



From Pierre Bourdieu's Theory of Scientific Field to Harry Collins' Theory of Expertise

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ABSTRACT

This text seeks to understand the dynamics of Pierre Bourdieu's Theory of the Scientific Field and Harry Collins' Theory of Expertises. To this end, a brief history of sociology and philosophy of science in the 20th century is proposed at first, then the epistemological rupture that the Forte Program (*Programa Forte*) made based on the ideas of Thomas Kuhn is evidenced. Then, Pierre Bourdieu's main propositions are presented and, finally, the discussion about experts in Harry Collins' view.

RESUMO

Esse texto busca compreender as dinâmicas da Teoria do Campo Científico de Pierre Bourdieu e da Teoria das Expertises em Harry Collins. Para isso, uma breve história da sociologia e da filosofia da ciência no século XX é proposta no primeiro momento, depois é evidenciada a ruptura epistemológica que o Programa Forte realizou partindo das ideias de Thomas Kuhn. Em seguida, são apresentadas as principais proposições de Pierre Bourdieu e, por fim, a discussão sobre os *experts* na visão de Harry Collins.

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Introduction

The present research seeks to dialogue with Pierre Bourdieu's theory of the scientific field and Harry Collins' theory of expertise, with the aim of understanding the dynamics of the debate on the theory of science in contemporary times. It is important to highlight that this research incorporates significant contributions from the first author's course completion work. Of a qualitative nature, the investigation adopts as a methodology the bibliographic survey, allowing the exploration of essential theories for the understanding of the context of the research and the premises that underlie the argumentation presented. In addition, the study employs documentary methods, hermeneutics for the interpretation of texts, content analysis for the identification of concepts and dialectics for the reconstruction and dynamic contextualization of the documents.

Sociology begins to be interested in the debate about knowledge in its origin with Karl Marx and Friedrich Engels in the book “The German Ideology”, in which they contribute about this issue, based on their reflections on ideology. Émile Durkheim in his book *The Elementary Forms of Religious Life* also formulates a reflection on this subject. However, it is with Karl Mannheim, in the 20th century, in his book “Ideology and Utopia”, that the sociology of knowledge gains space as an area of sociology. Robert Merton is largely responsible for shaping this field based on his works and, with this, institutionalizes the sub-area sociology of science, since he carried out research that was a model for sociologists of science until the emergence of a new conception of research in this area, from the rupture made by Thomas Kuhn, which influenced the emergence of a new sociology of science (KNORR-CETINA, MULKAY, 1983).

At this first moment, the sociology of science is concerned only with the institutions where science is done, leaving to the philosophy of science the task of researching the formation of knowledge itself. With this, it opens space for science to be seen as a privileged form of knowledge of reality, as it is seen in the thought of the Vienna Circle, as a neutral knowledge that holds the possibility of formulating universal laws based on research with the scientific method (PREMEBIDA, NEVES, DUARTE, 2015).

It is with the contributions of Thomas Kuhn (2005) that science begins to be explained from social aspects. Pierre Bourdieu also (1983) has an important contribution to understanding how science is influenced by the social environment. This brings the opportunity for the emergence of a new sociology of science.¹ The *Programa Forte* (Strong Program) of the sociology of knowledge, represented by David Bloor (2008), is directly

¹The sociology of science has traveled several paths and, today, influences several fields, including technology, which is why it is also called the sociology of science and technology, or it is only referred to as Social Studies of Science and Technology (*Estudos Sociais da Ciência e Tecnologia* - ESCT), but here we will refer to this subarea of sociology, which is part of the area of sociology of knowledge, exclusively as a sociology of science. For a more comprehensive discussion of this issue, see (TOZZINE, 2019, p. 37).

influenced by Kuhn, who intends to show sociology as a metascience capable of explaining knowledge from social aspects. Bruno Latour (2012), creator of the actor-network theory, and Harry Collins (2009), creator of the empirical program of relativism, are two important authors in the sociology of contemporary science, and owe the kick-off of their reflections to Bloor and the strong program, even if today they have followed their own paths.

In the following section, it is intended to present the thought of Pierre Bourdieu and thereby expose his main concepts and his contributions to the sociology of science.

Praxeology and habitus

The question of the individual and society is present in the classics of sociology; this happens because the epistemological view of how the construction of knowledge in sociology directly influences the theoretical proposals of each author. The idea that knowledge occurs through the relationship between the subject and the object of knowledge is the most accepted in the debate on the construction of knowledge, but each theorist assigns a different weight to which of these elements is decisive for the possibility of social understanding (SELL, 2015).

On this issue, two positions stand out. For objectivists, the determining factor in the origin of knowledge is reality itself, that is, the object. For subjectivists, the determining factor in the origin of knowledge is the subject. Within the distinction between subject and object, classical theorists sought to answer where sociology should begin its analyses.

In this sense, Pierre Bourdieu builds his theory trying to break with the dualities present in the classical thinkers of sociology.² His ideas bring a synthesis of the prominent positions in classical thought and seek to develop what he calls the theory of practice, or praxiology (BOURDIEU, 2002). Praxiological knowledge is concerned with understanding the dispositions internalized in social actors, and habitus is configured in this mediating proposal of conceiving social action from the relationship between the objective and the subjective.

Habitus is a concept that refers to the dispositions that are incorporated by the agents. This process happens through socialization, because for Bourdieu the agent is not born with the habitus, but acquires it throughout the socialization processes to which he is submitted during his life. This makes individuals learn the external values of the society in which they live and in this way Bourdieu defends a dialectic between the social space and the agent. In his words:

[...] systems of durable and transposable dispositions, structured structures predisposed to function as structuring structures, that is, as generating and organizing principles of practices and representations that can be objectively adapted to their objective without assuming the conscious intention of ends and the express mastery of

²It was not only Pierre Bourdieu who tried to formulate a means of reconciling the dualities present in the classical authors of sociology. We can mention other authors who also developed their thoughts with this concern, for example: Norbert Elias and Anthony Giddens.

the operations necessary to achieve them, objectively "regulated" and "regular" without being in any way the product of obedience to some of the rules and, all of this, collectively orchestrated without being the product of the organizing action of a conductor (BOURDIEU, 2009, p. 87).

At this point, Bourdieu demonstrates that it is not possible to conceive of an autonomous individual in the search for his own decisions, going against the idea of rational choice, as he puts it "the conditioned and conditional freedom that he (the habitus) guarantees is as far from a creation of unpredictable novelty as it is from a simple mechanical reproduction" (BOURDIEU, 2009, p. 91). However, it also does not admit the pure analysis of structures about the individual. Here, habitus serves as an "epistemological middle ground", which aims to explain social functioning through the relationship between agent and structure.

It is interesting to note that, even though Bourdieu insisted on a dialectic between the social space and the individual, the domination of the former in relation to the latter is perceptible in this author's writings. In other words, it is possible to understand that the habitus is a direct product of the class condition of individuals, and that it is clearly perceptible when we understand the symbolic logics of the struggles within the fields developed in Bourdieu's theory of fields, which makes it possible to identify the class condition of the agents who develop their struggles within these fields for the search for certain capitals.

In view of this, it is possible to establish a direct relationship between habitus and field theory, since it is only possible to conceive the agents from their histories embodied in their socialized bodies, and this type of incorporation only happens through the position of the individuals located in the field. In other words, the existing dispositions, which move the agents, are directly linked to the position in the social space that people occupy.

Fields and scientific field theory

In a similar way to that of habitus, the idea of field for Bourdieu serves as a mediator between the subjective perceptions of the actors who belong to certain spaces of sociability and the objective relations constitutive of the social space; in this sense, the agents present in the field act from the incorporated dispositions and this has to do with the trajectory and position of the individuals. The field, therefore, is a space of practice, and this space is made up of different struggles and forces.

For Pierre Bourdieu, society is not conceived as something harmonious and stable as understood by Émile Durkheim, but is made up of several spaces that he called fields, according to Bourdieu there are different types of fields; educational, religious, economic, scientific and so on. In this sense, when this author uses the concept of field, he is talking about different social spaces in social life, and each of these spaces has its own structure and is

relatively autonomous from each other. Individuals who work in certain fields participate in different symbolic struggles among themselves, this varies by the laws of each field, because the fields are free to choose their own rules and to define the specific capital that the agents must seek to conquer, these capitals cannot necessarily be valued by other fields.

Capital is what defines the positions assumed by agents in a specific field, as Bourdieu puts it “the species of capital, in the manner of trumps in a game, are the powers that define the probabilities of winning in a given field” (BOURDIEU, 1989, p. 134). That is why authority within a given field is accompanied by the specific capital of that field that constitutes social reality. Therefore, the struggles are waged within the camps for the conquest of capital, which are converted into a form of consecration, recognition and legitimacy, which individuals accumulate from the struggles that are waged within each camp.

It is important to highlight that the notion of capital does not refer to the concept created by Karl Marx, as already discussed. This concept goes beyond the economic notion and starts to designate several other spheres that are not necessarily linked to the market or the capitalist mode of production addressed in Marx's work.

In his book *Homo academicus*, Pierre Bourdieu operationalizes his concept of field by observing the university field in France of which he was a part. The work analyzes some faculties such as Law, Medicine, among others, and shows, through statistical data (Bourdieu, 2013, p. 68-70), how these spaces are places of conflict, domination and search for recognition. This text serves as a critique of the academic field, however it also seeks to show Bourdieusian concepts in a specific field of reality.

Pierre Bourdieu also wrote about scientific knowledge. In his perspective, based on the Theory of the Scientific Field (TCC), science is a form of symbolic production and as such it is a field that is subject to the same games of power, prestige and recognition as the other fields.

Thus, similar to the other fields in which there are games of conflict, domination and status in the scientific environment, this is no different, and these relations are also constituents of this field. For Bourdieu, the scientific environment is organized in this way, by the search for capital, so that the actors can legitimize themselves within the scientific field, before the other actors that make up this social space in question and are involved in the same conflicts as the others. In Bourdieu's words:

The “pure” universe of the “purest” science is a social field like any other, with its relations of power and monopolies, its struggles and strategies, its interests and profits, but where all these invariants take on specific forms (BOURDIEU, 1983, p. 122).

The scientific field is marked by the struggles of agents who belong to the scientific community. This stems from the power relations for the monopoly of scientific capital, which

in this field is expressed in being able to define what is or is not relevant to science or even to define what is scientific.

Scientific capital, therefore, is important for the constitution of social relations within the scientific field, since it is what agents intend to conquer in their struggles with other agents. Thus, individuals who get more capital gain more and more prestige, fame and status within the specific field in which they are inserted and in this case in the scientific field.

Thus, the Theory of the Scientific Field is important for the debate about scientific knowledge, as it shows that science cannot be seen only as a pile of purely technical decisions and, consequently, enjoys a certain amount of epistemological neutrality. However, it is possible to look at science as a field that is permeated by various power games and, therefore, it is not plausible that it is neutral. The actors within this particular field, similarly to what happens in the others, in order to achieve the legitimacy of their peers, submit to the rules of the field, and seek the conquest of scientific capital, which brings the possibility for these scientific actors to define what is or is not science.

Empirical program of relativism and the theory of expertise

Harry Collins, influenced by the new sociology of science, which was born with the contributions of the *Programa Forte* (Strong Program), created by David Bloor, distanced himself from the old propositions defended by Robert K. Merton - just as Pierre Bourdieu also distanced himself with his TCC - and sought the strength of the Social Studies of Science and Technology (*Estudos Sociais da Ciência e Tecnologia* - ESCT) to bring a new contribution to the debate about scientific knowledge.

Harry Collins' distancing comes from the development of what he called the Empirical Program of Relativism (*Programa Empírico do Relativismo* - EPOR), which recognizes Bloor's contributions to the creation of the strong program, but seeks to rely on indefectible empirical observations to support his contestations.

The Edinburgh School (another name given to the enterprise of Bloor and his followers) has a great influence on EPOR, but this approach to the sociology of science formulated by Collins and some other contributors such as Trevor Pinchse and Robert Evas, among others, has followed paths other than those trodden by the Edinburgh sociologists. Collins' newest contribution with the help of Evans is the idea of analysis of expertise, which, for them, this type of study constitutes the third phase of the study of ESCT.

Harry Collins conceives ESCT from a historical scale of his own. For him there are three waves of ESCT. These waves differ in their purpose of study, and are headed by different statements about what is important for understanding scientific knowledge or even what science is (PREMEBIDA, NEVES, DUARTE, 2015, p. 19 to 21).

The first wave is marked by the perception that science could provide answers to all human ills and this would be achieved through the scientific method. In this way, the success

of science was undeniable and scientists and technologists held all the authority in matters related to science and technology issues. Science, therefore, was seen from an externalist perspective and the disciplines that studied science should only explain the success of the scientific method and also understand how to maintain this success.

The second wave begins in the 1960s and is seen as a reaction to the first. In the second phase of ESCT, scientific and technological knowledge is perceived as a type of social construction and according to Collins and Evans “the foundations for its epistemological privilege (of science) were questioned and destroyed” (COLLINS E EVANS, 2010, p. 218).

The third wave of ESCT is marked by Expertise and Experience Studies (COLLINS, 2008), these investigations begin in 2002 with the topics that Collins and Evans later gathered in their book “Rethinking Expertise”. According to Collins, he realized that it was necessary to make a sociology of expertise, because the work of the second wave, of which his first contributions are a part, showed the discrepancy between the canon of science and practice itself. This extrapolated to a public distrust of the pretensions of progress of science in various fields.

In this sense, he begins to worry about who the experts really are who know what they are talking about in a scientific discussion, even if they are not necessarily right, to the detriment of analyzing science as a sanctuary of truths. The analysis of expertise is the main difference between the third wave and the others, as he puts it:

What is different here, compared to the debates about the foundations of knowledge that took place before the “sociological turn” in science studies, is that we try to shift the focus of the discussion, similar to epistemology, from truth to expertise and experience (COLLINS, 2007, p. 236).

The need to look at expertise was born with what Collins and Evans call the “Legitimation Problem”, which arose in the second wave, and for them that problem is basically that “the public has a political right to contribute, and without their input, there will be distrust and perhaps resistance to technological developments” (COLLINS and EVANS, 2010, p. 171).

The boundaries to delimit the legitimate contribution of the general public and the technical part in technical debates on scientific issues is configured in the “Problem of Extension” and this is how Collins proposes his sociology of expertise to identify who are the smart people who are speaking and, consequently, to be able to see the boundaries between them and civil society, and in this way observe how each part can contribute to the scientific debate.

Expertise is based on tacit knowledge, for Collins the main form of knowledge is based on the tacit dimension (SCHATZKI, 2005, p. 115 to 128), this idea comes from Michael Polanyi (2020), but he uses it to support his analysis of expertise. Tacit knowledge is a type of

knowledge that cannot be taught and is passed on through experience. In this context, socialization takes on an expressive dimension for the acquisition of knowledge, in his words “the acquisition of expertise is, therefore, a social process - a matter of socialization within the practices of a group of experts” (SCHATZKI, 2007, p. 4).

In this type of approach, the notion of expertise is taken as a real and substantive possession that takes into account the association of individuals in expert groups. This association is fundamental and establishes the learning of certain expertise, or also forgetfulness, if individuals spend a certain time away from these respective groups that hold the expertise.

Therefore, for Collins and Evans, for the expert to acquire a certain expertise takes time and requires a lot of effort from that particular expert. Another type of approach is relational, which differs from the one mentioned here, as it roughly understands expertise only as an attribution given by a certain group and, in this sense, does not believe that expertise exists substantially.

To assist in the analysis of expertise, Collins and Evans created a periodic table of expertise (idem, 2007, p. 21). This table is responsible for organizing the types of tacit knowledge developed through practice. There are ubiquitous expertise and also specialized tacit knowledge and each one has its divisions within this table.

The penultimate line of the periodic table of expertise is metaexpertise and is directly linked to the ability to judge. The last row of the table are raised criteria that people outside the group can use to evaluate the experts against each other.

In this sense, the analysis of expertise, through the periodic table of expertise, makes it possible to show that not all people have the same type of expertise, and that these different types of knowledge can be taken into account in a scientific debate, in which experts and civil society are involved to decide what contribution experts and non-specialists can bring to the scientific debate. In this way, Collins emphasizes the importance of analyzing the expertise involved in the process of becoming an expert.

Final Considerations

The sociology of science is present in several contemporary debates, because after overcoming the view of science as a privileged method of knowledge of reality, civil society presented a constant distrust in relation to the pretensions of progress of science in fields such as biology, immunology, new agricultural practices and their inherent risks, among other issues. Thus, the demand for public participation in scientific debates is increasingly constant.

In this sense, Pierre Bourdieu's theory of the scientific field has a very accurate view because it ratifies the idea that science is not neutral, since he shows science as one more field that constitutes reality, and this scientific field is subject to internal struggles for the search for

scientific capital. Harry Collins also starts from bases similar to Bourdieu's, as he does not believe in science as a sanctuary that provides truths and, therefore, proposes to break with these analyses and study the expertise of individuals within certain social groups.

In this way, starting from Bourdieu's idea of the scientific field, it is possible to analyze the struggles and clashes of the actors within this particular field. However, Collins also stresses the need to delineate the boundaries between experts and civil society. Therefore, for the creator of the Empirical Program of Relativism, it is necessary to understand the contribution of the scientific field and also of the political field in scientific debates, given that, in contemporary times, there is an intertwining of these two fields in debates of this nature.

In this context, Collins' contribution makes it possible to go beyond Bourdieu and show the correspondence between discourses and practices between actors and institutions from one (scientific) to another (political) field.

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