophy. The simple answer is that it is his meta-ontology which shows us that truths, if they exist, are generic (or universal), so that the main function of his meta-ontology is to come up with a satisfactory and clear way of distinguishing generic practices from those which are not. But assuming that his meta-ontology does manage to demarcate

45 Badiou 2006, p. 17.

46 Ibid, p. 190.

47 Ibid, p. 341.

adequately generic procedures from “all sort of other practices”⁴⁸, knowing whether the four conditions are generic, and whether other practices are not, requires that we first study them separately, and for this we should rely on the history of each practice. The problem with Badiou’s philosophy is that it is so radically concentrated on introducing the distinction between generic and non-generic practices that it ends up paying very little attention to the proper specificity of each practice. This means that his philosophy is more about saying that science, politics, art and love, contrary to all other practices, are universal and generic, than about demarcating one from the other. We have seen in the course of this article that given different attempts at obfuscating the distinction between science and politics, explaining and justifying the distinction between politics and science is as important as elucidating the way in which the two of them, alongside art and love, differ from all other practices. Badiou’s philosophy is not rigorous enough when it comes to the first task.

Moreover, it is not only that Badiou, because of his insistence on the meta-ontological part of his philosophy, has not paid enough attention to the question of demarcating science from politics. There are other aspects of his philosophy which make the introduction of such a distinction difficult. For example, one of the main arguments that he puts forward to defend his thesis according to which mathematics is ontology is to say that we cannot explain, otherwise, the astonishing success of mathematized physics⁴⁹. That is, it is only if that which can be said of Being qua Being is already mathematical that the mathematical grasp of specific regions of Being can be possible. This argument is, however, very contestable from the perspective of a philosophy of demarcation. If mathematized physics is to be taken as an argument in favor of the essentially mathematical character of all that can be pronounced apropos of Being, then the failure of effectively applying mathematics to politico-economical interactions is an argument against it. Unless we take the failure of hitherto existing politico-economical theories as a temporary state of affairs to be superseded by the creation, in the future, of a true mathematized political economy. Such a position borders dangerously on some of the forms of reducing politics to science that we have already discussed.

48 Ibid, p. 340.

49 Ibid, p. 7.

6. Concluding remarks:

There are a number of other issues in Badiou's philosophy that have, I believe, prevented him from coming up with a satisfactory way of explicating the distinction between politics and science. His particular way of defining the difference between what he calls natural and historical situations⁵⁰ is one of them; and his advocacy of a politics that should be practiced at a distance from the State, and which should never be about "the treatment of a vital necessity"⁵¹, makes it very difficult to understand his way of comprehending the complex relationship between politics proper and the economical dimension of politics. As I have already mentioned, Marx's failure to adequately elucidate these two separate aspects of politics is probably at the root of all the other controversial parts of his critique of political economy. I would also argue that without coming up with a satisfactory way of distinguishing politics proper from political economy, demarcating science from politics, too, becomes very difficult. However, I did not try, in this article, to provide an exhaustive treatment of the demarcation problem. I merely tried to show that the demarcation problem is a worthwhile and pertinent philosophical engagement. Without wanting to exaggerate its reach, I do, nonetheless, believe that many philosophical questions would become much less pertinent if we could come up with a satisfactory way of thinking the demarcation problem.

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Volume 5 /
Issue 1

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Volume 5 /
Issue 1

50 Ibid, p.176.

51 Ibid, p.380.