



PRI Discussion Paper Series (No.06A - 01)

Cognitive Issues in Policy Making  
(Epistemology and Paradigm Theory)

Akira IIDA  
Professor, College of Law, Nihon University

February 2006

The views expressed in this paper are those of the authors and not those of the Ministry of Finance or the Policy Research Institute.

Research Department Policy Research Institute, MOF  
3-1-1 Kasumigaseki, Chiyoda-ku, Tokyo 100-8940, Japan  
TEL 03-3581-4111

# Cognitive Issues in Policy Making

(Epistemology and Paradigm Theory )

Akira IIDA

Professor (Economic Policy),

Nihon University (College of Law)

<b>I. Introduction</b>	<b>2</b>
1. Artistic knowledge and epistemology	2
2. The notion of paradigm defined as an epistemic tool of cognition	6
3. Periodization of the history of knowledge	8
<b>II. The Properties of Paradigm Theory</b>	<b>9</b>
1. Definitions	9
(A) The static definition of the word “paradigm”	9
(B) The dynamic definition of paradigm	11
2. Paradigmatic Cognition	15
(A) The subject of cognition ( the cognizer )	15
(B) The object of cognition (the cognized )	16
(C) Cognitive judgment and the objectivity of cognition	18
(D) Causality	20
<b>III. The Paradigm Change</b>	<b>21</b>
1. Historical views and world views	21
(A) Historical views and world views of philosophers	21
(B) Historical views and world views of a polity	26
2. Paradigm theory and economics	29
3. Forecast and discovery	32
<b>IV. Conclusion</b>	<b>33</b>
(A) Assumptions about policy making and the actual behavior of policy makers	33
(B) Paradigm theory as an epistemic tool of policy making	36
<b>Bibliography</b>	<b>38</b>

# Cognitive Issues in Policy Making

## ( Epistemology and Paradigm Theory)

Akira Iida

### I. Introduction

In any policy making exercise, whether it is about matters of economic, social or political problems, both domestic and international, such as diplomatic relations or national defense, there are various cognitive issues that affect the design and implementation of the policy. Without correct cognition of the actuality and history regarding the problems in question, or without correct cognition of the problems that might arise in the process of the policy implementation, the policy making exercise is bound to fail. Yet, in the history of economics, sociology or the study of the diplomacy or of national defense, philosophical inquiry about “cognitive issues in policy making” has been very poor. More specifically, on one hand, epistemologists have hesitated to go into this kind of inquiry, since policy making always embraces questions of values or other subjective judgments, and hence, objectivity is not assured. On the other hand, the attention of the economist, sociologist, or analysts on diplomacy and national defense has focused on the analysis of relationships among the economic, social, diplomatic or defense factors, while neglecting the cognitive issues in policy making itself.

Policy makers should have far better knowledge in this area, but they have paid scarce attention to it, despite their policy failures, caused by their failures to recognize the factors that really mattered in the case in question.

#### 1. Artistic knowledge and epistemology

While there may be different ways to periodize the history of knowledge, modern philosophical thought was significantly influenced by the positive skepticism<sup>1</sup> of *Michel de Montaigne*<sup>2</sup>. Many philosophers of the 16<sup>th</sup> and 17<sup>th</sup>

---

<sup>1</sup> The skepticism of Montaigne and Descartes should be differentiated from nihilism or from the skepticism of the ancient Greeks, such as that of Pyrrhonism (ΠΥΡΡΩΝ Ο ΕΛΛΗΝΑΣ,=Pyrrho of Elis 360~275 B.C.).

<sup>2</sup> Michel de Montaigne, 1533~1592, author of *Essais* (I,II,III). His skepticism is well explained in *Essai II, Chapitre XII (Apologie de Raimond Sebond)*, in which he translated his cherished Greek word 'ἐπέχω (a verb meaning “ to suspend “) into the famous phrase “ *Que sais je?*” in French. In fact, his skepticism was a sort of spiritual movement (inclined towards questioning all the knowledge of his time, instead of just withholding judgment), rather than the philosophical skepticism of the 18<sup>th</sup> Century

Century seemed to have carefully read “ *Essais*” by *Montaigne* , which encouraged them to question what was believed to be true at their time, when the study of knowledge had been under the strong influence of the Church or Scholasticism. *René Descartes*<sup>3</sup> in fact provided the framework for modern science through his work “*Discours de la Méthode*”, which was written in French, when most academic works had been written in Latin. This classic age of modern philosophy, embraced every study of knowledge from science to the study of humanity<sup>4</sup>. The title of the book, in Latin, in which Newton developed his famous gravity theory<sup>5</sup> , shows that he considered the subject he treated in his writings as a matter of philosophical principles.

However, as scientific studies increased, in the 19<sup>th</sup> and 20<sup>th</sup> Centuries, individual scientific fields of investigation, such as physics, chemistry, biology etc. gradually became independent of philosophical inquiries and formed, instead, individual disciplines in the realm of academic research. The last philosopher who boasted of building the grand edifice of his own philosophical system was *Hegel*<sup>6</sup>; however after his death, in an orchestrated criticism against his philosophy, the Hegelian style of philosophical system-building became unfashionable, and philosophers started to indulge themselves in subjects of their own interest. This change resulted in the reduction of the scope of philosophy as a whole.

Stephen Hawking<sup>7</sup> describes the above developments as follows:

“Philosophers reduced the scope of their inquiries so much that *Wittgenstein*<sup>8</sup>, the most famous philosopher of this century, said “ The sole remaining task for philosophy is the analysis of language. ”What a comedown from the great tradition of philosophy from *Aristotle* to *Kant* !”

Epistemology was a firmly established branch of philosophy together with

---

developed by David Hume etc. (see: footnote 31 ).

<sup>3</sup> *René Descartes*, 1596~1650

<sup>4</sup> In ancient Greece, philosophy was called philosophia (Greek noun, **φιλοσοφία**), meaning love for wisdom.

<sup>5</sup> Isaac Newton, 1642~1727, author of “*Philosophiæ Naturalis Principia Mathematica*”.

<sup>6</sup> *Georg Wilhelm Friedrich Hegel*, 1770~1831, author of “*Enzyklopädie der philosophischen Wissenschaften im Grundrisse*”

<sup>7</sup> Stephen Hawking, 1942~, British scientist, author of “A Brief History of Time”, Bantam Books, 1988.

<sup>8</sup> *Ludwig Wittgenstein*, 1889~1951, author of the *Tractatus Logico-Philosophicus*.

ontology. However, reflecting the above trend of philosophical inquiries, it started to give way gradually to inquiries of other subjects in which philosophers were more concerned.

The phrase epistemic<sup>9</sup> cognition, which is often used in traditional epistemology, originally meant to cognize something as certain knowledge. Yet, it has been, washed by the new wave of naturalization and socialization<sup>10</sup>. In view of the above trend in philosophy, epistemic cognition started to be seen as equal to scientific cognition, and the cognition of artistic knowledge was kept out of the main field of epistemology. Even if artistic knowledge was examined by philosophers, it was mostly about the aesthetic arts (the fine arts such as painting, sculpture, architecture, and music or other performing arts), rather than about other sorts of arts such as those often applied in business management or in policy making.

The fact is that both business management and policy making are of an artistic nature, although managers and policy makers often employ scientific knowledge in order to enhance the plausibility of the success of their artistic judgment, or to justify their policy making decisions. They know very well that the world of practice and that of theory are different and that there are limits to the application of scientific knowledge (or theory) in practice<sup>11</sup>.

In the case of business management, the artistic talent of a manager is called

---

<sup>9</sup> The word “epistemic” comes from the Greek verb “ ἐπίσταμαι ”, which means “to know for certain”, (corresponding Greek noun is ἐπίστημη, which means knowledge).

<sup>10</sup> “Epistemology Naturalized”, W.V.O. Quine, 1969; “Social Epistemology”, Steve Fuller, 1988; “The Division of Cognitive and Social Sciences”, Philip Kitcher, 1992; “Liaisons: Philosophy meets the Cognitive and Social Sciences”, Alvin Goldman, 1992 etc.

<sup>11</sup> As an example of artistic talent of a contemporary policy maker, I can name that of Alan Greenspan (Chairman of Federal Reserve Board, August 11, 1987~Jan.31, 2006). He had contrasted his risk management approach with the standard academic economists’ models and policy rules. During the difficult time of the financial assets bubble management (irrational exuberance speech on December, 1996 to the stock price peak in 2000 and then down to the bottom in 2002), his handling of FED policy was based on his artistic knowledge and cognition that the “bubble should not be allowed to burst or to be completely wiped out”; and was not based on the scientific knowledge shared by his contemporaries. He knew it would be difficult for central bankers to spot the difference between an unsustainable surge in prices based on speculation and a sustainable level of price based on economic fundamentals. He should have learned this from the bad experience of the Bank of Japan, which allowed the bubble to burst in 1990 and then tried to wipe out the bubble through its interest rate policy during the early years of the 1990’s.

“skill-mix,” which involves both scientific knowledge and non-scientific knowledge.

Non-scientific knowledge is, for example, general knowledge or experience in the business matter they are supposed to manage. Such “skill-mix” is evaluated in the market (often by recruitment-related consulting firms etc.) and it has a certain market value. In case of policy makers, there are cases in which the criteria for their selection and/or appointment is politically handled with less focus on knowledge factors (such as in the case of the election of the legislative branch etc.). But the artistic knowledge in handling matters in a politically correct manner, for example, is an important qualification for policy makers, whatever academic credentials may be possessed by the candidate. The artistic knowledge of managers and policy makers is similar to the artistic knowledge of aesthetic artists, such as, for example, in the case of a conductor or a composer, in handling musical orchestration, or, in the case of a painter, mixing colors etc.. Such knowledge is important for human life and therefore of no less value than that of scientific knowledge. Yet, philosophers have regarded this type of knowledge as something dubious or something on which one can not make a judgment of truth or falsehood, in bivalent, multi-valued or modal logics.

However, in view of the cognition-related failure of policy makers, which gives rise to policy failure and affects, so many people, I thought it might be worthwhile to explore the matter carefully.

Previously, I published a book entitled “Paradigm Theory and Policy Making” (Tuttle Publishing, 2004), which did not go into these philosophical questions. Therefore, I intend to address, in later chapters, the following questions of cognition<sup>12</sup> that may arise in relation to policy making.

---

<sup>12</sup> From the foregoing explanation, there may be an objection from epistemologists that such scientifically dubious cognition does not deserve the word “epistemic”. As far as policy making is concerned, there is no doubt about the importance of cognition in looking at the problems underlying any policy making endeavor. In my paradigm theory, there is a strong focus on paradigmatic cognition in dealing with problems in policy making, as explained in the sub-para 2 below.

Paradigmatic cognition (namely; cognition of paradigm) usually slips away unnoticed from the scope of epistemic cognition;

There has been no such word as “paradigm”, as I defined in this paper, that could carry the idea, which could serve as an important tool of policy making.

Whether “paradigmatic cognition” deserves the word “epistemic cognition” or not is a

- (1) Why does the epistemic cognition of policy makers matter ?
- (2) Why is the notion of “paradigm” useful for policy makers as a tool of epistemic cognition? What can be found there ?
- (3) How could one justify the use of such cognition to policy makers ? How do we know that a particular epistemic cognition will be in good standing for a certain period, over which the policy implementation is expected to produce the desired effects ?
- (4) What is the basic assumption of the policy making and how does the actual behavior of policy makers contrast with that assumption ?

## 2. The notion of paradigm defined as an epistemic tool of cognition

When people want to convey some thoughts, they need the appropriate words.

In firmly established disciplines of academic research, there are plenty of technical terms, elaborately designed for people to reach the same understanding. Yet, there are cases in which one does not find an appropriate word at hand to convey to others a new idea of one’s own. In such cases, people normally borrow a generic term ( a word of daily usage) in one’s own language and define it in one’s own way, or borrow<sup>13</sup> a word from Greek vocabulary and define it as the convenient vehicle of one’s thought. The word “paradigm”<sup>14</sup> for Thomas Kuhn is an example of the former case and the word

---

matter for readers to decide. If it is not, so be it!

<sup>13</sup> Of course, words borrowed in philosophical works do not come solely from Greek.

For example, the word “quantum” of quantum mechanics originates from Latin and Murray Gell-Mann’s famous naming of “quarks” comes from Irish literature (James Joyce, *Finnegan’s Wake*, Part II, Chapter 4, “ Three quarks for Muster Mark !/Sure he hasn’t got much of a bark/And sure any he has it’s all beside the mark.”).

<sup>14</sup> (1) The following is the explanation given in the Wikipedia about the normal usage of the word and that by Thomas Kuhn:

↑ Since the late 1800s, the word *paradigm* has referred to a thought pattern in any scientific discipline or other epistemological context. Initially the word was specific to grammar: the 1900 Merriam-Webster dictionary defines its technical use only in the context of grammar or, in rhetoric, as a term for an illustrative parable or fable. For linguistic purposes, Ferdinand de Saussure used *paradigm* to refer to a class of elements with similarities.

The best known use of the word in the context of a scientific discipline was by philosopher Thomas Kuhn who used it to describe a set of practices in science. It was and is widely abused. Kuhn himself came to prefer the term exemplar and normal science, which have more exact philosophical meaning. However in his book The

“*l’épistémè*” for Michel Foucault is an example of the latter case<sup>15</sup>.

In conveying this new thought of mine, I have looked into various words that could be appropriate vehicles. There were two possible candidates. They were “structure” and “paradigm”. However, I decided not to use the former, because the word is used to mean too many different things and using the word would just end up with a lot of misunderstanding. On the other hand

---

Structure of Scientific Revolutions Kuhn defines a scientific paradigm as:

- what is to be observed and scrutinized,
- the kind of questions that are supposed to be asked and proved for answers in relation to this subject,
- how these questions are to be put,
- how the results of scientific investigation should be interpreted. 1

(2) Linguistically speaking, the English word “paradigm” derives from the Greek word “*παράδειγμα*”, meaning pattern, model or plan. But, since the word was transplanted into English long ago with the same meaning and has been used ever since as a generic term for such a meaning, it does not make sense to say that Kuhn borrowed the word from Greek. On the other hand, the French word “*l’épistémè*” had not been established in French as a generic word until Foucault borrowed the word from Greek and defined it in his own way as a philosophical term.

<sup>15</sup> In 1962, Thomas Kuhn(1922~1996) pointed out in *The Structure of Scientific Revolutions* ( The University of Chicago Press, 1962, 1970) that the scientific revolution was made possible through the transformation of the research paradigm which appeared in conflict with the belief popularly shared among many of the academic researchers then. Since, neither the contention by *Copernicus* , *Kepler* and *Galileo Galilei* was a logical extension of Ptolemaic astronomy, nor later *Einstein’s* Relativity Theory was a logical extension of the Newtonian dynamics theory.

In 1966 to 1969, *Michel Foucault* (1926~1984) pointed out in “*Les Mots et les Choses*,” Éditions Gallimard,1966 (English translation:The order of Things, now available in Routledge Classics) and “*L’archéologie du Savoir*,”—Éditions Gallimard,1969 ( English translation:The Archeology of Knowledge, now available in Routledge Classics )that one could observe two significant ruptures in the history of *Savoir* (Knowledge) towards the end of 16<sup>th</sup> century, in the 18<sup>th</sup> century and in the rupture which was emerging in the modern age of the 20<sup>th</sup> century. He tried to say that before and after such ruptures, a shared method generally accepted by researchers or the structure of *Savoir* in the society had changed significantly. In doing so, he introduced the concept of “*épistémè*”, which means the entirety of the structure of *Savoir*, in which researchers or various agents of *Savoir* shared more-or-less the same method of *Savoir* and such a structure of *Savoir* is significantly different from one *épistémè* of a certain period to another *épistémè* of another period. Since there is no way to trace causality between various elements of *Savoir* in two different “*épistémè*”s, Foucault explained the rupture between the two different “*épistémè*”s as something similar to a fault between archeological strata. Although, these works were produced independently, researchers of later days usually find some similarity between the notion of “*épistémè*” and the notion of Kuhnian “paradigm”. However, I would not be surprised if both Kuhn and Foucault would complain about such an evaluation if they were still alive today.

the word “paradigm” was quite attractive. Besides, I was skeptical<sup>16</sup> about the usage of the word “paradigm” by Thomas Kuhn. As Kuhn himself admitted, in his 1969 Postscript to his 1962 Work (both of them were published in one book in 1970 by the same publisher under the original title), there had been criticism of his original work, that “the term is used in at least twenty-two different ways.” So, I decided to use the term with my own elaborate definition, which is shown in Chapter I.

### **3 . Periodization of the history of knowledge**

Periodization involves controversial problems, since history is in fact continuous. Yet people want to periodize history in order to clarify cognitive differences when comparing two different periods. In any academic discipline, the history of knowledge is discussed with certain methods of periodization.

As mentioned in 2 above.( The notion of paradigm defined as an epistemic tool of cognition), Thomas Kuhn and Michel Foucault introduced the notion of “paradigm” and “l’épistémè”, respectively. The authors expected these two notions to help in understanding the progress of scientific revolution through paradigm transformation, and in understanding the difference of the structure of Savoir through the rupture of “l’épistémè”s.

Since the attempt to periodize history itself is so controversial, and difficult to persuade everybody, it could only remain a discretionary judgment of the authors themselves. Yet, while there is some criticism<sup>17</sup> of them, the above two notions have been widely accepted by many philosophers

In the case of “paradigmatic cognition ( namely cognition of paradigm)”, which I am talking about in this paper, there also arises the question of periodization. Readers are invited to note that the meaning of “paradigm

---

<sup>16</sup> While Thomas Kuhn explains the process of scientific revolutions from Newtonian dynamics to Einsteinian Relativity with the concept of “transformation of paradigm”, which suggests a discontinuance of step by step progress in the same paradigm, Stephen Hawking says that modern physics made progress “by finding partial theories that describe a limited range of happenings( namely: Newton’s gravity theory, general relativity theory and quantum mechanics).---Ultimately, however, one would hope to find a complete, consistent and unified theory,---. The quest for such a theory is known as “ the unification of physics(A Brief History of Time, Bantam Books,1988, Chapter 10). Comparing the above two explanations, one would say that physics made progress with or without discontinuance or rupture. That is a matter of explanation, it seems.

<sup>17</sup> Steve Fuller, Thomas Kuhn(A Philosophical History of Our Times) ,The University of Chicago Press,2000; *Raymond Boudon(1934-), Dictionnaire Critique de la sociologie(avec F.Bourricaud)Paris, Presse Universitaire de France 1982.*

change,” in my paper, offers a significant difference from the historical cognition approaches of both Kuhn and Foucault(see Chapter I).

## II. The Properties of Paradigm Theory

### 1. Definitions

#### (A) The static definition of the word “paradigm”

In planning actions in a political, economic, or social arena, ordinary people<sup>18</sup> (an individual and a moral person) respect either or both of the following:

The entirety of a set of norms ( rules, principles, standards etc. written or unwritten) that bind the activities of ordinary people.

The entirety of a factual basis that forms preconditions of the activities of ordinary people ( such as energy prices, technology levels in communication, transport, trade and exchange etc.).

The entirety of the above and is called, in my paper, the “ paradigm ” of political economy or simply, “ paradigm, ” unless otherwise qualified ( see: sub-paragraph (c) below).

A set of norms in a civil society reflects the values shared by the society.

For example, freedom, equality, fairness and human rights are the typical values of a democratic civil society. The legal system of a nation-state reflects these values and demands that these values be upheld by the members of the society. Sometimes, the factual basis, such as the framework of trade and exchange, for example, also reflects these values.

As the values change over the passage of time, so does the paradigm that prevails in the society ( see paragraph1, (B) below.). In an autocratic society also, there are values related to religion, seniority, difference of sexes etc., which the society wants to uphold. From a nation-state governed by a

---

<sup>18</sup> Here, the term “ordinary people” embraces all sorts of individuals ( bright or dull, rich or poor), and “moral persons” (big or small, profit seeking or non profit seeking), who make plans and execute them in the political, economic and social arena. Philosophers and scientists are individuals acting socially as members of a civil society. However, in this paper, I often compare ordinary people with philosophers and scientists, since the latter, apparently try to distinguish themselves from the former in terms of philosophical or scientific judgment. Moral persons engage in political, economic and social activities, and these activities affect policy making.

military dictator to a nation-state democratically governed, there are a different range of sets of values and hence a difference among local paradigms. (see: sub-paragraph (a) below.)

#### (a) Local paradigms and Internationally dominant paradigms

Ordinary people are the nationals of the sovereign nation-state, and they respect the paradigm prevailing in that nation-state. Such a paradigm of one nation-state is called a local paradigm<sup>19</sup>.

When such people are engaged in activities that involve the ordinary people of other nation-states, they also respect the paradigms of these other nation-states, or the internationally dominant paradigm.

#### (b) paradigm gaps

There can be some gaps between one local paradigm and another local paradigm, or gaps between two or more local paradigms, or between a local paradigm and the internationally dominant paradigm. (For example, the major currencies of the G7 countries are subject to the flexible exchange rate system, while China and other smaller Asian countries have kept pegging their currencies to the US dollar until quite recently. Such are the gaps between some local paradigms and the internationally dominant paradigm). Whenever there are problematic gaps, the policy makers of a nation-state must decide whether such gaps should be narrowed or dismissed. If so, how and when? This is the question of “gap management”. Sometimes, delegates of nation-states get together to resolve the problems deriving from such discrepancies, or from the paradigm gap.

The existence of such paradigm gaps stimulates change in the paradigm over time. In order to consider the dynamic aspect of paradigm change, it is useful to consider the contents of paradigm ( see paragraph 1 , (B), sub-paragraph (a) below ).

#### (c) policy paradigms

---

<sup>19</sup> Although many foreign companies doing business in the US normally want to conform to US rules and/or standards, even for their activities outside the US, ( for example, issuing the financial statements of their foreign Headquarters in line with US standards and so on), it is the size of the business at stake that drives such behavior. So, unless there is unilateral acceptance of US rules and/or standards by other nations, or various forms of international agreements, they are not enforceable abroad, and therefore they remain just local paradigms, according to my definition.

The normative paradigm, seen from the policy makers<sup>20</sup> perspective, has certain limitations that are derived from the sovereignty of the nation-state for whose service they are elected or appointed. The sovereignty of a nation-state binds people (both nationals and foreigners) within the territory of the nation-state, and in some cases the nationals of the state wherever they may go. In this sense, the scope of the normative paradigm, through which policy makers plan to affect political, economic and social activities, is smaller than the scope of the paradigm (both domestic and international), under which ordinary people are supposed to undertake their activities. We call it a “policy paradigm”. Policy makers can intervene on activities of ordinary people through a change in a “policy paradigm”.

### **(B) The dynamic definition of paradigm**

- (1) The Paradigm is a structure made of paradigm-contents which keeps harmony within the structure for a temporary period of time<sup>21</sup>.
- (2) Conflicts and internal contradictions to paradigm-content, and those between/among paradigm-contents are driving forces of overall paradigm changes.

#### **(a) Paradigm contents**

The paradigm has its own contents which can be perceived” internationally or domestically” and also, “vertically or horizontally.”

For example, domestically speaking, in the administrative sense, we can vertically distinguish fiscal, financial, social security-related, transport-related and other administrative-related paradigm-contents. The same approach applies in international dimensions<sup>22</sup>. On the other hand, with

---

<sup>20</sup> The term policy makers means (1) the members elected (in the case of democratic society) or appointed (in the case of autocratic society) to the legislative branch of a sovereign nation-state (2) those appointed by the holder of the administrative power to a high ranking position of the administrative branch (including independent commissions) of a nation-state and (3) those appointed to a senior position of the central bank of a nation-state. In some cases, the nomination of the candidates for a specific position of (2) and (3) above requires approval by the legislative branch.

<sup>21</sup> A “paradigm” is destined to change all the time in a move to resolve the internal contradictions and/or confrontations between each of its paradigm-contents or among two or more paradigm-contents (see next sub-para (a))

<sup>22</sup> For example, the international order of the world political economy for about 25 years after the WWII was maintained by the international paradigm, which consisted of

respect to the life of people, we can horizontally distinguish between paradigm-contents, such as those which are information-related, communication-related, ecology related, or energy related, etc.. The point is that one can imagine as many paradigm-contents as one likes, and must consider the causes of problems or the needs for change based on certain normative aspects or factual bases. Distinguishing levels of paradigm-contents is useful in understanding the dynamic aspects of a paradigm change and the causes of such a change; after all, nothing in this world is permanent beyond “space-time.”

(Note) For the convenience of the readers, I may use, in this paper, the word paradigm instead of paradigm-content such as for the international monetary paradigm, oil supply paradigm etc., as long as it is not confusing.

#### **(b) Paradigm Changes**

Overall paradigm changes are driven by conflicts and contradictions internal to each paradigm-content, and those between/among paradigm-contents.

**(1) A paradigm-content may have some internal contradictions or conflicts.**

**Example :** The Bretton Woods Monetary System ( in my definition, this is a content of the overall paradigm that was prevailing during a quarter Century after WWII) had a contradiction in itself; the system, through the God-Dollar standard mechanism, was designed to satisfy the needs of **both** the key currency country (the US) **and** countries recovering from the damage of WWII (such as European nations) or countries developing rapidly (such as Japan)to increase the level of production and income to that of the then advanced countries. However, the annual increase in monetary gold supply (production) was not sufficiently large to finance the annual economic growth of such nations. This meant that the supply of “the world growth money” had to depend on the increase in the supply of the US dollar through the increase in the deficit in the US balance of payments. Under such a contradiction<sup>23</sup> in the system itself, the international pledge of the US to convert a Troy ounce of gold to US \$35 could not have been kept for long. Thus the convertibility had to be ceased by the New Economic Policy

---

such paradigm-contents as the UN system(1945~), the Bretton Woods monetary system(1945~1971) and the GATT system(General agreements on Tariffs and Trade, 1947~1994)etc.

<sup>23</sup> This systemic contradiction had been pointed out as early as 1959( Robert Triffin, The Crisis of Gold and the Dollar, *Banca Nazionale del Lavolo*, Quarterly Review, June 1959 )

announced by the Nixon administration on August 15, 1971.

**(2) A paradigm-content may have a conflict with other paradigm-contents.**

**Example** : The world petroleum supply system after WWII had been such that the Oil Majors (so-called seven sisters<sup>24</sup>) enjoyed the oligopoly in the market supply of petroleum and refined goods. The petroleum exporting countries, dissatisfied with the oligopoly situation, established, OPEC<sup>25</sup> (Organization of Petroleum Exporting Countries) in Vienna in 1960, , trying to strengthen their common position, vis-à-vis Oil Majors, in negotiating the royalty for petroleum production and the volume of annual production of oil etc. However, the multi-currency realignment that ensued due to the above Nixon policy, which resulted in a significant depreciation of the dollar, caused a significant decrease in the dollar-denominated revenues of such petroleum exporting countries. In other words, as the result of the demise of the Bretton Woods monetary system, there emerged a conflict between the new international monetary paradigm ( a content of an overall international paradigm) and the old international petroleum supply paradigm (ibid). The result was a phenomenal increase in the oil price unilaterally announced by the OAPEC<sup>26</sup>(Organization of Arab Petroleum Exporting Countries) several times from 1973 to 1977<sup>27</sup>.

**Example** : The transfer of purchasing power from oil-importing countries to oil-exporting countries that resulted from the unilateral increase in oil price constituted a supply-side crisis for which there was little room for the success of demand-side macroeconomic policies. Various supply-side measures have been taken in major oil-importing countries, including an

---

<sup>24</sup> Four ARAMCO partners (Jersy/Exon,Socony, Vacuum/Mobil, Standard of California/Chevron and Texaco) plus Gulf, Royal Dutch Schell and British Petroleum. The above company names are that of 1970's. These companies went through mergers and acquisitions during the decade of 1990's and some of the above names do not exist today.

<sup>25</sup> Original OPEC members were Saudi Arabia, Kuwait, Iran, Iraq and Venezuela. Qatar UAE, Indonesia etc. joined later.

<sup>26</sup> Although Iran was participating in the negotiation among OPEC nations for an oil price increase, it refused to participate at the last minute primarily due to its diplomatic relationship with the US. It was, therefore, necessary for other nations to declare the price increase under the convenient OAPEC name excluding Iran. All remaining countries had a-common tie; they were all Arab nations.

<sup>27</sup> In late 1978, there took place the second oil crisis in the decade of 1970's, triggered by the political turmoil in Iran(the Iranian revolution). The first oil crisis was started by OAPEC's oil price increase in late 1973, which was followed by several oil price increases by OPEC until 1977.

increase in crude oil reserves, offshore oil drilling, private sector efforts to reduce energy consumption per manufacturing unit, diversification of energy source to natural gas, etc..

On the other hand, the recycling of oil-money gave rise to a significant change in the nature of international finance. The Euro money market in London flourished and the international syndicated-loan business increased in volume. Developing countries, which were major borrowers of international syndicated loans, ended up with a debt crisis that continued through most of the 1980s.

In reaction to the above change in the international finance paradigm, the United States undertook domestic securities market reform (The reform of May Day, 1975), partly to increase the competitiveness of the securities business in the US, and partly to reclaim its status as an international center of capital markets. From the supply-side point of view, efficient equity financing through the renovation of the securities market was also necessary for the US recovery from its economic slump in the aftermath of the first oil crisis. The reform has helped to secure traditional banking business products and induced decline in the intermediation-function of the banking business (dis-intermediation). By the early 1980s, the above reform had taken full effect and fund-raising in the US market by overseas clients (notably by British clients) increased significantly. This, in turn, induced the British Big Bang in 1986.

The above changes in the supply markets of oil products as well as in international and domestic financial markets means that paradigm-contents with respect to petroleum supply and/or international and domestic finance had been intertwined with each other; once the temporary balance among them is changed through a change in one paradigm-content, the other also changes. Related paradigm-contents had to ensue to regain a new harmony among themselves.

**The above examples shown in paragraph 1(B), subparagraphs (1) and (2) are intended to illustrate the dynamic aspect of paradigm namely:**

(1)A paradigm is a structure made of paradigm-contents which keeps harmony with each other for a temporary period.

(2)Conflicts and contradictions internal to each paradigm-content and those between/among paradigm-contents are the driving force of overall paradigm changes.

## **2. Paradigmatic Cognition**

### **(A) The subject of cognition (the cognizer).**

In policy making, it is important that policy makers cognize rightfully the problems underlying the policy making endeavor (the cognition of policy paradigm). In such a context, the cognizer of the paradigm is the policy maker. Yet, the paradigm as such depends on the cognition of ordinary people (an individual and a moral person), In other words, the paradigm exists through the cognition of ordinary people. The normative aspects of a paradigm, whether written or unwritten, have to be cognized as norms by ordinary people (laws and other rules, principles or standards of political, economic and social dimensions). The normative aspect of a paradigm is quite cognizable for ordinary people through the activities of the administrative branch of a nation-state, which makes every effort to inform the ordinary people (whether nationals or foreigners) within the reach of their sovereignty. If there are any dispute about the interpretation of norms, it is the role of the judicial branch (including some independent administrative bodies established for administrative disputes, such as those dealing with intellectual property rights etc.)to resolve such a dispute.

As to the factual basis aspect of a paradigm, it is also ordinary people who cognize the existence of such a factual basis as a precondition of their activities. It is, however, quite cognizable also to them, because it is they themselves who will suffer loss or damage for acting without knowing the existence of such a factual basis. For example, a person who does not know the fact that the gold is no more a legitimate component of international money (due to the demise of Bretton Woods monetary system),may suffer a loss in spending a lot of money for a speculative purchase of gold, believing that gold prices will always rise in the event that the dollar falls. Of course, there are some profit-taking activities by professional investors in gold, who take advantage of the ups and downs of gold prices over a certain time period. However, they are doing so knowing fully well the factual basis of the trend of gold prices, which reflects the long-term production, stock and demand or

the central banks' sales plans on their gold reserves etc.

For a long time, epistemology was a study of epistemic cognition “of philosophers, by philosophers and for philosophers.” Yet, for policy making, it is important that policy makers know exactly how ordinary people cognize both the normative and factual basis aspects of a paradigm and think about the longer term implications of such cognition on the political, economic and social activities of ordinary people. Then policy makers will be able to analyze the feasibility of their policy options and trade-off relationships between nearer-term and longer-term costs and benefits. Policy makers must make two judgments, first, about ordinary people’s “paradigmatic cognition,” both static and dynamic and secondly, to select the right combination of well-timed policy means to realize one or more policy objectives.

It seems to be easy to do the first part of the step , namely to grasp the ordinary people’s cognition regarding the static aspect of both normative and factual basis paradigms, since, these are quite easily cognizable by ordinary people, anyway.

However, a paradigm has another aspect that is dynamically changing. In this respect(the latter part of the step ), there are many traps for policy makers to fall in.

Since the second step (step ) regarding the selection of policy means and the timing of enforcement, involves the matter of professional quality, for which policy-makers are selected or appointed, that is not the subject of this paper. However, considering the process of policy making in the above two steps, it becomes easy to understand the reason why policy makers and the academics could not successfully address various policy issues in the past. They have so far largely neglected consideration of the above first step, particularly the cognition of the dynamic aspect of paradigm as an important element for policy making.

### **(B) The object of cognition ( the cognized events)**

In the process of paradigmatic cognition, the static aspect of a paradigm is easy for ordinary people to understand. However, for the understanding or cognition of the dynamic aspect of a paradigm, some artistic quality is

required.

As examined in the above sub-paragraph 1(B), the paradigm continues to change, reflecting the contradictions and conflicts at the paradigm-contents level.

For example, in the US, the current financing system of social security is a question of acute concern for policy makers. There is an apparent conflict between the financing paradigm of the Federal Government and the US social security paradigm (both of them are US local paradigms). Ordinary people of the US know very well about both the normative and factual basis aspects of both paradigm contents. For example, they know about how much tax they owe, how much social security services they may expect ( such as regarding the pension payments and Medicare,/Medicaid services they may expect from the current system) etc. However, the knowledge is only about the static aspect of the two paradigm contents, which have started to be seen recently as being in conflict with each other. Consequently the social security system as such is seen as unsustainable. President Bush has started to address the matter in his second term and urged policy makers to push forward his own reform plan despite its unpopularity<sup>28</sup>. Here at stake is the judgment of policy makers regarding the feasibility of such a reform and the timing of the enforcement.

In this case, the second term of the Bush administration pushed aside an easy-going procrastination policy as no-policy and decided to address the policy issues of the social security paradigm in a dynamic paradigm despite its unpopularity. Although the question of how and when to implement the policy ( the selection of policy means and the timing of enforcement) is not the subject of this paper, the judgment of Bush administration on cognizing

---

<sup>28</sup> As early as December 2001, "the President's Commission to Strengthen Social Security( so-called Moynihan/ Parsons Commission)" presented a report containing a package of solutions to cope with the scale of the unfunded liabilities that is not sustainable under the current US social security system. President Bush followed up the recommendation in his second term in 2004 and called for a bipartisan effort to reform the US social security. However, some features of the proposal by the Bush administration, including the establishment of "private accounts" , has met strong resistance from both Democrats and some Republicans. As of September, 2005, it is not clear how compromises could be reached on the proposal.

the un-sustainability of the present social security system is laudable<sup>29</sup>. Although, such matters are difficult for ordinary people to make judgments, policy makers are there to do the job for the people.

### **(C) Cognitive judgment and the objectivity of cognition**

(a) In the epistemological inquiry, the objectivity of epistemic cognition has long been a favorite subject in order to bivalently determine the truth or falsehood of a statement.

In recent days, the science of logic, departing from the simple bivalent logic of truth and falsehood, uses various tools of logical analysis such as multi-valued logic or modal logic. However, epistemic objectivity is considered always as a key for evaluating any epistemic statement, especially by bivalent logicians. In this context, values have always been considered to be subjective and any statement such as one based upon values, or that upholds values ( for example, “Democracy is desirable for us ” ) is not objective and therefore the statement is logically false.

This may be so, scientifically or epistemologically, as far as an epistemological statement of an individual is concerned. However, a certain number of values, such as freedom, equality, fairness, human rights etc. are strongly upheld in the case of a democratic civil society, and they form the backbone of the normative aspect of the paradigm that prevails throughout the society. Other different values are also upheld in other different civil societies not fully democratized yet.

Does the above argument necessitate that, a statement containing the values of a society (or even that of a group of individuals such as business entities etc.) should be treated differently from a statement merely expressing values of an individual ?

Arguing this way, I will conclude that “paradigmatic cognition” does not obey

---

<sup>29</sup> Although I do not appreciate the Iraq invasion policy ( see Chapter IV paragraph (B) ), I do appreciate the paradigmatic cognition of the Bush administration as far as the social security issues are concerned, The above policy makes a clear contrast with the procrastination policy as usual by the Japanese Government that even lacks willingness to measure the scale of the unfunded liabilities of the public system for “medical and care services” of Japan(see AKARI, The Financial Reform on the Social Securities in Japan, Chuo Keizai Publishing, 2005, written in Japanese).

the general rule of scientific epistemology. Here, the question is rather how to justify the cognition than to tell if the cognition by policy makers is true or false. The rule of epistemic objectivity, therefore has to be modified here, to that extent. Were we to distinguish paradigm theory from traditional “scientific epistemology”, it could be called “artistic epistemology”. And if you still say that there is no such thing, so be it.

(b) Then, the justification of “paradigmatic cognition” by policy makers should be questioned.

Policy makers avail themselves of various scientific analyses based on factual data in order to justify their cognition on policy issues. For example, in the above example of the US social security reform plan, the policy makers in favor of the reform can avail themselves of demographic data and actuarially calculate the present values of the total receipts and expenditures of the social security account in the foreseeable future, and conclude what amount of money the unfunded liabilities of the system would be. However, one can’t scientifically determine what the life expectancy of the participants of the social security program is, nor determine the total fertility rate (TFR). All they can do is to give certain reasonable assumptions on the future trend of the aging society, or that of future TFR. The plausibility of their assumptions is the question.

The justification of policy makers to sustain social security financing is therefore a matter of plausibility and not of truth or falsehood. This is the reason why I believe that in the realm of practice such as policy making, it is not science but art that counts. However, art is accompanied by various types of artistic knowledge that will enhance the plausibility of policy justification. In the case of the above example of US Social Security Reform, if the opponent policy makers are not convinced of the justification, it will be difficult for the reform to stand.

Anyway, the ultimate justification of the policy measure is provided “ex post facto” over the passage of time.

It is a sort of human wisdom to put trust in policy makers to make their best decisions, as people’s trustees, elected or appointed, and to hold judgment on truth or falsehood of a policy proposal until the facts reveal themselves over

the passage of time.

#### (D) Causality

Traditional epistemology<sup>30</sup> has long been traumatized by Hume's skepticism<sup>31</sup> and *Kant's* agnosticism<sup>32</sup>. Although Hume and *Kant* belonged to different camps, the former, empiricism, the latter, transcendental idealism, both of them denied causality between/among events of the world. Although there are a variety of schools in both skeptics and agnostics, the issue of causality was one subject, over which philosophers wrote a great deal, with little interest to ordinary people. Among others, however, there is the Hegelian dialectic<sup>33</sup> that is opposed to skeptics and agnostics in terms of the causality issue. Although the Hegelian dialectic was developed in his critical exercise on Kantian "*Antinomie*"<sup>34</sup>, the theory will not stand, should the causality relationship between two events be rejected. The causality relationship is also supported by the common sense of ordinary people, since the existence of causality is the basis of normal judgments of people, without which the application of the penal code or other social discipline would

---

<sup>30</sup> Here, traditional epistemology is referred to the epistemology before it was, "washed" by the new wave of naturalization and socialization. **See: footnote 10**

<sup>31</sup> David Hume(1711~1776) said that all our ideas come from impressions.

<sup>32</sup> Immanuel Kant(1724~1804), making distinction between the knowable and the unknowable, asserts inability of the mind to know the reality of the world.

<sup>33</sup> While Immanuel Kant thought that Platonic dialectic (**διαλεκτική**) (the method of dialectic conversation to reach a true understanding of events between the two discussants) as the logic of illusion (*Logik des Scheins*), Hegel arrived at his dialectic (*Dialektik*), in attacking Kantian antinomies (*Antinomie*), and constructed the famous scheme (*Schema*) consisting of 「*Thesis*」, 「*Antithesis*」 and 「*Synthesis* or *Aufhebung*」. Hegel later developed his thought of dialectic into a more comprehensive law of the world movement in his *Enzyklopädie der philosophischen Wissenschaften im Grundrisse* (1817, 1827, 1830, 1840-5), in which he proposes three steps: "the stage of understanding", "the stage of negative reason" and "the stage of positive reason". The theory is so difficult to understand that the above simple scheme of dialectic is widely known as Hegelian dialectic. However, it should be noted that Hegel used the simple scheme only when he referred to the logical implications of Kantian antinomies. (see: Michael Inwood, *A Hegel Dictionary*, Blackwell Publishers, 1992, which says that *Hegel* does not apply the term "*Thesis*", "*Antithesis*" and "*Synthesis*" to his own triads and uses them together only in his account of Kantian triads.)

<sup>34</sup> In *Critique of Pure Reason* (*Kritik der reinen Vernunft*, 1781), Kant presents four different sets of "Thesis" and "Antithesis" as antinomies of pure reason, of which resolution is explained in two steps in the second chapter "Transcendental Dialectic of the Critique of the Pure Reason". It was on these Kantian triads that Hegel constructed his famous scheme.

become worthless.

In paradigmatic cognition, as explained in the foregoing ( The definition of a dynamic paradigm), causality between paradigm-contents plays an important role for overall paradigm change(see:Chapter III).

### III. The Paradigm Change

#### (The essence of the historical cognition of the paradigm theory)

Neither philosophical thought nor scientific principles can escape the limitations posed by space-time. Likewise, the cognition and activities of ordinary people are limited by the overall paradigm of the world, which consists of political, economic and social paradigm-contents as well as technological and scientific paradigm-contents. The overall paradigm of the world changes through the resolution of internal contradictions and conflicts internal to each of the paradigm- contents or those found between/among them, since nothing made by human beings in this world is permanent. However, the change is mostly continuous. When one looks at the history of philosophy, science or human activities, there are always some elements that survive over any periods, whereas there are some elements that are discontinued or die out. In archeological strata, we find different elements in different strata, but, there are animals and plants that have survived over different periods. So it is, also, about the structure of *Savoir* or the scientific revolution. (The above statements are derived from intuitive and intellectual judgment rather than from scientific intelligence. Therefore the statements cannot be scientifically proved. However, there are examples that justify the statement. see: below)

#### 1. Historical views and the world views

##### (A) Historical views and world views of philosophers

Philosophers often cite from the works of past philosophers as if they believe that philosophical thought can prevail over the difference of space-time.

For example, *Sextus Empiricus* distinguishes the following three forms of philosophy<sup>35</sup>:

---

<sup>35</sup> *Sextus Empiricus* : ( **ΣΕΞΤΟΣ ΕΜΠΕΙΡΙΚΟΣ** ) :Greek philosopher from Lesbos, 2~3 Century. The three forms of philosophy are shown in”*Hypotheposes pyrrhnienne*

- (a) The dogmatists<sup>36</sup> assert that truth is discoverable.
- (b) The Academics<sup>37</sup> assert that truth is not discoverable.
- (c) The skeptics<sup>38</sup> suspend judgment.

However, *Sextus Empiricus* stated simply the different approaches that had been prevailing in his own time. If one wants to draw from him lessons on the epistemological analysis of modern times, one may be expanding his thought beyond what *Sextus Empiricus* intended to say. Here, I do not want to repeat what I had said earlier about *Montaigne* and *Descartes*, Hume and *Kant*, and about the Hegelian dialectic, but I do wish to point out the salient points of the time when *Kant* and *Hegel* lived (from 18<sup>th</sup> to early part of 19<sup>th</sup> Century). During the time, there were many wars in Europe as well as between Europe and North America, such as The War of Austrian Succession (1740~48), The Seven Years War (1756~63), The War of American Independence (1776), French Revolution (1789), Napoleonic War (1803~ 1815). The War between The US and The Great Britain and Ireland (1812~15). Such turbulent years should have influenced the thought of both *Kant* and *Hegel*, who wrote “Perpetual Peace(1795)” and “*Enzyklopädie*”(1817) respectively.

While Kant remained rather static and less dynamic in his world views, Hegel was the first philosopher who brought, into his system of philosophy, a full-fledged dynamic through his dialectic mechanism and built unintelligible world views (*Weltanschauung*).

Since ontology and epistemology had been “both sides of the same coin,” in the history of philosophy, it was natural for philosophers to extend their inquiry into the relationship between oneself vis-à-vis others, including nature, the world, and the universe. Philosophers in the ancient Greek era, and the following scholasticism, renaissance, and modern-classic eras, all had their own world views and historical views more or less. However, in the 18<sup>th</sup> and 19<sup>th</sup> Century, the scope of philosophic inquiry went further into the topic of war and peace or the matters of conflict among classes of people.

---

(*Livre I, Chap.I*)=Pyrrhonic Hypothesis (Book I, Chap.I)”.  
<sup>36</sup> Stoics and Epicureans in the ancient Greek times.

<sup>37</sup> Those belonging to the school of Academia established by Plato.

<sup>38</sup> The school of Greek philosophers like Pyrrhonicists (*ΠΥΡΡΩΝ*), Pyrrho of Elis 360~275 B.C.).

While most of other philosophers in 19<sup>th</sup> Century were busy offering the critique<sup>39</sup> on the thought of *Hegel* after his death, it was Karl *Marx*(1818~1883) who succeeded the Hegelian dialectic and modified it into so-called “dialectic materialism”( *Dialektische Materialismus*<sup>40</sup> ). Marx’s thought does unify various components of philosophy such as on finding value only in materials (materialism; in the case of Marx, the surplus-value is found in the labor work itself), and historical views about the class struggles between the working class (*proletariat*) and capitalists (*bourgeoisie*). Such a view is known as “historic materialism” ( *Historische Materialismus*<sup>41</sup>).

The above thought of *Marx* was reflected in the “Manifesto of the Communist Party (1848 by *Karl Marx* and *Frederick Engels*, in London);” Marx was tremendously influential on the political thought of the 20<sup>th</sup> Century. (Marx Leninism and Maoism), as well as on philosophical thought in France and Germany.<sup>42</sup> Although Marx was one of the most popular philosophers in the 20<sup>th</sup> Century, the dissolution of the USSR into Russia and eleven other CIS countries<sup>43</sup> (1991) and the change in political economy of the PRC ( Reform and Opening-up Policy<sup>44</sup>), mark its loss of influence in real politics during the decade of 1990’s.

---

<sup>39</sup> That is quite natural, since offering critical inquiry into the philosophical thought of others is one of the major jobs of philosophers.

<sup>40</sup> The classification of philosophical thought and naming are also an important work of philosophers, whether or not Marx himself used the wording. For example, people believe that Karl Marx rang the death toll on capitalism, the word was never used by Marx himself. The first usage of the word “capitalism”( *Kapitalismus* ) seems to be in *Der Moderne Kapitalismus*(*Werner Sombart, 1902*), and then in *Die protestantische Ethik und der Geist des Kapitalismus* (*Max Weber, 1904-05*) ( <http://www.polyarchy.org/essays/english/capitalism.html> ),

<sup>41</sup> see the above footnote.

<sup>42</sup> *Jean-Paul Sartre* (1905~1980) and *Martin Heidegger*(1889~1976) are examples of those influenced by Marxist thought at one epoch of their life.

<sup>43</sup> Commonwealth of Independent States: Russia and eleven other republics that constituted the former USSR, excluding the three Baltic Republic States (Estonia, Latvia and Lithuania).

<sup>44</sup> After the end of Cultural Revolution (1966~1977), under the leadership of *Deng Xiaoping*, China opted for a transformation of its political economy from that of “socialism as a step to communism” to a “socialist market economy” with a less autocratic system. China joined the WTO in December 2001”.

Marxism is a remarkable example in which philosophical thought is united with political ideology, resulting in revolutions or other forms of power struggles that gave birth to many socialist countries in the 20<sup>th</sup> Century.

Moreover, we will find sooner or later in the 21<sup>st</sup> Century, that the impact of the Chinese political economy, and that of the future development in the governance of Russia, are matters of acute importance for change in the overall paradigm that will affect the destiny of other nations including the US, Europe and Japan.

Having commented on the rise and the fall of Marxism in the 20<sup>th</sup> Century, I have to comment also about another development in the historical view of philosophers, which is the rise of the thought that finds “a rupture of épistémè” and “a transformation of paradigm” in the history of “*Savoir*” and in the “scientific revolution” respectively (Foucault and Kuhn as I mentioned earlier **(in footnote 15)**).

The problem of this approach is that change in history is mostly continuous, despite what Foucault and Kuhn thought. When one looks at the history of philosophy, science or human activities, there are always some elements that survive over any period, despite the fact that there are some elements that die out or are discontinued. Just as in the case of archeological study, we find different elements in different strata, but, there are animals and plants that survive over the difference of ages by periodization. So it is also about the structure of *Savoir* or the scientific revolutions. This means that, although the models shown by Foucault and Kuhn can apply and can explain certain aspects of history, there are always some exceptions that cannot be explained by these approaches. The above also means that truth is multifaceted and that one could see whatever aspects one likes and therefore could argue differently. This issue of the multifaceted character of truth has been a favorite subject of literature<sup>45</sup> for a long time, and ordinary people know that we cannot think solely in a dichotomized way of asserting that truth is discoverable or not discoverable. Even, in modern physics, scientific inquiry

---

<sup>45</sup> Rashomon is an internationally acclaimed Japanese film directed by Akira Kurosawa in 1950, in which three witnesses of a murder tell three different stories. There is literature in every nation which tells that a truth will appear differently depending upon the angle from which it is seen.

has depended largely on technological development<sup>46</sup> and quite recently it has had to accept the uncertainty principle. Can one still assert that truth is something that is certain ?

In “paradigmatic cognition”, there also arises the question of historical cognition and that of periodization. By creating the notion of “paradigm and its contents,” we find that the overall paradigm continues to change all the time, reflecting the resolution (at the level of paradigm-contents) of conflicts and contradictions within each paradigm-content or between/among paradigm-contents. This means, on the other hand, that there are some other paradigm-contents that do not change when other contents change. The change in the overall paradigm is continuous and change is gradual at an overall paradigm level.

For example, the USSR was dissolved into Russia and eleven other CIS countries in 1991. What did it change? The governance structure of the countries involved has changed certainly, yet there are people in those countries who remained in the same place with more or less the same social norms as before regarding family relationships, succession of private assets, etc. Although the political paradigm (a content) had changed dramatically and there arose some conflicts and contradictions vis-à-vis other paradigm-contents, the others will take various steps to change themselves. This approach of historical cognition means that one can argue that a paradigm change has discontinuity in some respect, but it is also continuous in some other respects at a given time. So, when one has to periodize the paradigm change, one has to set clearly a specific angle of viewing things. Periodization is possible in historical paradigmatic-cognition, but it is not at all like the approach taken by Foucault and Kuhn.

Having said the above, I have to refer to my earlier book entitled “Paradigm Theory and Policy Making,” in which I showed an example of periodization in pp 43-53. However, I have to admit that I have not developed my thought fully in depth in terms of “periodization”, although I think the example shown in the book is still justifiable in one way or another.

---

<sup>46</sup> Scientific theory needed technological development, and that often inspired scientists to formulate a new theory.

## **(B) Historical views and world views of a polity**

In the long history of the world, people have experienced the change in a polity that shows how they are governed and the change in the territory governed by the polity. Polity is usually understood to mean an abstract way of governance of a nation-state, but, here in this paper, I have in mind a polity accompanied by real people and territory that existed in history, and those now existing. In the history of the world, a polity rises and replaces the former polity with the union of people and territory or dissolution of such a union. This means that, in historical cognition, it is absurd to think that there is a choice of polity at hand, like you are shopping in some store.

From religious governance to autocratic governance by a family or by a military dictator, there have existed and still exist many shapes of undemocratic polities. On the other hand, among so-called democratic polities, we can distinguish different polities with different governance systems. In fact there are some nominally democratic polities that can be compared to a de-facto autocratic polity, in which the rule of law is sometimes subjected to the discretion of a political leader, who is elected by people under questionable circumstances such as bribery or intimidation. There are even cases that people democratically elect a potential-dictator under due process designed by constitutional provisions, without knowing the consequences of their selection ( e.g. the case of Germany in 1933).

Whether it is a democratic polity or not, a polity has its own history for its birth, and its own values that made it replace the former polity.

The cases of the USSR ( The Union of Soviet Socialist Republics, 1922~1991) and of the PRC ( People's Republic of China, 1949~) eloquently demonstrate that they originally aimed at building a society in which peasants and working class people in cities would hold political power. Instead of building a communist society at once, they opted for a two step development strategy, in which they first built a socialist nation-state as a transitional step for building a true communist society. The PRC kept a good relationship with the USSR in the initial stage of its nation-building until 1960, but their honeymoon-like relationship was broken up over some strategic issues between them.

Over the passage of time, in the period of 1950's and 60's, both of them ended

up with a dictatorship by the communist party leadership (in the PRC), or by the military or secret police leaders(in the USSR). After the Chinese Cultural Revolution (1966~1977), the PRC opted for opening up its economy to the West, since 1978, and its leadership has recently decided to join the WTO (in December 2001). Yet, its polity still allows dictatorship by the Communist Party. Despite some political gestures, inviting some representatives of bourgeois class citizens into the communist party, the constitutional framework of the polity cannot be concealed.

With the breaking up of the USSR in 1991, and the succession of political power in Russia, from President Yeltsin (Boris Nikolaevich, 1931~) to President Putin(Vladimir, 1952~), the PRC is now playing a power game between the US and Russia

For the survival of a polity, “military support” and “economic power” are essential. The initial strategy of the USSR was to strengthen its relative position in the cold war structure through a “divide and govern” policy.

Apart from the military aspect, both the USSR and the PRC initially believed in a planned economy. However, the stiff and opaque manipulation of economic planning by the communist party bureaucrats did not allow their economies to function as planned. The USSR had to be broken up and the PRC had to live with the West.

The above is the very rough sketch of the political changes that took place in the Eastern block until now.

Now, given the fact that we have a certain number of political powers struggling to survive under the seemingly dominant presence of the US military power, we have to recognize that US leadership in the 1990's is decaying, due to the change in the relative economic standing among nations, and the fact that the EU, Russia, PRC and other nuclear weapon-possessing nations are by no means under US disciplines.

In such a situation, it is important to know about historical views and world views held by a polity; this knowledge is important for analyzing the behavior of a specific nation-state in the foreseeable future. A nation-state has its own polity which has been historically formed over the passage of time, and thus upholds the values thus formed of such a polity. Therefore a polity has its own historical views and world views that are usually shared

by the constituents of the polity ( although, of course, there may be some dissidents or anti-Establishment groups).

The historical views and the world views held by a polity are somewhat different from those of historians. The former strongly uphold certain political values and draw on the historical cognition of the nation-building period behind it.

For example, the US upholds such values as freedom, equality, fairness and human rights, and calls for an international alliance for spreading democracy throughout the world. This constitutes the historical views and the world views of the US.

There is another example, in the history of China, resistance against the Japanese militarism of the 1920's and 1930's was the major achievement of the Chinese communist party, which led it to the final victory over Japan in 1945 and to the creation of the PRC in 1949. Holding onto the cognition of such historical events is one of the most important factors for justifying dictatorship by the communist party and for not implanting a democratic governance system in China. The PRC government tries to manipulate anti-Japanese sentiments of Chinese people through school education of historic events and through the control of journalism at its discretion. This is the main reason behind the recent riots (in April 2005) in several Chinese cities against Japan<sup>47</sup>.

In the history of 20<sup>th</sup> Century, the rise of Fascism in Italy, Nazism in Germany and Imperial Militarism in Japan gave rise to WWII. Behind such

---

<sup>47</sup> Among the major economic powers of the world, the current polity of Japan is the only one in which the government and the people do not share specific historical views. Japan was reborn as a democratic nation after the defeat in the WWII. However, the Japanese culture made Japanese people concentrate on future nation building and gave an unfounded belief that the criminal military deeds during wartime were forgiven once a peace treaty is concluded with the former enemy nations, and economic reparations are agreed. In teaching history to younger generations, the attitude of the government was not laudable as compared to the attitude of Germany. Yet, behind the continued attacks by Chinese people on the historical cognition of Japanese people, there is this specific historical cognition of the Chinese communist party. This means that the political tension between China and Japan will repeatedly appear on certain occasions that the Chinese government wishes to choose. It is quite naïve to believe that the issue of historical cognition between the two countries can be solved easily by bilateral talks or a joint study of history.

a variety of ideologies held by the Axis powers, there were the historic views and world views that supported the formation of such ideological movements, as well as the pursuit of political and economic interests.

However, these historical views and world views held by a polity may change over the passage of time, as the need to achieve certain political objectives are felt keenly by the polity. In addition, even within the same polity, there may be a partial modification of historical views by a change of government from one political party to another.

For example, President Bush, visiting Riga, the Capital of Latvia, before attending the 60th anniversary ceremony of the WWII victory, held in Moscow, told the leaders of the Baltic states (Estonia, Latvia and Lithuania) and the press that the Yalta agreement<sup>48</sup>, which had implicitly allowed the USSR to continue to occupy the Baltic States, was a great mistake. He even called the oppression of the USSR on the people of Baltic states “evil” during the occupation. This is an important change, though partial, in the historic cognition or in the historic views held by the US government since 1945.

The above speech by a US president reflects the delicate change in the political power balance between the US and Russia, especially in view of the strong recovery of Russia under the leadership of Vladimir Putin.

## **2. Paradigm theory and economics**

Traditional economic research can be roughly divided into the following two categories:

(A) Theoretical research on relationships among economic quantities and the behavior of economic agents (individual persons and households, individual businesses and the business sector, and central and local governments) together with the business cycle and other economic phenomena.

(B) Research on (a) the framework for measuring economic quantities such as price, wage, employment, and other factor quantities of macro and micro economic nature and (b) the System of National Accounting that covers

---

<sup>48</sup> Agreement reached among Stalin, Churchill and Roosevelt at Yalta in Crimea in February 1945, which covered a broad range of issues from the reparation of the war to the preparation of the world organization (UN). Despite the effort by Roosevelt, the agreement was the subject of controversy and some historians considered it gave undue concessions to the Soviet Union for the sake of securing an agreement, in principle, for world peace order after the war.

production, expenditure and income distribution including the accounts of money flow, balance of payments and Input-Output Tables. These research forms are so-to-speak the infrastructure for verifying the theoretic research of (A) above.

Looking at the above research items in category (A), I find two problems in the methodical approach of traditional economics, especially from the viewpoint of my paradigm theory.

**The first is the problem of so-called “externality”.**

For a long time, economists thought that the behavior of economic agents in a market economy ( based on the free will of market participants) could be analyzed purely from an economic rationality point of view. Therefore, the impact of political interventions or systemic distortions on a market economy, such as governmental regulations etc. are “externalities.” The economists put aside these matters as being out of the scope of economic inquiry.

From the paradigm theory viewpoint, however, economic agents are expected to conform to the normative paradigm prevailing not only in the marketplace, but also in the nation-state as a whole, where their economic activities are based. They are also expected to respect the factual basis of the paradigm.

The scope of the paradigmatic impacts that affect the behavior of economic agents is not necessarily small when theorizing the behavior of economic agents purely on the basis of free will and economic rationality. In recent years, economists noticed a problem in the traditional approach, and started introducing the notion of market failure and thereby accepting, in the economics itself, problems arising from externality caused by political and social interventions or by systemic regulations (such as environmental ones). Some economists go father to explore the new frontier by using economic analysis on these matters, or by trying to apply “game theory” on strategic choices of economic agents on contradictory and competitive situations, or even on political motivations of governments in international problem solving. However, the more economists want to explain human behavior in numerical terms, the more complicated and difficult it becomes. So far, the endeavor in these new fronts remains relatively unrewarded..

**The second is the lack of a paradigmatic concept in the minds of economists.**

As explained in Chapter II ,paragraph 2 above, all political, economic and social paradigm-contents are intertwined with each other, and they all change over time historically. From historical cognition, there is no guarantee that any economic theory, no matter how influential and widely accepted by economists, at a given time and place, is exempt from being affected by paradigm changes nor is it applicable beyond the limits of space-time.

From such a viewpoint, we need to examine the assumptions underlying any economic theory and clearly understand the limitations of its applicability in terms of place (in market-wise<sup>49</sup> sense) and time, by confirming that assumptions are not affected by paradigm changes.

However, there are too many economists who, ignoring the above, try to apply theories that were accepted in the US market and were popular 10~20 years ago, to current economic events of other nation-states. This tendency is found not only in the case of foreign economists who studied in the United States but also in the case of American economists who deliver irresponsible comments on economic management abroad. It seems that economists, irrespective of their national origin, are obsessed with “a general theory complex” and believe in the general applicability of economic theory widely accepted in the country where both economy and economics are flourishing; they don’t verify whether the theory in question is a special theory applicable only in the US market at a given time, or is a general theory applicable to any market over the world beyond space-time<sup>50</sup>.

The important findings in my past case studies on Japanese policy making (see the Bibliography item (1)~(3), all published in Japan in Japanese) are that the consecutive serious policy failures in Japan since the 1980’s derive from the fact that both policy makers and economists, who gave intellectual advice for policy makers alike, were so-to-speak “paradigm-blind,” and ignored the paradigm changes that nullified the applicability of old economic

---

<sup>49</sup> In view of the difference of the market participants’ culture, of market practices and the regulations applicable on market transactions, there exist differences in the market architecture ( the specific nature and structure of a market) (see: IIDA, Paradigm Theory and Policy Making, Tuttle Publishing 2004, pp24~27).

<sup>50</sup> For more examples of such abusive applications of economic theories, see Column I: “The Abusive Application of Economic Theory” in IIDA, Paradigm Theory and Policy Making, Tuttle Publishing 2004, pp28~35.

theories.

### **3. Forecast and discovery**

The paradigm theory as explained in this paper is a sort of epistemology in policy making. If you want to distinguish it from traditional epistemology, it is not scientific epistemology but artistic epistemology. Fine epistemic cognition on problematic events is not always accompanied by fine solutions. They are different things. However, if one's epistemic cognition is wrong or unfounded, there is little possibility of finding right solutions, unless one is very lucky.

Sometimes, fine cognition offers certain possibilities of forecasting future paradigmatic developments or some useful discoveries, just like drawing an additional line in geometry, leading you to find the right answer. In this sense the paradigm theory may serve as an epistemic tool for policy making. In Chapter II, paragraph 2, (B), (b), (2), example 2. (p18), I explained the paradigm changes in the 1970's to 1980' and showed how the conflicts and contradictions internal to each paradigm-content and between/among paradigm contents give rise to changes of paradigm-contents through the causal relationships among themselves. Particularly, in this explanation, I raised example 2 which explains how the UR securities reform on May Day, 1975 gave rise to a tremendous impact not only in the domestic financing paradigm(content) in the US but also in the prevailing international financial paradigm (content), and induced the British financial Big Bang in 1986.

At least in the latter half of the 1980's, policy makers in Japan could have noticed that the paradigmatic change in the international market had produced a tremendous paradigm gap between the local one in Japan and the international one. The policy implications of paradigmatic cognition should have been crystal clear for policy makers in Japan, even if they were mediocre ones. Yet they have been so-to-speak "paradigm-blind", because they did not have the notion of "paradigm", "paradigmatic change" and "paradigm gap"; that might have helped them arrive at correct policy making decisions. Instead, they allowed an economic bubble to form, delaying financial reforms, and after the burst of the bubble, making the Japanese

people suffer from great economic damage. The timing of the declaration to undertake the Japanese version of the “financial Big Bang” was declared as late as November 1996, and the complete abolition of the securities fee cartel finally took place only in October 1999.

## IV Conclusion

### (A) Assumptions about policy making and the actual behavior of policy makers

Under normal circumstances, when policy debates take place among policy makers and people at election time, or when policy issues are discussed among academics, the following assumptions are implicit:

**Policy makers will behave as the trustees of people and do their best for the interest of the people<sup>51</sup> (whether elected for legislative branches or nominated for certain positions responsible for policy making).**

The above premise is the most important assumption of policy debates; it could be called a normative assumption for the behavior of policy makers.

However, the actual behavior of policy makers sometimes contradicts the normative assumption.

Apart from corruption in normal usage of the term, there are also the following actions that are often observed even in highly democratized civil

---

<sup>51</sup> (1) In the case of election for the legislative branch, policy makers make commitments to people about certain policies in the form of a manifesto of a political party, or in other forms. It is assumed that such commitments are honestly observed during their terms.

People will examine the voting records of those elected in the legislative branch and make judgments in the next election.

(2) In the case of the nomination of a senior officer’s position responsible for certain important policy making, there is a screening procedure for the nomination by a competent legislative branch ( in case of the US) or in other forms, so that people could rely on the nominee’s competence and fair judgments.

(3) In the case of a nation not democratically governed, but has an election system of whatever form to elect representatives of the legislative branch or heads of state, there are cases where political tensions exist between the administrative branch and the legislative branch, both of whom proclaim that they represent the interest of the people.

(4) In the other cases of autocratic nation-states, the head of the government has to demonstrate to the people that the policy making of the government is for the people, so that the head may not be replaced by the political opponents through military-coups or revolutionary movements of the people.

societies, where the principle of information disclosure is strongly upheld;

**(1) Policy making for the maintenance of the power in the Executive Office**

Except for some emergency management operations, or some policy measures, when authority is delegated to the central bank or an independent administrative body, policy measures that may affect the rights and obligations of the people are always publicly announced, under due process, conforming to the principle of “the rule of law” and appearing rational from the people’s perspective. However, when we examine if all the policy measures so announced and implemented are rationally designed from the people’s perspective, there are many cases in which the real motivation for policy making is the maintenance of power and not necessarily for the interest of the people. For example, we observe many cases in which holders of political power plan to convert people’s attention to some international conflicts, and try to cover up their domestic policy failures.

There are also cases in which financial sponsors of the ruling power directly approach the government to adopt the policy of their interest, or through their own think tanks. Such is often the case of the military-industry-complex that may benefit from international conflict-solving operations.

Of course, it cannot be denied that such policy making has its own merits from a certain perspective, but there should be a serious process of verification on whether such policy making is in fact truly beneficial to the people.

**(2) Policy making for political alibi-making**

Whether there is a right answer for the problem or not, there are cases where dubious policy measures are taken temporarily to mitigate domestic pressures. Representative cases are Japanese currency interventions (buy dollar-sell yen operations in the currency market) to avoid yen appreciation, and US sanctions on Chinese exports to mitigate the anti-free trade sentiments of the US congress. The economic effectiveness of such policy measures is dubious but the administrative and /or the legislative branch recognizes the existence of the problem (mostly complaints coming from industrialists in some corner of the country) and takes such actions in order to let the people know that they are aware of the issue and that they are making every possible effort. I call such kind of a policy measure “an alibi-making” one.

By the same token, governments and legislators tend to procrastinate on implementing desirable policy measures for fear it would destroy the support of the ruling party in their own constituencies. In such cases, governments tend to take “alibi-making” policy measures instead. For example, I can designate the case of the famous Plaza Agreement<sup>52</sup>, which was planned and proposed by the US government and was agreed upon by the G5 members (both governments and central banks). It was exactly the policy designed to mitigate anti-free trade pressures from the US congress.

### **(3) Policy making in pursuit of partial interests of certain groups.**

The relationship between policy makers and private sector groups is different from one nation-state to another. However, in many countries, policy makers try to help certain interest groups (such as agriculture, weaponry or IT related strategic industries etc.), through subsidies or tax incentives, under the pretext of promoting national or other public interests (such as protection of agri-businesses, small industries or infant industries). In some countries, the policy making process is not transparent and tends to lead to corrupt practices by public servants and politicians. However, one of their most important tasks is to respond adequately to the demands of their electorate. Therefore, it is not necessarily inappropriate

---

<sup>52</sup> The Plaza Agreement was made in September 1985 at The Plaza Hotel (NY) by the Finance Ministers and the Governors of central banks of the US, Japan, the UK, Germany and France. The purpose of the agreement was to immediately rectify the situation, in which the US dollar rate was too high for the US to improve its trade balance, and to maintain the rectified US rate for an appropriate length of time. For these purposes, G5 members agreed to sell the dollar and to buy the currencies of other member countries in the currency market (the so-called cooperative currency intervention), and to take coordinated macroeconomic policy measures to help improve the US trade balance. However, in view of the trade practice prevailing in world trade markets (mostly dollar-denominated trade transactions with high components of long term contracts), it was evident that the so-called J-curve effect will prevent a US trade balance correction despite depreciation of the dollar. This conclusion should have been understood from the beginning of the agreement by some clear-thinking economists and by the trade circle. If policy makers did not know about such trade practices, it is strange indeed.

Any way, the purpose of the agreements were not achieved, but it was a useful exercise that mitigated the anti-free trade feeling of the US congress. US policy to improve the US trade balance at the time should have been “to actively pursue rapid productivity growth” of US industries, or “to correct investment-savings imbalances”, according to remarks by CEA Chairman Beryl W. Sprinkel (see: 1989 Presidents Report= The Annual Report of the Council of Economic Advisers p121 and 1986 Presidents Report p53).

for policy makers to give such economic incentives to private sector business groups. In the case of the US, the process of policy making seems to be relatively more transparent than in other countries. They reason that policy proposals coming from the private sector, whether through K Street lobbyists or not <sup>53</sup>, are transacted in transparent and competitive environments, and would result in an increase of private sector vitality as a whole. In such cases, this type of policy making process could be considered an appropriate policy recipe for the economic success of the US . It may be so. Nevertheless, such processes, being disguised as serving the public interests may end up widening the gap between the rich and the poor and between winners and losers. The formation of the competitive society is always accompanied with the need to verify whether fair competition and equity of business opportunities are guaranteed ( at least have a level playing field for all competitors).

### **(B) Paradigm theory as an epistemic tool of policy making**

The above examples (1)~ (3) show that the actual behavior of policy makers faces some traps, in which contravention is the very assumption of policy making, as mentioned in the beginning of paragraph (A) of this Chapter. Therefore, it is vital for people to carefully watch the process of policy making. Of course, the people are not adroit in finding problems in the details of policy packages. However, they may question, for example, the very paradigmatic cognition of policy makers at the time of the policy presentation, and later check if the policy means were appropriate for achieving the objectives.

Let me take the example of the Iraq invasion policy of the US and the “coalition of the willing” in March 20, 2003.

The policy affected not only the people of Iraq but also the people of many other nations. The basic assumption behind the policy that justified the invasion was the assertion by the US government that “weapons of mass destruction” had been held by Iraq, but which were not found at all after the invasion.

---

<sup>53</sup> In K Street of Washington DC, there are many offices of lawyers and consultants earning fees from private sector groups for their lobbying services; they propose policies to legislative and administrative branches, on behalf of certain private sector business groups.

Was the cognition of the US policy makers founded or unfounded ?

The above cognition itself is that of factual events. However, the cognition as to whether a nation-state possesses WMD (Weapons of Mass Destruction) to utilize in achieving its national interest is the factual basis which, in turn, affects the strategy of other nations to achieve international peace keeping. Therefore it constitutes paradigmatic cognition in my definition.

Also, there are problems in the way the US government justified the invasion post-facto that (1) the war was not against the Iraqi people, but against the terrorists, and the people of the US should stand united and that (2) the continuation of the US intervention on Iraqi affairs was necessary to establish a democratic society in the country through constitution building by their own hands etc.. The US government went further to assert that (3) the democratization of the entire Middle East region was necessary for the success of the peace process<sup>54</sup>.

Nevertheless, Iraq is a nation-state composed of the Arab (Shiites and Sunnis) and the Kurd people. They have their own religion and cultural heritage and values based thereon, which are quite different from those in Western civil societies. This is the core paradigm-content that has to be cognized before the US intervention policy can be determined, even before the judgment is made if an invasion is justified under American values, or for whatever reasons. Is it possible that the US could alter the core paradigm contents of other people through military actions and other unilateral interventions? The answer to the question will reveal itself over the passage of time<sup>55</sup>. When policy-makers make a wrong paradigmatic cognition,

---

<sup>54</sup> The word peace process generally means various efforts to effect peaceful solutions of conflicts in various regions of the world at different times in history. However, in the context of this text, it means the peace process which the US happened to be pursuing, during the period of the Iraq occupation, with respect to solving the conflicts between Israelis and Palestinians or between Israelis and Arabs.

<sup>55</sup> There is a certain tendency in American culture that their values, such as freedom, equality, fairness and human rights, should be shared by the people of the world, and that even military actions could be justified for that purpose. This tendency is also seen in recent American journalism reporting, that some academics believe in the notion of “common sovereignty” on matters of values that should be shared worldwide. In fact many Americans say that the US destroyed the system of tyranny and oppression of Saddam Hussein over the Iraqi people, and that destruction should be welcomed by

it is for the people to question it through their own paradigmatic cognition. The above argument will assist understanding the meaning of “paradigm theory as an epistemic tool of policy making,” as captioned in this subparagraph (B).

(End)

## Bibliography

(1) 明里帷大 Idai AKARI	世界経済のパラダイム変化 と日本の経済政策  The Paradigm Change in the World Economy and the Japanese Economic Policy	税務経理協会、 2002  Zeimu-Keiri-Kyokai Publishing, 2002 (text in Japanese)
(2) 明里帷大 Idai AKARI	ミレニアム・デフレ不況の構 造( 経済政策はなぜ失敗する のか )  The Structure of Millennium Deflationary Recession	中央経済社、 2004 Chuo Keizai Publishing, 2004(text in Japanese)
(3) 明里帷大 Idai AKARI	社会保障の財政改革  Financial Reform of the Social Security in Japan	中央経済社、 2005 Chuo Keizai Publishing, 2005(text in Japanese)
(4) Akira IIDA	Paradigm Theory & Policy Making	Tuttle Publishing, 2004
(5) Thomas S. Kuhn	The Structure of Scientific Revolutions	The University of Chicago Press, 1962, 1970,1996
(6) Steve Fuller	Thomas Kuhn: A Philosophical History for Our Times	The University of Chicago Press, 2000
(7) Michel Foucault	Les Mots et les Choses	Éditions Gallimard, 1966

them. This opinion is, however, no different from ultra-right-wing politicians in Japan, who from time to time say that the Japanese invasion before WWII liberated those colonies in Asia and helped their independence. The military invasion of a sovereign nation-state is always problematic and the principle of self-determination of a nation should be respected, in principle.

(8) (English translation of the above)	The Order of Things	Travistock, 1970 Routledge, 1989
(9) Michel Foucault	L'archéologie du Savoir	Éditions Gallimard, 1969
(10) (English translation of the above)	The Archeology of Knowledge	Travistock, 1972 Routledge, 1989
(11) Raymond Boudon et François Bourricaud	Dictionnaire Critique de la Sociologie	Press Universitaire de France, 1982
(12) (English translation of the above)	A Critical Dictionary of Sociology	The University of Chicago Press, 1989
(13) Raymond Boudon	The term "Structure" and its Polysemic Character	Sage Publications, 1997 'The Classical Tradition in Sociology-European Tradition Volume IV
(14) Tom Bottomore and Robert Nisbet	Structuralism	Ibid
(15) José Guilherme Merquior	Foucault	Ibid
(16) Elias Mossialos, Anna Dixon, Josep Figueras and Joe Kutzin (editing)	Funding Health Care (Options for Europe)	Open University Press, on behalf of European Observatory on Health Care Systems, 2002
(17) Michel de Montaigne	Essais II, Chapitre XII, Apologie de Raimond Sebond	Éditions Gallimard, Folio classique
(18) René Descartes	Discours de la Méthode	Éditions Gallimard, Folio classique
(19) Michael Inwood	A Hegel Dictionary	Blackwell, 1992
(20) Karl Marx & Frederick Engels	Manifesto of the Communist Party, 1948	
(21) Stephen Hawking	A Brief History of Time	Bantam Press, 1988

(note) Having a poor access to the hard copy of recent academic publications in the US, UK and the continental Europe, I owe a lot to the works displayed on the Inter-net site ( Home Pages of Universities and free Encyclopedia such as Wikipedia).