The Task of STS from the Perspective of Interdisciplinary Research

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Abstract

The necessity of interdisciplinary research is becoming more and more urgent in the 21st century. That is to say, we must restore integrated study, study current in the 19th century so have to activate general and total research. Thus, at first, we ought to activate close cooperation and mutual exchange among various majors inside specific study. In addition, we have to cooperate and interact closely among independent studies. At last, if we complement insufficient side through close and mutual cooperation and exchange among independent studies and majors, we will be able to develop comprehensive and organic study system. STS are the space that humanities, social sciences and natural sciences cooperate and communicate mutually focusing on S&T, the main driving force of human society development since the 20th century. Therefore, STS have very comprehensive characteristic due to interdisciplinary cooperation. The research keynote of STS implies very innovative characteristic in breaking special research keynote, the dominant pattern of humanities and social sciences in the 20th century. Consequently, STS must play a leading role in contributing to the true development and progress of human society.

Keywords: Modern humanities and social sciences, Capitalist development process, Interdisciplinary research, Special research, STS

1. INTRODUCTION

It is not too much to say that the 21st century is the crisis period of modern humanities and social sciences. Modern human society in the 21st century is composed of very complex structure and produced a lot of difficult problems in the overall fields including politics, economy, diplomacy, public administration, the military, industry, welfare, education, labour, culture, woman, science and technology, and environment. Though modern social structure is very complex and modern social problems are extremely serious, modern humanities and social sciences are not able to analyze the complicated structure of modern society scientifically and suggest solutions to a lot of social problems systematically.

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By the way, it is analyzed that the crisis of modern humanities and social sciences results from the research method of modern humanities and social sciences. Modern humanities and social sciences have focused on specialization since the 20th century. Therefore, modern humanities and social sciences have heaped up wall against other studies and majors and concentrated on only their research realm.

But real world in the 21st century as the research object of modern humanities and social sciences is very complex and tough. In other words, real world in the 21st century is composed of very complicated structure where close interaction among elements progresses. Accordingly, the research method of present modern humanities and social sciences which hold professionalism and specialty as a basic keynote cannot analyze very complicated and interdependent world in the 21st century comprehensively and organically. Thus, we need to innovate and reform the research method of modern humanities and social sciences which study real world into interdisciplinary study method to include the complexity and interdependence of real world.

This study will check new research direction of modern humanities and social sciences in order to scientifically analyze the complicated social structure of real world in the 21st century and find systematical policy solution to a lot of social problems of real world. Therefore, we will consider interdisciplinary study method to overcome and substitute special and professional research method as the main research method of modern humanities and social sciences after the 20th century and examine science and technology studies (STS) as part of interdisciplinary study.

2. RESEARCH CONTENTS AND METHOD

2.1. Research Contents

This inquiry surveyed the limitation of professional research method, the major research method of modern humanities and social sciences since the 20th century. And this investigation considered interdisciplinary research method as an alternative of the professional research method and checked STS as part of it.

Accordingly, this study examined the emergence background of modern humanities and social sciences and overall characteristics and limits of modern humanities and social sciences in the 20th century. On the basis of the examination, this investigation analyzed the necessity
of interdisciplinary research and deducted the historical task of STS as part of it.

2.2. Research Method

This study is to consider interdisciplinary research as the alternative of special study method, the main research method of modern humanities and social sciences and check STS as part of interdisciplinary research.

More concrete research method is following.

Firstly, this inquiry considered relating the emergence background of modern humanities and social sciences to capitalist development process.

Secondly, this research checked the general natures and limitations of modern humanities and social sciences in the 20th century on the basis of the consideration.

Thirdly, this investigation analyzed the necessity of interdisciplinary research as a way to overcome the limitation of modern humanities and social sciences in the 20th century based on the survey.

Fourthly, this inquiry drew the historical task of STS in the 21th century as part of interdisciplinary research on the basis of the analysis.

3. RESEARCH RESULTS AND DISCUSSION

3.1. Modern Humanities and Social Sciences and Capitalism

Generally, humanities and social sciences have deepened academic specialization since the 20th century. It is meaningful that this academic trend deepened inner system inside studies. Present general classification system of humanities and social sciences results from systematic change inside studies after the 20th century.

By the way, the genuine emergence of modern humanities and social sciences is closely related to capitalist development process. For example, economics and sociology emerged in industrial capitalism stage. That is to say, economics and sociology came into the world in the late 18th century and the beginning of the 19th century.

And public administration, business administration and social welfare appeared in monopoly capitalism stage. In other words, public administration, business administration and social welfare appeared from the late 19th century till the beginning of the 20th century. And the
genuine specialization of humanities and social sciences was carried out after the 20th century.

Then the concrete occurrence causes of modern humanities and social sciences are following.

Firstly, economics was ideological system which capitalist class developed in order to fight against the landed class in industrial capitalism stage, so appeared as the struggle tool of economic logic by capitalist class [1] [2]. Since then, economics has played major role in seeking for measures of economic policy to solve economic problems such as economic growth, price stability, and the international balance of payments.

Secondly, the overall contradictions of capitalism happened according to capitalist development, so class struggle between capitalist class and labour class strengthened. Sociology came into the world as the struggle tool of sociological logics which capitalist class developed in order to overcome capitalism crisis and keep capitalist system according to class struggle [3] [4]. Afterwards, sociology has found policy ways to analyze and solve all kinds of social problems of capitalist system [5].

Thirdly, monopoly capitalism emerged according to the accumulation and concentration of capital in the late 19th century. As the subjective capacity of labour class strengthened according to the development of monopoly capitalism, the state needed to weaken the deepening of class conflict between labour class and capitalist class. And because of the increased demand of economic and social policy to complement the functional limitation of market autonomy, the need of administrative and policy management and regulation by the state enlarged, so public administration came into the world [6] [7].

Fourthly, as giant stock company appeared owing to the monopoly of capital in monopoly capitalism stage, business administration appeared so that capitalist class could manage it systematically and efficiently [8] [9]. As the capability of labour class strengthened due to the activation of labour movement, capitalist class made the most of business administration in order to control labour movement effectively.

Lastly, as the activation of labour movement in monopoly capitalism stage threatened capitalist system, social welfare emerged in the process that capitalist class prepared for policy system to improve labour movement [10]. Since then, social welfare sought for policy measures to solve social and economic problems derived from the contradictions of capitalist system [11] [12].

In the end, modern humanities and social sciences appeared in the process of capitalist development. In other words, modern humanities and social sciences were ideological struggle means planned in the dimension of political, economic and social logics under the leadership of capitalist class in order to preserve capitalist system against labour class movement for
overcoming capitalist contradiction. But according to the increased subjective capability of labour class, the keynote of modern humanities and social sciences gradually got out of a bias towards capitalist class and reflected balanced class will and interest between capitalist class and labour class.

3.2. The Limitation of Modern Humanities and Social Sciences

Humanities and social sciences before the 20th century held total and general natures. As a representative case, Karl Marx and Max Weber, the master of humanities and social sciences in this period were oriented towards comprehensive humanities and social sciences which integrated almost all fields of humanities and social sciences.

But modern humanities and social sciences have been divided and specialized since the 20th century. At last, modern humanities and social sciences organized present system. As a result, present humanities and social sciences hold partial and special characteristics.

Meanwhile, the characteristic change of humanities and social sciences is closely related to the fact that world hegemony moved from Europe to America. That is to say, European bloc held political, diplomatic, economic, and military world hegemony till the beginning of the 20th century. Thus, European bloc seized cultural and academic world hegemony, too.

Therefore, it is evaluated that academic keynote before the middle of the 20th century considerably reflected social democratic capitalism as an European political and economic mode. By the way, European capitalism includes social democratic nature which is oriented towards coexistence and co-prosperity among classes based on balanced power relationship between capitalist class and labour class. Accordingly, it is evaluated that the total and general natures of humanities and social sciences before the 20th century considerably reflected progressive and reformatory philosophy and values of European social democracy that focused on reforming and evolving the total frame of social structure and system.

But political, economic, diplomatic and military hegemony in world system moved from Europe to America since the Second World War. As a result of reflecting such current, cultural and academic hegemony in world system moved from Europe to America. Thus, it is analyzed that academic keynote since the 20th century has reflected liberal capitalism as American political and economic style and pragmatism as American sociocultural mode. By the way, American capitalism has liberal nature based on the overwhelming dominance of capitalist class compared to the capacity of labour class. Therefore, it is interpreted that the partial and special characteristics of humanities and social sciences since the 20th century considerably reflected the
conservative and functional philosophy and values of American liberal capitalism and pragmatism that focused on preserving and keeping social structure and system.

But while this academic trend deepened academic inner system, it involved many kinds of problems. That is to say, academic specialization heaped up high wall among studies, so began to break organic cooperation relationship among studies. Moreover, as academic specialization concentrated on major minuteness, it weakened cooperative relationship among majors. As a result, partial and special keynotes in academic world strengthened, so did not reflect organic and comprehensive real world. Therefore, the practical policy utility of studies in real dimension became very limited.

### 3.3. Academic Problem in the 21th Century: Interdisciplinary Study

But the power to oppose to academic specialization which America had led began to strengthen since the late 20th century. In other words, academic specialization approached practical and policy limit in solving the overall problems of human society.

Tries for academic generalization and integration started as an opposition to academic specialization. The necessity and activation of interdisciplinary research are on the basis of such historical background.

Global hegemonic position in humanities and social sciences is variable according to the whereabouts of holding political, economic and military hegemony since the 21th century. By the way, the economic power of China is expanding rapidly in the 21th century. So it is predicted that China will challenge American hegemony in cultural and academic field since the middle of the 21th century.

On the other hand, the economic influence of European bloc is weakening more and more. Now European bloc is holding the second position next to America in global academic and cultural field. But it is predicted that the influence of European bloc will weaken more and more in academic and cultural field because of Chinese strong challenge since the middle of the 21th century.

Meanwhile, the necessity of interdisciplinary research is becoming more and more urgent in the 21th century [13] [14]. Originally, truth is to embody the phenomenon and essence of objective reality such as human, society, and nature in an unified manner. Real world as the object of truth involves comprehensive and organic characteristics as the nature of existence. Accordingly, it is inevitable that scientific truth, a realization system to reflect real world objectively, includes such characteristics.
Eventually, academic pattern in the 21st century demands dialectic unification of academic trend in the 19th century and the 20th century. That is to say, we must restore integrated study, study current in the 19th century and have to activate general and total research. On the basis of this try, we should deepen special and professional research, study current in the 20th century.

Thus, at first, we ought to activate close cooperation and mutual exchange among various majors inside specific study. In addition, we should cooperate and interact closely among independent studies. At last, if we complement insufficient side through close and mutual cooperation and exchange among independent studies and majors, we will be able to develop comprehensive and organic study system. And we will be able to deepen and enlarge the depth and range of modern humanities and social sciences through the dialectic unification of academic methodology.

3.4. The Academic Task of STS

Now academic community is paying attention to the historical importance and role of STS. STS are the space that humanities, social sciences and natural sciences cooperate and communicate mutually focusing on science and technology, the driving force of human society development since the 20th century [15] [16].

Therefore, STS have very comprehensive characteristics due to interdisciplinary cooperation. That is to say, STS are cooperative research system among comprehensive studies of humanities and social sciences including philosophy, history, sociology, public administration, policy studies, economics, business administration and journalism [17]. And there are various fields such as S&T philosophy, S&T history, S&T sociology, S&T policy, S&T economics, S&T business administration and S&T journalism inside STS [18]. Now STS are expanding their extension continuously.

The research keynote of STS implies very innovative nature in breaking special research keynote, the dominant pattern of humanities and social sciences in the 20th century [19] [20]. Thus, STS have very important historical duty to change partial and special humanities and social sciences into comprehensive and organic humanities and social sciences in the 21th century [21] [22]. Consequently, STS must play a leading role in contributing to the true development and progress of human society ultimately [23] [24].
4. CONCLUSION AND SUGGESTION

Generally, humanities and social sciences have deepened academic specialization since the 20th century. It is meaningful that this academic trend deepened inner system inside studies.

The genuine emergence of modern humanities and social sciences is closely related to capitalism development process. In other words, modern humanities and social sciences were ideological struggle means planned in the dimension of political, economic, and social logics under the leadership of capitalist class in order to preserve capitalist system against labour class movement. But according to increased subjective capability of labour class, the keynote of modern humanities and social sciences gradually got out of a bias towards capitalist class and reflected balanced class will and interest between capitalist class and labour class.

Humanities and social sciences before the 20th century held total and general natures. But humanities and social sciences have been divided and specialized since the 20th century. At last, humanities and social sciences organized present system.

As a result, present humanities and social sciences hold partial and special characteristics. But while this academic trend deepened academic inner system, it involved many kinds of problems. That is to say, academic specialization heaped up high wall among studies, so began to break organic cooperation relationship among studies. Moreover, as academic specialization concentrated on major minuteness, it weakened cooperative relationship among majors. As a result, partial and special keynotes in academic world strengthened, so did not reflect organic and comprehensive real world. Therefore, the practical policy utility of studies in real dimension became very limited.

The necessity of interdisciplinary research is becoming more and more urgent in the 21th century. Eventually, academic pattern in the 21th century demands dialectic unification of academic trend in the 19th century and the 20th century. That is to say, we must restore integrated study, study current in the 19th century so have to activate general and total research. On the basis of this try, we should deepen special and professional research, study current in the 20th century. Thus, at first, we ought to activate close cooperation and mutual exchange among various majors inside specific study. In addition, we have to cooperate and interact closely among independent studies. At last, if we complement insufficient side through close and mutual cooperation and exchange among independent studies and majors, we will be able to develop comprehensive and organic study system. And we will be able to deepen and enlarge the depth and range of modern humanities and social sciences through the dialectic
unification of academic methodology.

STS are the space that humanities, social sciences and natural sciences cooperate and communicate mutually focusing on S&T, the main driving force of human society development since the 20th century. Therefore, STS have very comprehensive characteristic due to interdisciplinary cooperation. The research keynote of STS implies very innovative characteristics in breaking special research keynote, the dominant pattern of humanities and social sciences in the 20th century. Thus, STS have very important historical duty to change partial and special humanities and social sciences into comprehensive and organic humanities and social sciences in the 21th century. Consequently, STS must play a leading role in contributing to the true development and progress of human society.

This article limited the necessity and duty of STS as an interdisciplinary study. In the future, next study will check the concrete research cases of STS and examine the real possibility of STS as an interdisciplinary study.

References


