ISSN: 2147-1622

Makale Bilgisi
Gönderildiği Tarih: 23.01.2017
Kabul Edildiği Tarih: 02.06.2017
Yayınlandığı Tarih: 30.06.2017

Article Info
Date submitted: 23th January 2017
Date accepted: 2nd June 2017
Date published: 30th June 2017

Strong Programme against Scientific Knowledge and Its Autonomy

Bilimsel Bilgi ve Onun Özerkliğine karşı Güçlü Program

Alper Bilgehan YARDIMCI
Dokuz Eylül Üniversitesi Edebiyat Fakültesi Felsefe Bölümü
İzmir, Türkiye
b.alperyardimci@gmail.com

Abstract

Science and scientific knowledge have been questioned in many ways for a long period of time. Especially, after the scientific revolution of 16th- and 17th-century Europe[1], science and its knowledge have been mainly accepted one of the most valuable and trustable information. However, in 20th century, autonomy of scientific knowledge and its dominant position over other kinds of knowledge have been mainly criticised. Social and other factors that were tried to be excluded before have been incorporated into the work by the influence of the Strong Programme. In this article, it will be argued that while people are presenting scientific knowledge, their interests, beliefs and the communities they are involved in are also shown to be effective in producing this information. Thus, the desired result is that it is not reasonable to talk about the absolute autonomy of scientific knowledge.

Key words: *Strong Programme, notion of interest, autonomy of scientific knowledge, social factors.*

Öz

Bilim ve bilimsel bilgi uzun yıllar boyunca bir çok açıdan sorgulanmıştır. Özellikle 16. ve 17. yüzyıl Avrupa'sının bilimsel devriminden sonra bilim ve onun bilgisi en güvenilir ve değerli bilgi kaynaklarından biri olarak kabul edilmiştir. Ancak, 20 yy. da bilimsel bilginin özerkliği ve bu bilginin diğer bilgi türleri üzerindeki baskın durumu genellikle tartışılmaya başlanmıştır. Güçlü Programın etkisi ile daha önce dışarıda bırakılmaya çalışılan sosyal ve diğer faktörler işin içine dahil olmaya başlamıştır. Bu makalede, insanların bilimsel bilgiyi üretirken, çıkarlarının, inançlarının ve bağlı bulundukları toplulukların bu bilginin üretilmesinde etkili olduğu tartışılmaktadır. Böylece, arzulanan sonuç, bilimsel bilginin mutlak özerkliği hakkında konuşmanın mantıklı olmayacağıdır.

Anahtar kelimeler: *Güçlü Program, çıkar kavramı, bilimsel bilginin özerkliği, sosyal faktörler.*

1. Introduction

Throughout history, science has been evaluated as the primary and most reliable source of knowledge amongst scientists, philosophers and sociologists (Pigliucci, 2008) and it has been considered cognitive and an autonomous activity that provides objective knowledge of the world. Furthermore, science has been generally recognized superior to the other kinds of social and cultural factors (Chalmers, 1999). Due to these reasons, even though sociologists such as Weber, Marx, and Comte agreed that sociology examines social factors like religion, myth, ideology excluding science, they all claimed that the only possible way to achieve objective knowledge is to adopt scientific methods (Chalmers, 1999).[2]

Nowadays, scientism (the idea that keeping science superior above everything with the autonomy of scientific knowledge) maintains its effect among various groups' thought, but it can be said that it has lost its former dominant position. There are several reasons shred public confidence in scientism: the

[1] Hendrix, S. E. (2011).

[2] A similar attitude can be seen in the philosophy of science; those social factors does not fall into the range of science because it is evaluated apart from external factors. Particularly, this scientist viewpoint can be seen in the Vienna Circle with their logical positivist ideas (Uebel, 2012).

ISSN: 2147-1622

'linguistic turn' studies in the philosophy of language; new Marxist sociology schools which bring criticism on existing sociological ideologies; and relativist ideas that occur in the area of philosophy. These elements have led to the discussion of the epistemic autonomy. As a matter of fact, the idea of epistemic autonomy has been criticized throughout the history by thoughts of sophists, sceptics, subjective idealists and social constructionists. Theoretical framework behind this opposition is mainly relativism (Sober, 2008).[3]

In this essay, the main interest will be given to the discussion of sociology and autonomy of scientific knowledge and its situation against relativism and social constructivism approaches. In this regard, firstly, Strong Programme's principles and David Bloor's ideas about relativism, which is a featured representative of the Strong Programme will be explained. Secondly, analysis of another interesting aspect of the school's programme – its epistemological position – will be given with concepts about the notion of truth due to their epistemological viewpoint and cognitive tools. Finally, my advocation on Bloor's stance which criticizes scientific autonomy and my opinions will be presented.

2. Strong Programme

The idea that keeping science superior above anything else and the autonomy of scientific knowledge was mainly criticized by the Strong Programme in the field of sociology of science with its relativist and social constructivist opinion after 1950 (Barnes, 1985). Scientific knowledge has not been treated as a privilege over religion, magic and myths (distinct from what it was evaluated as before 1950). In other words, it has lost its privileged position among others (Barnes, 1995). According to this new movement, science is not the most objective and rational form among other forms of knowledge because there are no unequivocal rules assisting scholars to reach the ultimate objective and reliable information (Bloor, 1991). Hence, sociologists of science who argue the Strong Programme's standpoint are engaged in how the science is affected by the social process, which means the belief and scientific knowledge are assessed with cultural factors and seen as social institutions.[4]

Edinburg school was one of the famous social constructivist schools that strengthened this criticism against the scientism (Jasanoff, Markle, Pinch and Petersen, 2002). Academics in this community were using the "notion of interest" in order to analyse scientific activities. Information allegations that are emerged from these scholars are usually social and these claims reflect the political interests of their knowledge and understandings. That is why; their approaches could be regarded as the interest approach which effects scholars' statements and beliefs (Jasanoff, Markle, Pinch and Petersen, 2002).

As can be seen, Strong Programme is generally known as the Interests Approach under the general heading of social constructionism (Jasanoff, Markle, Pinch and Petersen, 2002). The general claim of the Strong Programme is that scientific knowledge should be treated by sociological analyses. The conclusions of this analysis are the following propositions:

- Any knowledge claim faced in scientific debates is not more rational than other claims.
- None of the truth value of scientific propositions is entirely unknown (Jasanoff, Markle, Pinch and Petersen, 2002).

As illustrated by these two propositions, social interest plays an important role in the construction of knowledge claims. Also it describes the definition of scientific knowledge, which means the purpose of

[3] Explaining the relativism with its variants such as cognitive and conceptual relativism will be useful for us in order to understand the topic in detail. Cognitive relativism comes up with the belief that there are no objective truths but only local beliefs and conceptual relativism is the view that different groups (e.g., those with very different languages or cultures) may have rather different central concepts and this can lead their members to rather different conceptions of the world (Sokal and Bricmont, 2002).

[4] Besides, in the mid of the 70's, although Merton saw the science as a social institution, he was criticized by social constructionists because he accepted the objectivity of science and its superiority than other knowledge structures (Jasanoff, Markle, Pinch & Petersen, 2002).

Yayın Tarihi / Publication Date: Haziran / June 2017

ISSN: 2147-1622

Strong Programme is to understand ideas that is accepted as true and their conditions that appeared (Webster, 1991).

At the beginning of the sociology of scientific knowledge, only unsuccessful scientific theories are evaluated as the products of the social influences in order to understand which social factors led to failure of scientific method. However, Strong Programme takes into account all scientific theories, activities and knowledge as a result of social structures and elements without any distinction. From this point of view, each cognitive or knowing activity emerges from society, even if it is successful or not. For this reason, the decisive relation between social factors and community of scientist is not an outer and separate factor, but rather the intrinsic nature of this relationship is an essential element of science (Bloor, 1991).

Likewise, representatives of the Strong Programme claim that we cannot understand the knowledge only with two cognitive tools (mind and senses) because social factors not only provide knowledge but also shape cognitive tools at the same time (Jasanoff, Markle, Pinch and Petersen, 2002). That is why, in this situation, social factors are important in the information producing process.

Bloor (1991) elaborates the topic in his "Knowledge and Social Imagery" book with his epistemological point of view. He focuses on the distribution of beliefs and factors influencing them. He asks some questions in order to understand and elaborate the issue. For instance, "how is knowledge transmitted; how stable is it; what processes go into its creation and maintenance; how is it organised and categorised into different disciplines or spheres? (Bloor, 1991, pp.5)"

According to Bloor (1991), in order to understand knowledge getting process in detail, examination and clarification are necessary for sociologists , since they will effort to characterise knowledge in a way which accords with this viewpoint. That is why; their opinions will be in the same causal idiom as those of any other scientist. Their concern will be to locate the regularities and general principles or processes which appear to be at work within the field of their data. The purpose will be to set theories to explain these regularities. They will have to apply true and false beliefs together, if these theories are to fulfil the necessity of greatest generality, and as much as possible the same kind of clarification will have to use in both situations. He presents an analogy in order to demonstrate the topic:

> The aim of physiology is to explain the organism in health and disease; the aim of mechanics is to understand machines which work and machines which fail; bridges which stand as well as those which fall. Similarly, the sociologist seeks theories which explain the beliefs which are in fact found, regardless of how the investigator evaluates them (Bloor, 1991, pp. 5).

From the analysis above, the main tendency of the strong programme is to be sure that these theories implemented to all beliefs whether true or false. Sociology of knowledge tries to understand scientific activities with the four principles of this movement shaped by the main tendency (Bloor, 1991). These four tenets are as below respectively;

1. It would be causal: that is, concerned with the conditions which bring about belief or states of knowledge. Naturally there will be other types of causes apart from social ones which will cooperate in bringing about belief.
2. It would be impartial with respect to truth and falsity, rationality or irrationality, success or failure. Both sides of these dichotomies will require explanation.
3. It would be symmetrical in its style of explanation. The same types of cause would explain say, true and false beliefs.
4. It would be reflexive. In principle its patterns of explanation would have to be applicable to sociology itself. Like the requirement of symmetry this is a response to the need to seek for general explanations. It is an obvious requirement of principle because otherwise sociology would be a standing refutation of its own theories (Bloor, 1991, pp. 7).

The strong programme can be identified through these four principles as illustrated above: causality, impartiality, symmetry and reflexivity. As we can see, the first principle demands sociological and

Yayın Tarihi / Publication Date: Haziran / June 2017

ISSN: 2147-1622

psychological conditions, which indicates non-scientific determinants when we need to examine the statements of beliefs or knowledge. Bloor (1991) states that science is not created in a vacuum, but, he realises that science does not merely occur with social effects. In addition, explaining the causes of beliefs as true or false is prohibited by the second principle because all beliefs need to be explained whether they are true or not. The principle of symmetry is the variation of the principle of impartiality. The same types of explanations are used for successful and unsuccessful knowledge claims alike. For instance, communist ideologues in the Soviet Union preferred Lamarckian theory of evolution rather than the Darwinian evolution. The reason behind of this is the same to confirm one and refuse the other one. While Lamarck's theory of evolution was fit to Hegel's view of history based on his Geist, Darwin's theory of evolution was not. Finally, according to fourth principle, it must be applicable to sociology itself. In another sense, when sociologists claim that there is a political interest behind scientific claim, they are also aware that their claims also include political interest.

3. Strong Programme and its Epistemological Position

Another important point is that the sociologist deals with the knowledge, containing scientific knowledge, solely as a natural phenomenon is claimed by Bloor (1991). Hence, the proper description of knowledge will be quite different from that of either the lay person or the philosopher. Rather than describing it as true belief, knowledge for the sociologist is anything that is considered as information by people. It comprises of those beliefs which people surely hold to and live by. Especially, the sociologist will be concerned with beliefs which are taken for granted or institutionalised, or invested with authority by groups of people. According to him (1991), separating the knowledge from mere belief is necessity. This can be done by reserving the word 'knowledge' for what is collectively endorsed, leaving the individual and idiosyncratic to count as mere belief.

In addition, Bloor (1991) states that what is said here for general knowledge also can be said for scientific knowledge. Therefore, Strong Programme's tenets were sent forward as a result of such an adaptation. These principles made also controversial informational autonomy claim mentioned in the definition of traditional knowledge. Such autonomy is based on the terms 'justification' and 'righteousness'. Strong Programme argues (Jasanoff, Markle, Pinch and Petersen, 2002) that both terms are not autonomous from society; conversely they are determined by society. It can be said that claiming the autonomy of knowledge is not possible from Bloor's side.

For this reason, Bloor also criticizes the traditional epistemological point of view, because while it is explaining scientific activities, it does not consider social factors. He claims (1991) that traditional epistemology only uses sociology and psychology in order to clarify false beliefs. However, there is a conflict between Bloor's principles of method and traditional methods - claiming the creation of knowledge has some internal / autonomous elements. According to Bloor (1991), we need to examine this situation and try to decide which theory is right. In order to understand the doctrine of his Strong Programme, epistemological position of the principles behind the proposed method should be checked (Bloor, 1991). This position is hidden in Bloor's answer to the question of what makes people do the right thing or rational? He says (1991) that classifying the beliefs as the right or the rational is based on teleological or goal-directed understanding of information. While teleological epistemology is explaining the nature of causal problems, it uses some concepts that we encounter in society. For this reason, our cognitive process or knowing behaviour is social and it has two inevitable results (Bloor, 1991).

1. Truth is a concept that has three basic functions
2. Theory of righteousness called correspondence theory is incorrect (Bloor, 1991).

These two results can be further examined in detail:

Yayın Tarihi / Publication Date: Haziran / June 2017

ISSN: 2147-1622

Bloor mentions the function of the traditional concept of truth. According to him (1991), our idea of truth does a number of tasks which are worth noting if only to demonstrate that they are suitable with the strong programme and the pragmatic and instrumental idea of correspondence which has emerged in the discussion.

He claims (1991) the first task is that discriminatory function. Men are under the necessity to order and sort their beliefs. They must distinguish those which work for them from those which do not. True and false are the labels typically used and are as good as any, although explicitly pragmatic vocabulary would function just as well.

Second one is the rhetorical function. These labels take a place in an argument, criticism and persuasion. He states that there would be no problem about what to believe, if our knowledge were purely under the control of stimulation from the physical world. However, adapting to the world mechanically for us is not possible due to the social element in our knowledge. For this reason, this conventional and theoretical instrument introduces a continuing problem of maintenance. According to Bloor (1991), the language of truth is closely related with the problem of cognitive order. On the one hand, human generally talk of truth so that they might suggest this or that certain claim. On the other hand, truth is invoked accurately as an idea of something possibly dissimilar from any received opinion.

> It is thought of as something that transcends mere belief. It has this form because it is our way of putting a question mark against whatever we wish to doubt or change or consolidate. Of course, when men affirm truth or detect and denounce error, there is no need for them to have privileged access or ultimate insight into these things. The language of truth has never needed this. It was as available, and as legitimately available to Priestley with his phlogiston theory, as it is to us (Bloor, 1991, pp. 41).

This is all very similar to the discriminatory function except that now the labels can be seen taking on overtones of transcendence and authority. Man can identify the nature of the authority instantly. Any particular theoretical view of the world has authority, this can only derive from the actions and opinions of men. Authority is evaluated as a social category by Bloor (1991) and he thinks that only human being can use it. They endeavour to transmit it to their settled opinions and assumptions. Nature has power over us, but only men have authority. In some measure, the transcendence associated with truth will have the same social source, but it also points to the third function of the notion of truth.

It is the materialist function. According to Bloor (1991), "All our thinking instinctively assumes that we exist within a common external environment that has a determinate structure. The precise degree of its stability is not known, but it is stable enough for many practical purposes (Bloor, 1991, pp. 41)." Opinions vary about its responsiveness to our thoughts and actions, but in practice the existence of an external world-order is never doubted. It is assumed to be the cause of our experience, and the common reference of our discourse. He shall lump all this under the name of materialism. Often when we use the word truth' we mean just this: how the world stands. By this word, we convey and affirm this ultimate schema with which we think. Of course this schema is filled out in many different ways. This schema may differ from culture to culture because such a schema is the material/common core of people, objects and natural process.

The second result of the claim of sociality of cognitive process is that the theory of correspondence is wrong (Bloor, 1991). Essentially, effect of materialist function of the concept of truth can be seen behind the theory of accuracy, because this theory cannot be introduced without accepting the idea that there is an external world outside of the mind. Bloor (1991) suggests that theory of accuracy, especially faced in experimental science, should be rejected and conventional understanding of truth should be adopted. Further, scientific theories and procedures must be consonant with other conventions and purposes prevalent in a social group. According to Bloor (1991), the relation of correspondence between a theory and reality is unclear. For this reason, this ambiguity cannot be ignored in terms of epistemology.

Yayın Tarihi / Publication Date: Haziran / June 2017

ISSN: 2147-1622

In this situation, Bloor gives an example from the history of chemistry in order to make the issue tangible. He takes Priestley's analyses about phlogiston theory, proceeds from this theory, the situation of the correspondence in reality, indeed, only is rhetoric, which means it depends on our interpretation. He said that

> the process of scientific thought can all proceed and have to proceed on the basis of internal principles of assessment. They are moved by the perception of error as it crops up within the terms of our theories, purposes, interest, problems and standards (Bloor, 1991, pp.40). In this instance, there is no objection to argue that our theories are simply "conventional instruments" for coping with our environment (Bloor, 1991, pp. 40).

As can be seen from these statements in terms of Strong Programme, ultimately all scientific theories, methods, and the results consist of social conventions (Bloor, 1991). To put it another way, concepts such as "objectivity", "truth", "rationality", "justification", "convention", "object", "nature" and of course "society" are nearly being redefined. For example, Bloor claims that the concept of "truth" in many contexts can be replaced with "the concept of prefer".

As outlined above, the following theses create the core of The Strong Programme's epistemological claims;

1) There is no a universal cognitive background that informational judgments founded on it. These judgments are the product of different collective structures and cultures; also each structure constitutes its own judgements.
2) Therefore, while people are performing the action to know something, they also reflect their own thought and beliefs on it and evaluate them with these beliefs.
3) They (especially Barnes) emphasized that the effects of the world (society) on the subject is always and in every case shaped by the cognitive / linguistic models.
4) As well as the emphasis on social factors insisting that the information is not generated by individuals.

These theses provide us to draw epistemological limits of the Strong Programme. Due to the variable bond between sociality and language, especially Barnes, suggested that our structure of verbal knowledge does not represent the reality under a single form. According to him, this is an inevitable feature of our linguistic and cognitive capacities (Harré and Krausz, 1998, pp.102).

3. Conclusion

To conclude, it is the autonomy of scientific knowledge has been questioned. As can be seen, keeping science superior to other kinds of knowledge such as sociology has been criticised especially by Strong Programme's doctrines. Science and scientific knowledge are always seen as autonomous and it is thought that they are not affected by social factors. Bloor shows that the notion of interest takes an important place while producing scientific knowledge. For this reason, accepting the advantages of scientific knowledge over religion, magic and myths will not be reasonable, because it cannot be said that any knowledge claim is more rational than other scientific claims in scientific debates. Finally, scientific activities are tried to be understood in terms of four principles of Strong Programme; causality, impartiality, symmetry and reflexivity.

Finally, traditional epistemological point of view has been taken into account to show that it did not consider social factors while clarifying scientific activities. All scientific theories, methods and the results consist of social agreements at last, according to Strong Programme. That is why, the notion of truth can be altered with the concept of preference because people attach their ideas and beliefs

Yayın Tarihi / Publication Date: Haziran / June 2017

ISSN: 2147-1622

while they are trying to know and create scientific knowledge. As a result, Strong Programme and its representatives – especially Bloor – shows that autonomy of scientific knowledge is not the idea that we can adopt since the knowledge is influenced by social factors and interests.

References

Barnes, B. (1985). *About Science.* Oxford: Blackwell.
Barnes, B. (1995). *The Elements of Social Theory.* London: UCL Press.
Bloor, D. (1991). *Knowledge and Social Imagery.* Chicago: University of Chicago Press.
Chalmers, A. (1999) *What is This Thing Called Science? An Assessment of the Nature and Status of Science and Its Method.* Berkshire(UK): Open University.
Haré, R. and Krausz, M. (1998). *Varieties of Relativism. The Journal of Value Inquiry.* Netherlands.
Hendrix, S. E. (2011). "Natural Philosophy or Science in Premodern Epistemic Regimes? The Case of the Astrology of Albert the Great and Galileo Galilei". Teorie vědy / Theory of Science. 33 (1): 111–132.
Jasanoff, S. Markle, G. Pinch T. and Petersen, J. (2002). *Handbook of Science, Technology and Society.* Rev Ed.. London: Sage.
Pigliucci, M. (2008) *"The Borderlands between Science and Philosophy: An Introduction".* Chicago Journals. vol. 83. No. 1. March. pp. 7-15
Sokal, A. and Bricmont, J. (2002). *Son Moda Saçmalar Postmodern Aydınların Bilimi Kötüye Kullanmaları.* Çev. M. Baydur ve O. Onaran. İstanbul: İletişim Yayınları.
Uebel, T. (2012), *"Vienna Circle". The Stanford Encyclopedia of Philosophy*, Edward N. Zalta (ed.), URL = http://plato.stanford.edu/archives/sum2012/entries/vienna-circle/
Webster, A. (1991). *Science, Technology and Society New Directions.* Ne

Yayın Tarihi / Publication Date: Haziran / June 2017