ROCZNIKI NAUK SPOŁECZNYCH
Tom 6(42), numer 4 – 2014

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BETWEEN KNOWLEDGE AND POLICY MAKING INNOVATION STUDIES IN THE PERSPECTIVE OF CONSTRUCTIVIST MODEL OF EPISTEMOLOGY

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A b s t r a c t. The genesis of the development of reflection about innovation is history entangled in the game played by international organizations in order to maintain the dominant position of economically and politically privileged groups. The aim of the article is to prove that the concept of innovation studies was designed as the tool for the legitimization of the neo-liberal economic and science policy in developed and developing countries after the Second World War. The analysis consists of two stages: an attempt to reconstruct the mode of thinking about innovation and the identification of the basic thought constraint mechanisms functioning in the field of innovation studies. The article is therefore an attempt to answer the questions of why and how certain groups of researchers are able to construct knowledge perceived by the society as objective and what role the institutions of power play in these processes. Thus, the reconstruction of the object of scientific knowledge is not only the reproduction of a reflective epistemological process, but to understand the scientific fact it is necessary to try to identify what actually constitutes science despite representing an area external to it.

Key words: innovation, innovation studies, social constructivism, epistemic communities, rhetoric, commercialization.

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INTRODUCTION

Over the last few decades, innovation has become one of the most popular attributes of the contemporary society. This idea functions in the public opinion as the panacea for all problems appearing in different social systems. Innovation also occurs in scientific discourse. However, the concept of innovation, conceptualized in the form of innovation studies, is as popular as it is vague. The ambiguity and indefiniteness of this idea puts into doubt its epistemic and heuristic usefulness, drawing the attention of the researcher to something else than scientific issues associated with its functioning.

The intention of the following article is to prove that the concept of innovation studies has been constructed as the tool for the legitimization of the neo-liberal economic and science policy in developed and developing countries after World War II. The undertaken analysis involves two stages. The first one is an attempt of reconstruction of the origin of the innovation thought. Overbearing situations which influenced the constitution of innovation studies will be indicated. Next, the basic mechanisms of the thought constraint functioning in the area innovation studies will be identified. Thus, the article is also an attempt to answer the questions of why and how certain groups of researchers are able to construct knowledge perceived by the society as objective and what role the institutions of power play in these processes.

I. THEORETICAL DECISIONS

The constructivist model of cognition is the method of analysis adopted in the article. Quoting A. Zybertowicz: "[…] what we notice as reality is constituted (or constructed) as the part of culturally regulated social practices, also cognitive ones, and the truth of our beliefs depends on the social context they act with"[1]. The following factors are examined: "circumstances, mechanisms or the social structures acting in the processes of converting interpretation into facts. One is searching for the answer to a question: what role in

[1] A. ZYBERTOWICZ, *Przemoc i poznanie. Studium z nie-klasycznej socjologii wiedzy*, Toruń: Nicolaus Copernicus University Press 1995, p. 59.

these processes play institutions of the power and money, authority, reputation of researchers, negotiating, convention, persuasion, rhetorical devices (e.g. aesthetics of metaphors, resonance with tacit knowledge) or − last but not least − violence"[2].

According to this concept, to explain a scientific fact is to learn the mechanisms of its social construction. Knowledge, also scientific, comes into existence in the area of human relationships and is the result of social interactions. These relations are culturally regulated. Hence the features of the community in which knowledge is created and functions, (co-)explain its character. It is so because only the statements that are in conformity with socially accepted conceptual schemata applicable in a given time in a particular, culturally defined area are regarded as true. The academic cognition is not always ultimate and knowledge is not independent from the social structure but it promotes the interests of the group whose position determines the cognitive outlines dominating within it. So the basis of social legitimization of the "truthfulness" of beliefs is violence, which settles conflicts among different cognitive perspectives of the society. One of such mechanisms is the situation in which a individual or a group is not able to oppose to certain circumstances and when there is no option to choose − the situation defined by Zybertowicz as the overbearing situation[3]. Physical strength does not have to be involved in such situations. What is more, "the concept of overbearing situation does not require a personal cause or a deliberately designed institution at its origin". This situation can be a coincidence of certain historical events which happened as the result of thoughtless or even accidental circumstances. Overbearing situations are of paramount importance in the cognitive process. In fact, they constitute the thought style understood by L. Fleck as "a specific thought constraint, even more: it is a comprehensive intellectual readiness, preparedness for a certain – and no other – vision and action. The dependence of a scientific fact on the style of the thought is undeniable"[4]. Therefore, the reconstruction of the theory conceptualized by the given epistemic community requires the identification of the overbearing situations which influenced the style of thought according to the principles which will later influenced the characteristics of scientific cognition of a gi-

[2] Ibidem, p. 62.

[3] Ibidem, pp. 49-51.

[4] L. FLECK, *Powstanie i rozwój faktu naukowego. Wprowadzenie do nauki o stylu myślowym i kolektywie myślowym*, Lublin: Wydawnictwo Lubelskie 1986, p. 94. Cited by: ZYBERTOWICZ, *Przemoc i poznanie*, p. 53.

ven cultural reality. Quoting F. Znaniecki, "this norm of thought imposes on the subject that acknowledged it a specific selection and organization of some elements of their experience which thus acquire the character of objects of cognition"[5].

II. INNOVATION − OVERBEARING SITUATIONS

1. The history of the innovation in political and religion discourse

Contrary to the popular view, the innovation is not a new idea. Its origin dates back to antiquity. For over 2,500 years, innovation was perceived and understood pejoratively as changes to the natural – religious and political – order[6]. Under the laws of the Middle Ages, any attempt to undermine the monarchical status quo was strictly forbidden and severely punished[7]. Religious norms also forbade any innovations, recognizing them as heresies. During the Renaissance, the word innovator appeared in political and satirical literature, e.g. in pamphlets, as a critical term for the opponents of the author[8]. This expression was used as a figure of speech being a synonym of dishonour and condemnation. Parallel to this, the concept of innovation in political discourse was discussed. Despite the agreement as to the lexical meaning of the category, there was no agreement in what innovation is in the political reality. However, the dominant attitude was disapproval towards changes, which "could destroy or replace the monarchical rule"[9].

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[5] F. ZNANIECKI, *Społeczna rola uczonego*, in: F. ZNANIECKI, *Społeczne role uczonych*, Warsaw: Polish Scientific Publishers 1984, p. 288.

[6] Such perception of innovation can be found among others in: *the Republic* by Plato and *the Politics* by Aristotle. See: PLATO, *Państwo*, trans. W. Witwicki, Warsaw: Akme 1991; ARISTOTLE, *Politics*, trans. L. Piotrowicz, Cracow: Polish Scientific Publishers 1964.

[7] B. GODIN, *Innovation after the French Revolution, or, Innovation Transformed: From Word to Concept*, Project on the Intellectual History of Innovation, Working Paper No. 14/2013, p. 15. Article available online: http://www.csiic.ca/PDF/WP14France.pdf [10.08.2014].

[8] See: D. DIDEROT, *Political Writings*, J.H. MASON, R. WOKLER (eds.), Cambridge: Cambridge University Press 1992.

[9] J.M. PRUDHOMME, *Résumé général, ou Extraits des Cahier de Pouvoirs, Instructions, Demandes et Doléances, remis par les divers Baillages, Sénéchaussées et pays d'Etats du Royaume, à leurs Députés à l'Assemblée des Etats-Généraux, ouverts à Versailles, le 4 mai*

As a result of the development of material culture and in view of the strong, pejorative context of the term innovation, in the 14th century the word invention started to be used to refer to discovering and doing something new. Over time, the meanings of the two terms – discovery (something that already exists) and invention (the creation of a new subject or method) – separated. Gradually, the mechanical specificity dominated the category of invention. This process was determined by the institutionalization of the technology development in the form of privileges and patents at the turn of the 15th century. The patent system explicitly determined that an invention had to be not only something new, but also useful. What is more, patents, as the source of the development of the local economy, were assigned not to authors of the discovery but to its users[10]. This way, the patent system became an institutionalized mechanism to decide what an invention is and who owns it.

2. The history of innovation in scientific discourse

Until the 18th century, the category of innovation operated without an explicit referent and remained outside the scientific discussion. Before this period, this category was not used and the very idea of scientific creativity was rejected as too esoteric and leading to errors in the rational scientific order. In fact, the conceptual and axiological change of the term was, therefore, determined by the nature of non-scientific transformations, mainly political and economic ones[11].

Gradually, from the 16th century, the idea of newness was gaining the features of the positive cultural value[12]. 'New'[13] and 'revolution'[14]

1789, *Société des gens de lettres, tome premier*, Paris: L'Editeur 1789. Cited by: GODIN, *Innovation after the French Revolution*, p. 12.

[10] C. MACLEOD, *Inventing the Industrial Revolution: the English Patent System, 1660-1800*, Cambridge: Cambridge University Press 1988, p. 12.

[11] See: T. BALL, J.G.A. POCOCK (eds.), *Conceptual Change and the Constitution*, Lawrence: University Press of Cansas 1988.

[12] B. GODIN, *Innovation: the History of a Category*. Project on the Intellectual History of Innovation, Working Paper No. 1/2008. Article available online: http:@//www.csiic.ca/PDF/Intellectual No. 1.pdf [16.08.2014], pp. 13-14.

[13] L. THORNDIKE, *Newness and Novelty in the Seventeenth-Century Science and Medicine*, in: *Roots of Scientific Thought: A Cultural Perspective*, P.P. WIENER, A. NALANDS (eds.), New York: Basic Books 1957, pp. 443-457.

[14] See: I.B. COHEN, *Revolution in the Science*, Cambridge: Belknap Press 1985.

were the terms specific to the 17th-century scientific literature[15], and at the turn of the 19th century, the idea of change became dominant in many scientific discourses, including sociology (A. Comte, H. Spencer) and history (A. Ferguson). In political writing, authors started to use this category with reference to political transformations which took place after 1789. The term described the new legal new solutions implemented then. The accelerator of further alterations of the category was the Industrial Revolution initiated in the 18th century. At that moment, the idea of progress was the most essential context for the development of scientific and political thought[16]. Since the turn of the 19th century, innovation became much closer to the idea of progress, and further from destruction. Gradually, it started to be understood not as a threat to the status quo based on tradition, but as a useful project for the future.

Positivism had fundamental influence on the forming of the scientific thought of innovation. In the middle of the 19th century, the category of innovation started to be used with reference to the groundbreaking research methods applied in the area of so-called "socially useful knowledge", that is natural and technical science. The attribute of innovation emphasized the revealing character of the method. Innovation was therefore the term used to describe new methodological, not technological, solutions, for which the term invention was used. During that time, the theorem about the object of cognition in the form of objects of nature was also formed, and the methods related to natural science were considered to be the only applicable ones in the process of scientific cognition. At the same time, the formulation of hypotheses was seen as an activity dependent on the imagination of the individual, and thus being the source of errors in a rational scientific order. A hypothesis must be subject to strict control of the research method, otherwise "it leads to excesses, delusions and distortions, or [can be applied as a tool of] rhetoric and eloquence"[17]. In the scientific discourse, metaphysics was marginalized as speculative and not objective knowledge, and the process of limiting scientific interests to empirical facts began. The innovative methods only

[15] For example, F. Bacon in his *Novum Organum* comments highly positive on the new, mainly experimental, methods of scientific cognition. At the same time, he is very critical of the concept of innovation. See: F. BACON, *Novum Organum*, trans. J. Wikarjak, Warsaw: Polish Scientific Publishers 1955.

[16] See: D.C. COLEMAN, *Myth, History and the Industrial Revolution*, London: Hambledon Press 1992.

[17] GODIN, *Innovation: the History of a Category*, p. 16.

served to "to break the old habits but also to constitute the new practices and affairs related with them"[18].

In such circumstances, along to innovation understood as crucial research methods, emerged the concept of innovation referred to as invention and understood as progress manifested with the improvement in the material standard of living[19]. As a result, the genealogy of the thought of innovation in scientific discourse is the history of subordinating critical humanistic reflection to the principles of instrumental rationality. "Coupling the style of cognition typical of modern science with deep (culturally, economically and militarily overbearing) processes of institutional transformations drove the space for the construction of alternative images of world outside the mainstream of human cultures. In other words, certain – unnecessary – images of the world linked to specific forms of the social order got the better of knowledge and social institutions organized on different principles"[20].

The first overbearing situation in the development of thought of innovation was the strong, pejorative and cultural – religious and political – context of the innovation. Innovation as the announcement of what is new was excluded from both the conservative view of the world represented for centuries in the Catholic religion and in monarchical rule. As a result, the category of the innovation did not appear in the scientific discourse. Another overbearing situation appeared at the turn of the 15th century and was connected with the institutionalization of the development of technology in the form of privileges and patents.

The process of objectification of invention proceeded. Invention, which had before been attributed to human genius and creativity, began to be used mainly in relation to technical inventions. This process occurred in the context of material culture development, which started in the Renaissance era[21]. The dynamics of transformations initiated by the development of modern culture radically changed the direction of the development of the thought of innovation. In the 18th and 19th centuries, the overbearing

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[18] ZYBERTOWICZ, *Przemoc i poznanie*, p. 266.

[19] In the second half of the19th century, during the popularity of socialism, social innovation trend has become particularly attractive. In the contemporary French literature, the project of social reforms was considered innovative because of its unique, as it was then assumed, benefits for citizens. See: GODIN, *Innovation: the History of a Category*, pp. 18-22.

[20] ZYBERTOWICZ, *Przemoc i poznanie*, p. 333.

[21] See: H.J. COOK, *Matters of Exchange: Commerce, Medicine, and Science in the Dutch Golden Age*, New Haven: Yale University Press 2007.

situations intensified. As a result, the style of thought of innovation was constructed according to the principles representing the model of cognition typical of the modern science, in which the instrumental rationality determines both the subject of research and the scientific attitude towards it. "The process of creating instrumental knowledge (not just the output of abstract scientific theories) implies experimenting, or even partial, practical manipulation with objects which are of interest. Knowledge offered by science received the status of objective knowledge insofar as it enables (even indirectly) the effective manipulation of ... parts of the world perceived as external reality"[22]. The idea of change then became a highly valued cultural value both in the political system (the French Revolution), economic system (industrial revolution) and scientific system (positivism). Change became a socially useful solution, for which a conscious (in accordance with the contemporary perception) human being was responsible, not God, nature or the so-called historical necessity[23].

The first scientific reflections concerning the issue of change understood this way appeared in the second half of the 19th century, mainly in sociology and anthropology. In this field, the precursor G. Tarde, the author of the theory of imitation, sought to elucidate the mechanisms of social change, which he referred to with terms such as inventiveness, innovation, discovery. According to him, the development is the result of the actions of individuals "endowed with a sense of initiative and inventiveness"[24]. The issue of social change was also taken in anthropology, in which at the turn of the century there was a conflict between the idea of invention and imitation as the stages of social development[25]. The controversy of diffusion was overcome with the idea of acculturation, which assumed that diffusion is an innovative adaptation. On the basis of this assumption and ethnological studies conducted in ethnic and religious groups, H.G. Barnett developed a comprehensive concept of innovation which is defined as "any thought, behaviour or thing

[22] ZYBERTOWICZ, *Przemoc i poznanie*, p. 266.

[23] GODIN, *Innovation After the French Revolution*, p. 19.

[24] J. SZACKI, *Historia myśli socjologicznej*, Warsaw: Polish Scientific Publishers 2002, pp. 330-331.

[25] According to evolutionists, inventions occur independently of each other in different cultures. In the opinion of diffusionists, culture is derived from a single center, but is spread through migration, borrowings and invasion. See: G.E. SMITH, et. al., *Culture: the Diffusion Controversy*, New York: Norton and Co. 1927.

that is new because it is qualitatively different from existing forms"[26]. Barnett's theory was an attempt to break the idea of technological innovation, dominant in scientific discourse, but it was not continued.

Tarde's thought is further developed in a concept by American sociologists, W.F. Ogburn and S.C. Gilfillan. Gilfillan emphasized the social determinants of the process of invention. According to him, although an invention could not appear without an inventor, not only inventors are responsible for their own inventions[27], because social-demographic factors, e.g. race, also influence it. Invention is a social process also with reference to the cumulative aspect of knowledge, since many inventions are not merely single flashes of genius but result from long processes of accumulation of experience. Rejecting evolutionary concepts, Ogburn assumed that one ought to seek sources of the social change in inventions. "Invention is the evidence of change. If there are few inventions, there are few changes"[28] – he claimed. Thus, according to him, social development is a result of lasting of the existing cultural forms and the appearance of new ones, which he called material culture. At the same time, Ogburn noticed the deficit of sociological reflection on technology. "Technology has possible contributions to sociology on a plane quite comparable with those of geography, biology, and psychology. [However] there have been no sociologists who based sociology on technology"[29]. Being under the influence of the theory describing the sudden development of material culture drawn up by H. Hart[30], Ogburn elaborated on the concept of the so-called "cultural gap", assuming the occurrence of an increasing distance between the material culture, which he reduced to technology, and adaptive culture. Since this dissonance created the pressure of making up for backwardness, Ogburn called for national regulation of the material culture[31]. In the future, the concept of the cultural gap would be adapted by

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[26] H.G. BARNETT, *Innovation: the Basis of Cultural Change*, New York: McGraw Hill 1953, p. 7. Cited by: GODIN, *Innovation: the History of a Category*, p. 26.

[27] S.C. GILFILLAN, *The Sociology of Invention*, Cambridge: MIT Press 1935, p. 78. Cited by: GODIN, *Innovation: the History of a Category*, p. 29.

[28] W.F. OGBURN, M.F. NIMKOFF, *Sociology*, Cambridge: Riverside Press 1940, p. 815. Cited by: B. Godin, *Innovation Without the Word: William F. Ogburn's Contribution to Technological Innovation Studies*, Project on the Intellectual History of Innovation, Working Paper No. 5/2010, p. 11. Article available online: http://www.csiic.ca/PDF/IntellectualNo5.pdf [10.09.2014].

[29] Ibidem, p. 8.

[30] See: H. HART, *The Technique of Social Progress*, New York: Henry Holt and Co. 1931.

[31] GODIN, *Innovation: the History of a Category*, p. 29.

economists as the time gap, meaning the period between making the invention and its commercialization. Economists accepted the fact that from the implementation of technological inventiveness to its social adaptation, understood by them as commercialization, a period of time must pass the length of which it is impossible to estimate. This claim has become one of the most frequently mentioned methodological difficulties in evaluation studies of the social consequences of innovation[32].

As a result of Ogburn's public activity[33], his concept was continued in the public discourse. In the report *Recent Social Trends* that he edited, he suggested "slowing the pace of change that occur too rapidly and speeding up the changes which lag"[34]. For Ogburn, the presence of cultural gaps was a stimulus to plan the technological change control process. However, his recommendations were not continued in government policy. Despite this failure, the issue of social change determined by the innovation defined the future direction of Ogburn's research interests. He still clearly demanded to conduct government-financed research in order to recognize other than just technological innovation effects. In his subsequent works he documented the impact of aviation on social change[35], and the impact of technological innovation on international political relations[36], the city[37] and the family[38]. According to Ogburn, "in the past in many important cases the change occurred first in the technology, which changed the economic institutions, which in turn changed the social and governmental organizations, which finally changed the social beliefs and philosophies"[39].

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[32] B. GODIN, *Innovation Without the Word: William F. Ogburn's Contribution*, pp. 28-30.

[33] In the years 1929-1932, W.F. Ogburn conducted the study organized by President's Research Committee on Social Trends, an institution founded by President H. Hoover in 1929. From 1934 Ogburn was also the member of the National Resources Committee.

[34] US President's Research Committee on Social Trends, *Recent Social Trends in the United States*, New York: Mc-Graw Hill 1933, p. XV. The text of the report is available online: http://archive.org/stream/recentsocialtren01unitrich/recentsocialtren01unitrich_djvu.txt [21.11.2014].

[35] See: W.F. OGBURN, *On Predicting the Future*, in: *The Social Effects of Aviation*, W.F. OGBURN, J.L. ADAMS, S.C. GILFILLAN (eds.), Boston: Houghton Mifflin 1946.

[36] See: W.F. OGBURN, *Technology and International Relations*, Chicago: Chicago University Press 1949.

[37] See: W.F. OGBURN, *Inventions of Local Transportations and the Patterns of the City*, "Social Forces" 4/1946, pp. 373-379.

[38] See: W.F. OGBURN, M.F. NIMKOFF, *Technology and the Changing Family*, Cambridge: Riverside Press 1955.

[39] W.F. OGBURN, *The Influence of Inventions on American Social Institutions in the Futu-*

Although Ogburn tackled many issues, what the future innovation studies would consider as his contribution to the literature of the subject was only the concept of cultural gap and the methodological postulates of empirical research derived from it. Ogburn's thought does not occur in the history of institutionalization of technological innovations, which since the 1930s have been the subject of the USA public policy.

In the circumstances of the Great Depression in the United States there was increased interest among economists in the issue of technological change, and the direction of research concerning the productivity of technology developed. The precursor of these concepts was W.R. Maclaurin – an economic historian continuing the thought of Ogburn. The author of *Invention and Innovation in the Radio Industry* was the first to recognize technological change as a subject of economics research. As a result of studies conducted on Massachusetts Institute Technology, Maclaurin claimed that technological change was defined not only by the usage of a technological process in the manufacture of goods, but also by the invention and the commercialization of products. It is him who defined technological innovation as a commercial product. Hence, Maclaurin is regarded as the father of the research on technological innovations in economics literature. Still, his name cannot be found in innovation studies. As the secretary of the Science Committee and Public Welfare, one from four assisting V. Bush in drawing the report up *The Endless Frontier*, Maclaurin influenced the final wording of the document in which he recommended that the government should finance basic research recognized as the primary source of social progress: "the further progress of industrial development would eventually stagnate if basic research were long neglected. … Basic research … creates the fund from which the practical applications of knowledge must be drawn. New products and new processes do not appear full-grown. They are founded on new principles and new conceptions, which in turn are painstakingly develop by research in the purest realms of science. Today it is truer than ever that basic research is the peacemaker of technological progress"[40]. However, in the face of numerous at-

re, "American Journal of Sociology" 3/1937, pp. 365-376. Cited by: GODIN, *Innovation Without the Word: William F. Ogburn's Contribution*, p. 29.

[40] B. GODIN, *The Linear Model of Innovation: the Historical Construction of an Analytical Framework*, Project on the History and Sociology of S&T Statistics, Working Paper No. 30/2005, p. 12. Article available online: http://88.167.97.19/temp/The%20Linear%20Model-%20of%20Innovation.%20The%20Historical%20Construction%20of%20an%20Analytical%20Framework_Godin_30.pdf [12.11.2014].

tempts to construct tools for the measurement of the influence of technology on industrial productivity, made by economists, this demand was marginalized. Soon, the productive function of technology started to be interpreted as representing the whole of technological changes, and the research and developmental activity started to be correlated with means of productivity measurement[41]. In such circumstances innovation was interpreted as a tool generating profit in the industry sector, and the scientific and technological productivity proved with the number of discoveries and inventions made in laboratories became a separate subject: research and development studies. At the same time, the most important assumptions of Maclaurin's concept were attributed to the editor of the report, V. Bush. Maclaurin, whose academic achievements were not very popular with the public, committed a suicide[42].

In Europe, Maclaurin's theory was continued by a British economist Ch. Freeman. On his initiative, in 1966, a Science Policy Research Unit was formed at the University of Sussex. It was an institute specializing in the study of science, technology and innovation. At the beginning of his research career, Freeman focused on the factors of commercialization of technological innovations in companies. However, upon the accession to the OECD the context of his research expanded by the state perspective. Freeman's scientific activity was determined by goal represented by that organization. In the current political and economic discourse it was considered that technological innovations were the source of economic competitiveness of countries. In the OECD, there was a very strong demand for empirical data supporting the view that the source of the economic dominance of the United States is an effective innovation policy, which was not implemented in Europe. Innovation studies were therefore "part of the rhetoric for convincing European government to set up science policies and increase R&D investments"[43]. Even at the first ministerial meeting of the OECD, in 1963, the demand for intensification of the organization's work on the role of science in the economy was very clear. The demand initiated sectoral studies conducted in the

[41] GODIN, *Innovation: the History of a Category*, p. 34.

[42] B. GODIN, *Innovation: an Old Word for a New World, or, The De-Contestation of a Political and Contested Concept*, Project on the Intellectual History of Innovation, Working Paper No. 9/2011, p. 31. Article available online: http://www.csiic.ca/PDF/Old-New.pdf [12.11.2014].

[43] B. GODIN, *The Rise of Innovation Surveys: Measuring a Fuzzy Concept*, Project on the History and Sociology of STI Statistics, Working Paper No. 16/2002, p. 24. Article available online: http://www.csiic.ca/PDF/Godin_16.pdf [26.11.2014].

areas of science considered to be essential for the economic development of countries (e.g. the extraction of raw materials, chemistry, or automation)[44]. In 1967, a report was also published of the first government study on technological innovation in the United States. Established in 1950, the National Science Fund conducted a study on the level of innovation of companies, in order to "provide empirical knowledge about the factors that stimulate or advance the application in the civilian economy of scientific and technological findings"[45]. It was assumed that the indicator of innovation is the expenditure incurred by a company for research and development. However, the results clearly showed that the value of these costs did not significantly affect the innovative activity of enterprises. Nonetheless, in the report *Gaps in Technology* issued by the OECD in 1969, comparative results of the measurement of innovation in the US and Europe were presented in a way that justified the idea of innovation as the driving force behind the development of a competitive economy[46]. Consequently, as a result of the activities of the OECD, in the 60s and 70s, the concept of innovation as a commercialized technological solution was popularized and Freeman was the first scientist to explicitly formulate the thesis of the direct impact of technological innovation, not on the market environment, but on the state itself.

3. The exclusion of humanities − overbearing situations

In conclusion, the overbearing situation which defined the rules of innovation studies construction was technological progress. At the turn of the 20th century, a certain intensification took place, mainly in the area of new production methods, accelerated with the Industrial Revolution, and technical development. At the same time, economists' interest in the issue of technological change was growing, mainly concerning the aspect of its productivity.

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[44] Ibidem, pp. 12-13.

[45] S. MYERS, D.G. MARQUIS, *Successful Industrial Innovation: a Study of Factors Underlying Innovation in Selected Firms*, Washington: National Science Fund 1969, p. ii. Cited by: GODIN, *The Rise of Innovation Surveys*, p. 24.

[46] The report was based on existing data collected by the OECD mainly from sectorial analysis and government materials. The study involved two aspects of innovation: the commercialization of new technologies and the level of their usage (diffusion). The study included 140 innovations produced after 1945 in the metal, electrical and chemical industries. Approx. 60% of 140 innovations analyzed was developed and implemented in the United States. See: OECD, *Gaps in Technology*, Paris: OECD 1968.

Technology became an object of scientific reflection, but subordinated to the principles of instrumental rationality, because in scientific discourse issues not directly related to the process of generating profits by the industrial sector were marginalized. Sociological and psychological analyses concerning the determinants of inventions and the social effects of technological development were actually treated as the side effect of this progress. They were accepted, both in the scientific and the political discourse, as certain alternative definitions of the situation, but the attempts of redefinition offered by the humanities were not allowed.

Non-commercial innovations model would undoubtedly broaden the perspective of innovation studies, among others by citizens – in addition to consumers – as the users of innovation, and by governmental and non-governmental institutions – in addition to companies – as innovators. In this scenario, the role that innovation studies would ascribe to science would be fundamentally different. If we place human life and its development in the center of our study, scientific activity takes a completely different aspect[47]. However, even in the 70's, mainly due to the activity of economists D. Mowery D. and N. Rosenberg[48], the social attribute was excluded from innovative thinking, as not referring to a specific economic context in which innovation is applicable. Necessity is "a potential market for a new product or process" – concluded Freeman[49], and "the adoption of a new idea almost always entails the sale of a new product", explained sociologist E. M. Rogers[50]. Thus, "need is the second-class object or an object of limited study among researchers to whom the main object of interest is, by definition, science and technology (as supply)"[51].

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[47] J.D. BERNAL, *The Social Function of Science*, Cambridge: MIT Press 1939, p. 345.

[48] D. MOWERY, N. ROSENBERG, *The Influence of Market Demand Upon Innovation: a Critical Review of some Recent Empirical Studies*, "Resarch Policy" 8/1979, pp. 102-153.

[49] C. FREEMAN, *The Determinants of Innovation: Market Demand, Technology and the Responses to Social Problems*, "Futures" 6/1974, p. 165.

[50] E.M. Rogers (1931-2004): American sociologist. Scientific career began as rural sociologist at Ohio State University. Later interested also in the issues of social communication. Known primarily as the author of the best-selling item in American sociology *Diffusion of Innovation* (published for the first time in 1962). He introduced the concept of the innovation diffusion and did the segmentation of innovation recipients according to the pace of adopting a new product or service. In the studies of innovation literature known as the father of the term innovation diffusion.

[51] B. GODIN, *Pushes and Pulls: The Hi(story) of the Demand Pull Model of Innovation*, Project on the Intellectual History of Innovation, Working Paper No. 13/2013, p. 33. Article available online: http://www.csiic.ca/PDF/Demand-pull.pdf [21.10.2014].

The mechanism of selective tradition thus led to the elimination of concepts alternative to the ideology represented by the OECD. This process is typical of the ongoing colonization of social life by instrumental rationality. Subsequent overbearing situations had an impact on the growth rate of these changes. The expansion of new technologies accelerated the process of emergence and development of new market economies and the development of capitalism strengthened the processes of learning and penetrating the world by manipulating objects. "Market causes and/or speeds up the processes/phenomena such as delamination and manipulability of cultural resources and allows the repeatability/reproducibility of action structures in quite precise conditions. In other words: it creates the conditions – here called the cultural space – in which the (research) word may materialize (as practical interests); it enables the implementation of the Condition of Incarnation. Market rules of the cultural game displace, through the process of commodification of another geographical areas of cultures and areas of social life, other versions of cultural games; they create institutionally rooted overbearing situations where only some types of cognitive strategies can be developed, and in which there is only space for certain types of definitions of situations"[52]. Those institutionally rooted overbearing situations also include the development of international economic relations after World War II, manifested by the formation of organizations, which in the future would become a milestone in the process of economic globalization. As a result of market values hegemony, values and principles of a state organization were transformed. The economic development of a state which as the result of membership in international organizations operates according to the principles of limited sovereignty, became a fundamental attribute of public policy. This is another very important overbearing situation. The most important element of economic power is transnational capital that does not conform to the requirements of the existing law, but forces its adaptation to its own purposes. Consequently, political norms which for centuries strengthened the pejorative concept of innovation now legitimize it as the fundamental determinant of economic development, and social progress acknowledged in the 18th century as the goal of innovation is now determined only by the criterion of profit. Therefore, what used to be social has become economic, with all the consequences resulting from this assumption.

[52] ZYBERTOWICZ, *Przemoc i poznanie*, p. 333.

III. INNOVATION STUDIES – THE STYLE OF THOUGHT

1. Liberal and capitalist rhetoric

The colonization of social life is a factor with fundamental influence on constituting the contemporary thought of innovation through the liberal capitalist ideology. In this process, rules according to which the market functions perform the role of the criterion decisive for the legitimacy of cognitive schemes and the definitions of situations available within the cultural given area. Thus, the properties of innovation studies are constructed according to the rhetoric in which instrumental rationality serves as a rule determining the limits and methods of cognition. This rationality deprecates the threads concerning axiological aspects of phenomena by their marginalization or constructing statements assumed a priori and not verified. A French philosopher and historian of science G. Canguilh regards such concepts as a scientific ideology which he understands as a discourse as part of which, as a result of the pressure of pragmatic needs, theorems are formulated going beyond what is indeed proven by studies. With reference to science, such action is both arrogant and inappropriate. Arrogant, because the end of the cognitive process is assumed when research process is actually only beginning. Not appropriate, because when a scientific achievement is made, it turns out that it occurred in a place other than it was shown by the ideology and it was achieved by the application of means other than those provided by the ideology[53]. Therefore, the lack of criticism is another feature of liberal capitalist rhetoric. Within the limits of this discourse, there are no mechanisms developed of reflexive self-correction. However, there is a strong selective tradition which excludes any activities that attempt to reconstruct the dominating style of thought. So capitalist rhetoric has the dominant position towards other world views. As a consequence, this hegemony leads to concentration of power in the hands of a smaller and smaller group of economically privileged people and to the emergence of a bigger and bigger group of those who perform their social roles according to the principles of instrumental rationality. Since definitions of the situation adopted by these individuals less and less often refer to axiological decisions, this structuralization occurs irrespective of

[53] G. CANGUILH, *Ideology and Rationality in the History of Science*, Cambridge: The MIT Press 1988, pp. 57-58.

cultural (religious or ethnic) diversities, and is manifested among others with progressing anomie[54] and globalization processes. With reference to science, the hegemony of capitalist rhetoric is manifested with the marginalization of the humanistic perspective: because scientific cognitive effort makes sense only if it is oriented at the economization of social life according to the profit maximization principle. The price of social productivity increase is not within the viewpoint of free market rhetoric and is not an object of its analyses. Economization, and as a consequence, dehumanization, are the next properties of the liberal norm of thinking. This feature is manifested with a certain compulsory mechanism, according to which a human being, irrespective of the current social role, is first of all a consumer. Consumption, that is, purchasing values and goods determined by the supplier or the producer, is becoming the basic mechanism of social cognition. An individual less and less often participates in the process of constructing the definition of the situation, and more often makes a choice out of the options offered by the commercialized social reality. As a result, the educational process involves the reduction of a human being to one that is educated, but is he or she wise? In the economic system the dominant attitude is that of an active individual, but is he or she conscious? Finally, in science, theories are produced at the order of particular interest groups, both parasitic and developmental ones. However, progress is defined from the perspective of economic technological advance only, and its indicator is the profit of economically privileged groups (e.g. international concerns) or, more rarely, the economic progress of states.

Innovation studies constructed according to the rhetoric specified this way are supposed to provide the streamlining for the thesis promoted by the OECD that "most current social, economic and environmental challenges require creative solutions based on innovation and technological advance"[55]. In the light of such a definition of the research subject, innovation studies do not serve the cognitive function any more. It seems that what requires the

[54] Anomie is understood by S. Kozyr- Kowalski as a kind of degeneration associated with lawlessness. Kozyr-Kowalski emphasizes that Durkheim's anomie is not the same with the absence of legal regulation and moral norms resulting in the inability to adapt to new social conditions. E. Durkheim as synonymous to anomie recognizes the French term *dereglement*, which means, among other disorder, confusion, damage. See: S. KOZYR-KOWALSKI, *Uniwersytet a rynek*, Poznań: Adam Mickiewicz University Press 2005, p. 55.

[55] OECD, *Innovation and the Development Agenda*, E. KRAEMER-MBULA, W. WAMAE (eds.), Paris: OECD 2010, p. 30.

academic recognition had been already confirmed and accepted as the certainty. "Innovation as a universal, uncontested and a priori solution rather than studying the specific problems (needs) of society. Social problems are taken for granted. At best, they are studied as an afterthought to the study of innovation, and the problems studied are those that arise due to innovation: social problems as a result from a lag between innovation and society (like unemployment and skills) and the need for society to adjust to innovation"[56]. It can, therefore, be assumed that innovation studies play the performative function, because discourses of innovations create the world of innovation, in which each health, poverty or education issue requires the existence of a company, technology and market[57].

Gradually, the idea of building an innovative society was de-politicized, i.e. it was considered a national necessity, independent of changes on the geopolitical arena, and the process of scientific legitimacy of the innovation society was initiated. The high cultural status of science guaranteed the unquestionability of the theses formulated within its limits, and scientific activity was socially perceived as objective, serving the common good and not entangled in political manipulations. The scientists promoting the idea of innovation also acted as experts of international organizations and were endowed with greater social esteem than politicians. Thus they can be considered to be innovative ideologists, because, according to Q. Skinner, they questioned the existing philosophical concepts and influenced the construction of the new "world-view". From the point of view of social science every historical world-view is rooted and transmitted by striving for power and acknowledgement of a specific social group that wants to make its interpretation of the world universal"[58]. This way "innovation has become a non-controversial practice, an institutionalized signifier and an ordering and structuralizing principle of thought and action"[59]. Consequently, the de-defiance of innovation took place, and out of conditional concepts and practices it was innova-

[56] B. GODIN, *The Unintended Consequences of Innovation Studies*, Paper prepared for a communication presented at "Policy Implications due to Unintended Consequences of Innovation", Special Track at EU-SPRI, Madrid 10-12 April 2013, p. 8. The article available online: http://www.csiic.ca/PDF/UnintendedMadrid2013.pdf [21.11.2014].

[57] GODIN, *Innovation: an Old Word for a New World*, p. 37.

[58] K. MANNHEIM, *Competition as Cultural Phenomenon*, in: *Knowledge and Politics. The Sociology of Knowledge Dispute*, V. MEJA, N. STEHR (eds.), London: Routledge 1990, p. 57. Cited by: R. SOJAK, D. WINCENTY, *Zagubiona rzeczywistość. O społecznym konstruowaniu niewiedzy*, Warsaw: Oficyna Naukowa 2005, p. 71.

[59] GODIN, *Innovation: an Old Word for a New World*, p. 27.

tion that was converted into an ideology. As the system of group beliefs, it transforms certain representations into indisputable beliefs, on the basis of which particular social organizations are constructed.

2. The constitution of innovation studies

Innovation studies are one of the youngest schools representing the contemporary social science. Actually, we might say it is a reflection which "is happening" in front of our eyes. So far, the construction of research methods specific for the assumed object of analyses is still in progress. Also the literature of the subject concerning innovation studies is neither exhaustive nor critical.

The mechanisms of thought constraint functioning in innovation studies exclude sociological and psychological theories which are regarded as subordinated to economic ones. The history of innovative thought represented in innovation studies is always a story crowned with success, because these studies only construct a positive model of innovation, and researchers unconditionally assume that the adaptation of innovation is always more desirable than its rejection[60]. The genealogy of innovation is monadic history, which – contrary to fundamental principles of scientific discourse – is not a critical voice. The indisputably accepted definition assumes that innovation is a commercialized technological invention. A sociologist of knowledge, B. Godin, the coordinator of the only research project about the study of innovation carried out so far, explains such a unanimous conceptualization of innovation as follows: "In the collective imaginary, in public representations, in policy, and in social studies, innovation came spontaneously to be identified with technological innovation"[61]. Although the mechanism of "spontaneous" determination of the referent is acceptable in the colloquial discourse, it plays no role in the process of scientific theory reconstruction. It is so because meanings of terms are never the result of spontaneous actions, even though they can appear as such to individuals. In spite of this reservation, the attempts made to reconstruct the history of the development of the innovative thought only promote the technological and commercial vision of innovation. According to Godin, these activities "help to provide or to strengthen the

[60] E.M. ROGERS, *The Diffusion of Innovation*, New York: Free Press 1962, p. 142.

[61] GODIN, *Innovation: the History of a Category*, p. 46.

identity of a community of scholars around key ideas and authors and authors"[62] as well as are a proof for the scientific maturity of innovation studies manifested in its self-reflection.

The technique adopted in analyses done in order to systematize the theory of the innovation is the bibliometrical method, involving the criterion of occurrence of the entry 'technological innovation'. The subject of these studies is literature about economics and management as well as reports and documentation of national and international organizations, mainly OECD. This technological and commercial style of thought is manifested by the construction of the origin of innovation studies from the surname of the economist J.A. Schumpeter, with the total disregard of the achievements of the sociologist W.F. Ogburn and historian of economics W.R. Maclaurin. Godin, conscious of this mistake, ineptly tries to justify the existing state of affairs with the lack of the category 'innovation' in Ogburn's writings. However, he admits that "it would be a mistake to study an object or concept (innovation) in construction only through those who have used its (yet-to-come) name …, it would also be a mistake if it is forgotten that an idea may exist before the word as such comes into use"[63]. So, the genesis of the innovative thought starts with the economist J. A. Schumpeter, according to whom creative destruction is the idea of capitalism: destroying the existing structures and the formation of new ones, motivated by innovation which is "possible without anything we should identify as invention and invention does not necessarily induce innovation … Invention is an act of intellectual creativity and is without importance to economic analysis"[64].

These statements are an example of another mechanism of thought constraint manifested in area of innovation studies. Due to the ideological goal of innovation as a tool of public policies, the assumption of its commercialization was also regarded as its definiendum. According to OECD interpretation, innovation is "the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method"[65]. As a result of this, the few studies on the level of innovation carried out in the first half of the 20th century assumed that pa-

[62] GODIN, *Innovation Without the Word: William F. Ogburn's Contribution*, p. 5.
[63] Ibidem, p. 7.
[64] GODIN, *Innovation: the History of a Category*, p. 35.
[65] OECD, *Measuring Innovation: a New Perceptivity*, OECD: Paris 2010, pp. 105-105.

tents and expenditure on research and development were the innovativeness indicators of companies.

However, along with the development of innovation studies, patents were regarded as the indicator of invention, not innovation, and research with the use of this indicator was stopped. Yet, in OECD documents, patents are still the only officially accepted indicator of commercialization. However, in accordance with the EU law: "a patent is a right of exclusive commercial (industrial or trade) use of an invention for a specific time within the territory of a state or states, granted by the competent state, regional or international authority"[66]. So the owner of a patent only receives the right to commercialize the invention. The right which is only a certain not specific possibility of the commercialization of a new product or service. In the rationale of the methodology taken on by the OECD patents are included for the likelihood of a patent being commercialized[67]. So the probability becomes an argument for certainty – a trick that can be tolerated in the colloquial knowledge discourse but is completely unacceptable from the methodological and logical perspective.

Systematic research on the level of innovation of OECD states was going to begin in the 80's. The declared goal of these analyses was: "to develop output indicators, which … would measure innovation by measuring the products, processes and services that arise from innovation activities"[68]. However, in the face of the specific impasse in works on the structure of indicators and numerous difficulties with drawing up the appropriate methodology, after all the OECD decided to adapt the solution proposed by Scandinavian scientists working under the Nordic Fund for Industrial Development. The organization aspired for conducting coordinated, comparative research on the level of innovation in Scandinavian states and invited the OECD to cooperate on the project drawn up by K. Smith from the Nordic Fund and M. Akerblom from the Central Statistical Office. Therefore, the structure of methodology was the effect of employing expert opinions of scientists cooperating with international organizations and was actually held without the participation of the independent academic circle. In years 1990/1991 the project was introdu-

[66] The definition of the patent in European Union law from: http://www.uprp.pl/czym-jest-patent-na-wynalazek-i-prawo-ochronne-na-wzor-uzytkowy/Lead05,150,1696,4,index,pl,text/ [1.09.2014].

[67] OECD, *Measuring Innovation: a New Perceptivity*, p. 12.

[68] GODIN, *The Rise of Innovation Surveys*, p. 3.

ced to the member states and a year later adopted by the OECD in the form of *Oslo Manual*[69].

The purpose of the manual was to standardize the measurement of innovation in member states. It was assumed that "innovation activities are all those scientific, technological, organisational, financial and commercial steps which actually, or are intended to, lead to the implementation of technologically new or improved products or processes"[70]. In spite of this broad definition, the study only covered technological innovations in private enterprises, and financial and organizational innovations were barely listed in the attachment to the manual[71]. The issue of scientific innovations was not elaborated on at all. The marginalization of innovations other than commercial was justified by the OECD with the statement that it is companies that are have the decisive impact on economic performance and because of that they need a special policy of the state[72]. Besides, applying a methodology based on the measurement of an indicator representing only one aspect of innovation was simply much easier to execute. In the study it was assumed that companies which had produced at least one technologically new or considerably improved product within 3 previous years were innovative[73]. What is important, it was acknowledged that a product was new if a company in which it was produced recognized it as new. "Firms generally know when a product or production process is new to their firm. Often they do not know whether it is also new to their industry, new to their country or region, or new to the world"[74]. The effect of this assumption was extremely optimistic findings from which it resulted that over 80% of the investigated companies were innovative[75]. The technique used in the research was postal surveys, which according to *Oslo Manual* are "well established and comparatively less ex-

[69] Ibidem, p. 16.

[70] OECD, *The Measurement of Scientific and Technological Activities: Proposed Guidelines for Collecting and Interpreting Technological Innovation Data (Oslo Manual)*, Paris: OECD 1997, p. 39.

[71] The study was conducted in 1993, 1997, 2001.

[72] OECD, *The Measurement of Scientific and Technological Activities: Proposed Guidelines for Collecting and Interpreting Technological Innovation Data (Oslo Manual)*, p. 29.

[73] Ibidem, p. 39.

[74] J.A. HANSEN, *Technology Innovation Indicator Surveys*, in: *Strategic Research Partnership*, Proceedings of an National Science Fund Workshop, Washington: NSF 2001, p. 229.

[75] The study was conducted in Canada. See: *Innovation Analysis Bulletin*, "Statistics Canada" 3/2001, p. 5.

pensive, but present problems as well"[76], connected mainly with the rate of replies. Consequently, in countries with the most innovative economy, the United States and Japan, the rate of return of questionnaire forms for years has been below 50%, what excluded these states from international comparisons. At workshops about the methodology of measuring innovation, organized by the OECD, still prevails the opinion expressed directly by the chairman of the innovation seminar in 2003 that the questionnaire presented in the *Oslo Manual* is "just experimental study which marks the beginning of a long way of innovation research[77].

In spite of many methodological stipulations, the contemporary style of thought about innovation is sanctioned by numerous ideological "certainties". The direct influence of innovation on the competitiveness of economies and the industrial growth recognized as the guarantor of the progressive social development are actually treated as axiomatic statements. In fact, it is hard for such polemics to occur since definitions included in OECD publications eliminate all doubts concerning the decisions taken before. This specific theoretical unanimity is the result of the auto-referentiality principle adopted by the OECD, according to which the rationale of the theses included in OECD documents are other materials prepared by that organization, often even not published[78].

SUMMARY

The crowning of the history of innovation thought is the constitution of innovation studies. The reconstruction of these studies, besides numerous overbearing situations, also indicates many mechanisms of thought constraint which describe the current status quo of the theory. But it should also be emphasized that these schemes do not result from the features typical of the object of the innovation and, according to Zybertowicz, "cannot be justified

[76] OECD, *The Measurement of Scientific and Technological Activities: Proposed Guidelines for Collecting and Interpreting Technological Innovation Data (Oslo Manual)*, p. 58.

[77] GODIN, *The Rise of Innovation Surveys*, p. 26.

[78] R. MIETTINEN, *Innovation, Human Capabilities, and Democracy. Towards an Enabling Welfare State*, Oxford: Oxford University Press 2012, pp. 64-69.

by the available knowledge about the nature of the object to be recognized"[79]. In that case, the construction of limits of cognition determined by innovation studies is not the consequence of heuristic function of science but results from the hegemony of capitalist rhetoric[80]. In this configuration, knowledge is subordinated to power. It seems that more and more often a stimulus to start the process of cognition is the goal delimited by institutions and organizations external towards the world of science, for example the state[81]. It can also be supposed that in the past the role of those external stakeholders did not exert such an overwhelming influence on the mechanisms of scientific activity. In the face of the hegemony of power regarding knowledge, it is the rhetoric of privileged groups which determines the notional scope of the concept[82]. This process occurs in international epistemic communities occurring at the meeting of political and economic interests and most often formed beyond the university environment and close to economic organizations. The aim of many of these communities is to construct the theories in order to legitimize the actions of the power[83]. Therefore, such concepts are "façade" cognitive schemes because knowledge becomes the cultural justification for power, and science no longer explains the world in order to discover or unmask the truth, but more and more often the truth is being darkened[84].

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[79] ZYBERTOWICZ, *Przemoc i poznanie*, p. 61.

[80] This issue is extensively described by the Finnish sociologist and philosopher of science R. Miettinen. See: MIETTINEN, *Innovation, Human Capabilities, and Democracy. Towards an Enabling Welfare State*.

[81] In 90's, in Sweden the national innovation system was used as the tool in argumentation for needs to finance of examinations not through research centres but by the newly created government institution: Swedish Governmental Agency for Innovation Systems. According to M. Elkund who analysed the adaptation process of the innovation system, this institution was supposed to be financed examinations not according to the criterion of the scientific quality, but according to the criterion of the commercial, i.e. pledged income of results from examinations for precipitating the technological development of the country. See M. ELKUND, Adoption of the Innovations System Concept in Sweden, Uppsala: Uppsala Studies in Economic History, 2007, p. 81.

[82] See: E. ADLER, P.H. HAAS, *Conclusion: Epistemic Communities, World Order, and the Creation of a Reflective Research Program*, "International Organization" 1/1992, p. 379.

[83] According to P. Kettunen, the model of the Finnish innovation society, implemented by the authorities in the postwar period, served to legitimize the concentration of the government policy on the economic growth issues in Finland. See: P. Kettunen, *The Nordic Welfare State in Finland*, "Scandinavian Journal of History" 26/1998, pp. 225-247.

[84] N. SHARIF, *Emergence and Development of National Innovation System Concept*, "Research Policy" 35/2006, pp. 745-766.

It is very difficult to identify the moment when economic cooperation became synonymous with the development of the state. Several years later, it will be difficult to determine when the welfare of the citizens began to be identified with the economic development of the state. Similarly, the identification of circumstances in which the innovative activity was acknowledged as guaranteeing profit is a risky task. The majority of people seem to be under the influence of a kind of thought constraint associated with the emergence of new rules of cultural games created at the interface of culture of modern science, the expansion of new technologies and the development of market economies. In conclusion, "as the application of new knowledge consolidates, new areas or types of social practice emerge and stabilize; shortly speaking, new cultural patterns are institutionalized. One aspect of this situation is the emergence of new interests (or new types of interest), both individual and social, as well as the resultant legitimizations or change of configuration of the old interests"[85]. Innovation studies are the configuration of whose interests and how are these interests described?

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[85] ZYBERTOWICZ, *Przemoc i poznanie*, p. 295.

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MIĘDZY WIEDZĄ A POLITYKĄ. STUDIA O INNOWACJI W PERSPEKTYWIE KONSTRUKTYWISTYCZNEGO MODELU POZNANIA

S t r e s z c z e n i e

Geneza rozwoju myśli innowacyjnej to historia uwikłana w grę toczoną przez organizacje międzynarodowe celem utrzymania dominującej pozycji grup uprzywilejowanych ekonomicznie oraz politycznie. Zamysłem artykułu jest dowiedzenie, że koncepcję *innovation studies* skonstruowano jako narzędzie legitymizacji neoliberalnej polityki gospodarczej i naukowej państw rozwiniętych i rozwijających się po II wojnie światowej. Podjęta analiza składa się z dwóch etapów: próby rekonstrukcji stylu myślenia o innowacyjności oraz oznaczenia podstawowych mechanizmów przymusu myślowego funkcjonujących w obszarze studiów o innowacji. Artykuł jest więc również próbą odpowiedzi na pytania o to, dlaczego i w jaki sposób pewne grupy badaczy są w stanie konstruować wiedzę społecznie postrzeganą jako obiektywna oraz jaką rolę w tych procesach odgrywają instytucje władzy. Rekonstrukcja przedmiotu wiedzy naukowej nie jest więc tylko odtworzeniem pewnego refleksyjnego procesu epistemologicznego. Aby zrozumieć fakt naukowy, trzeba podjąć próbę oznaczenia tego, co współkonstytuuje naukę, choć reprezentuje obszar wobec niej zewnętrzny. Takie wyjaśnienie pełni wówczas większą funkcję eksplanacyjną i teleologiczną, niż tylko deskryptywny opis przedmiotu i metod poznania dokonany w obszarze przypisanej mu dziedziny nauki.

Słowa kluczowe: innowacja, studia o innowacji, konstruktywizm społeczny, wspólnoty epistemiczne, retoryka, komercjalizacja.