

# Schumpeter and the Concept of Social Evolution: Role of Innovation and Invention<sup>1</sup>

Kiichiro Yagi  
(Kyoto University)

[Still very preliminary. Don't quote!]

## 1. Changing attitude to the term “evolution”

Schumpeter is generally regarded as one of the most influential ancestors of the contemporary evolutionary economics. However, it was only in his later years that he began to use the term "evolution" in his writing. In his European years, he kept cautious attitude against the penetration of evolutionary ideas into economics and other social sciences. This is shown in the last chapter of his 1911 book (*Theorie der wirtschaftlichen Entwicklung*, hereafter *TWE*), and is repeated again in the recently discovered article "Entwicklung" (1932). He mentioned two grounds to be cautious with the connotation of the term 'Entwicklung': Firstly, evolutionary ideas were allegedly contaminated by the 'faith in progress', and secondly, they might lead to illogical analogy with biological evolution<sup>2</sup>.

“Terms such as ‘development’ (Entwicklung) or unfolding suggest that some identity needs to be maintained on part of the entity that develops. The staying power of this idea is almost as strong as the staying power of ideas in primitive thought. Yet, this very idea seems to be the origin of many wrong preconceptions and misguided ideas. There are two more associations with the term "development" that we need to get out of our way: faith in progress and evolutionism.”<sup>3</sup> (*Entwicklung* 1932=2005)

However, there is a sign of change in the mid of 1930s, since he called in his private correspondence the English edition of the *TWE* (*Theory of Economic Development*, hereafter *TED*) not in the publication title 'development' but 'evolution.'<sup>4</sup> Then, in the end of thirties, in *Business Cycles* (1939), the term 'evolution' occupied a central position that expressed a general vision of the whole process of economic change.

"The changes in the economic process brought about by innovation, together with

---

<sup>1</sup> This is a sequel to Yagi (2006) and contains the correction of my wrong identification of the '1933 Plan' to Schumpeter in Yagi (2003).

<sup>2</sup> We should notice here the intellectual situation related to the evolutionary theory in Europe then. In the area of social evolution a Spenserian version of progressivism was prevalent, whereas in biology a speculative evolutionary tree drawn by Ernst Haeckel would assigned every existing (or ever existed) species of the world the places ordered in the degree of evolution.

<sup>3</sup> Schumpeter (2005), p. 119.

<sup>4</sup> Schumpeter (2000), p.267.

all their effects, and the response to them by the economic system, we shall designate by the term Economic Evolution. Although this term is objectionable on several counts, it comes nearer to expressing our meaning than does any other, and it has the advantage of avoiding the associations suggested by the cognate term Progress, particularly the complacency the latter seems to imply."<sup>5</sup> (BC 1939, I, p.86)

As this citation tells us, Schumpeter in the end of the 1930s rejected the first of the two grounds of his former anxiety in adopting the term 'evolution.' He came to think that the term 'evolution' can be used as a value free term in social science. Then, the problem is whether he maintained his antipathy against 'evolutionism.' As I argued in my preceding paper (Yagi, 2006), he was against the both sorts of 'evolutionism,' the romanticism of an organic development as well as the biological evolution theory in the direction of Darwin and Mendel up to his death. Thus his task after the 1930s was to construct a theoretical frame which can explain social and economic 'evolution' without relying on romantic metaphor or biological theory. I don't think he was hopeless to tackle this task, since he was not alone in this respect. I would say, it was his encounter with American scholars who were more or less empirically oriented to the process of socio-economic evolution that motivated Schumpeter to generalize his vision in the term of 'evolution.'

I visited the Harvard University Archives in March 1998 and found two typescript versions of the plan, "Social Evolution and Historical Process," dated on March 11, 1933 and on April 9 of the same year in the Schumpeter Papers. In my paper read at an international symposium in Pushino near Moscow in September 2003, I erroneously identified Schumpeter as its author. However, two months later, Prof. Esben Sloth Andersen, Alborg University, suggested me that Abbott Payson Usher, an economic historian of Harvard University, was the true author. R. L. Allen wrote in his Schumpeter biography that Schumpeter met often with Usher in the very months of the origin of the '1933 Plan.' Usher might have handed his plan to Schumpeter to ask his advice or just to discuss over the topic. I surrendered when I knew that Usher used in his publication several peculiar expressions in the "1933 Plan."<sup>6</sup> Usher had used the term 'innovation' in his *History of Mechanical Invention* (Usher, 1929) before the English edition of TWE appeared. He argued for the concept of 'evolution' and the modern liberal 'statecraft' in his presidential address of the American Economic Association in 1934. Further, the added chapters in its revised edition of 1954 can be regarded as the retarded (partial) outcome of the "1933 Plan."

The reason why Schumpeter kept Usher's Plan in his private files up to his death is not clear. However, it is very likely that Schumpeter had a concentrated discussion on the broad areas of 'social evolution' with Usher in the first year of his move to Harvard. I suppose it affected Schumpeter's attitude to the concept of 'social evolution' as well as to the empirical/historical direction of the investigation. Of course, Usher was not a sole person that Schumpeter encountered at Harvard and acquired stimulus in his turn to

---

<sup>5</sup> Schumpeter (1939), Vol. I, p. 86.

<sup>6</sup> In a private correspondence (January 4, 2007), Miriam Usher Chrisman, Usher's daughter, a historian of late mediaeval Europe of University of Massachusetts, Amherst, confirmed that the "1933 Plan" is derived from her father's hand on the ground of the topics and terms in it. She gave me also the permission to publish the plan generously.

empirical and historical approach. However, we should first focus on Usher.

Appendix I

**Social Evolution and Historical Process**  
[Plan A: Shorter version dated of March 11, 1933]

- I. Concepts of social evolution.
  - Linear and multilinear concepts.
  - Social evolution a multilinear process of dynamic adaptation.
- II. Concepts of growth and progress.
- III. Continuity, discontinuity, and change.
  - The process of invention.
  - Rhythmic and cyclical movements.
  - Vicissitudes due to external circumstance.
- IV. Evolutionary process and "genius".
  - Transcendental concept of genius as unconditioned.
  - Achievements of "genius" conceived as conditioned acts of synthesis.
- V. Modes of institutional development.
  - Development from implicit relations to explicit institutions.
  - Rhythmic development through increasing specialization of function and increasing integration of control.
- VI. Groups, Classes, and social conflict.
  - Groups and classes,
  - Progress of individual and group adjustment.
- VII. The nature and measurement of material well-being.
- IX(*sic*). Economic statecraft.
  - Development from naive empirical maintenance of "tradition" to conscious constructive social adaptation.

**Social Evolution and Historical Process**  
[Plan B: 2 pages longer version dated of April 9, 1933]

- I Secular trends, cyclical fluctuations, and catastrophic interrelations of growth.
  1. Methods of analysis of time series:
    - complete or partial elimination of the trend,
    - cyclical fluctuation as a function of technological change
    - Persons, Mitchell, Schumpeter.
  2. Types of secular trends,
    - Indices of physical production and trade,
    - Indices of prices,
    - Movement of population,
    - Indices of consumption.
  3. Catastrophies,
    - Drought and flood,
    - Pestilence,
    - War.
- II Institutional development.
  1. Institutions to be interpreted as explicit modes of expressing implicit social and economic relations.
    - Note antithesis to position of institutionalists that changing institutions require modifications of pure theory.
    - Case problem. Valuation and the early development of the market.
      - Reading: The origin of money
      - Trade in primitive society
  2. Broader features of the process of institutional development.
    - Alternation of specialization of function and integration of control.
    - Case problem: Trading companies and corporations, 1200-1900.
  3. Degree of logical unity of institutional organization achieved in particular societies at particular moments.
    - essential multiplicity of institutional process,
    - criticism of the concepts of economic stages. esp. Sombart.
    - concept of a contractual society,

- Maine, Ancient Law.
- chronology of the development of modern contractual society.
- III Processes of innovation.
  - Scope of innovation as a social factor.
  - invention and discovery,
  - the process of invention,
  - the process of discovery,
  - institutional innovation as a phase of innovation
  - in philosophy and science,
  - Case problem;
  - the development of legal concepts:
    - customary law
    - case law
    - codes and their interpretation.
- IV Processes of adaptation.
  - Range of the phenomena of adaptation: geographic, social.
  - Societies to their environment
  - Societies to each other
  - Groups within a society to other groups
  - Individual to the group.
  - Basic processes:
    - Diffusion
    - Imitation.
  - Leadership and its functions.
- V. The concept of social evolution and its formulation.
  - Critical reviews of literature
  - The concept of a multilinear processes of dynamic adaptation.

[HUG(FP)-4.42/Joseph Schumpeter/Identified Notes Box 1]  
 (By the courtesy of the Harvard University Archives and Miriam Usher Chrisman)

## 2. Another 'innovation' researcher: Abott Payson Usher

Abbott Payson Usher (1883-1965) was a genuine Harvard scholar that acquired all the degrees of Bachelor, Master, and Ph. D at Harvard and after a decade of teaching life in other universities returned to the alma mater in 1921. When he met Schumpeter, Usher was an associate professor of Economic History, but was promoted to full professor in 1936 and retired from it in 1949. His first book in 1913 was on the topic of the grain trade in France in early modern age, but turned to the study of the industrial revolution in England. From this study he formed his interest in inventions that changed the structure of industries, whose outcome was *A History of Mechanical Inventions*, 1929 (hereafter *HMI*). In this book he used the term 'innovation' as a key concept for the understanding of economic change prior to the appearance of the English edition of Schumpeter's *TWE (TED)*.

"Changes in technique involve series of individual innovations that are finally embodied in practical accomplishments. These series or sequences of relatively independent inventions are among the most intense manifestations of the dynamic process of history."(*HMI*, p.4)

Like Schumpeter, Usher stressed that innovations were nothing other than creative activities of individuals. However, he was against the 'great men' theory that hypostatized exceptionally heroic persons that could guide others. Rather he would understand innovations together with the process of recognition and learning of

individuals and their groups that lived under given resources and institutions.

"... we are beginning to realize that these phenomena of innovation are neither more nor less mysterious than the most humble and commonplace phases of our mental life." (*HMI*, 1.ed, p.8)

"Innovation is an integral part of the process of learning, an inescapable necessity for the individual as for the group as a whole." (*ibid.*)

According to him, a sub-consciousness element that was formed by experiences and habits played important role in the emergence of innovation. An 'inspiration' is in reality nothing other than a discovery that was based on critical analysis of the existing experiences. However, lots of inventions are necessary to bring a general concept behind this 'inspiration' to its practical application. A synthetic effort to combine various knowledge and ideas as well as their critical modification are needed to attain the full achievements of the potentialities which exists implicitly in the general concept or principle. Thus, Usher constructed a sequence view of inventions that consists of critical analysis and constructive synthesis, whose weights shifts in the initiative, the intermediate, and the completion phase.<sup>7</sup>

As an attentive historian, Usher notices the transformation of the process of innovation by the emergence of organized science and research laboratories.

"This change in the character of the process of achievement involves ultimately the organization of research laboratories; and this increased deliberation of effort has given rise in the minds of many to an impression that the development of scientific knowledge makes some fundamental change in the character of the process of invention in the narrow sense. It is suggested that invention becomes more systematic and regular, and that the 'inspirational' or saltatory elements are less considerable."(*ibid.*, p.21)

"The application of organized science and the imaginative powers thus transforms the process of achievement much more than they transform the process of invention in its restricted sense. Under the guidance of conscious effort the process of technological improvements becomes more orderly; it proceeds towards a wider range of ends, and it undoubtedly achieves its ends more rapidly than would be possible under conditions of sheer empiricism." (*ibid.*, p.22)

This remark may have some influence on the Schumpeterian idea of the automatization of innovation in modern big business. However, in this respect too, Usher was not the sole person that shared such a view over the trend of inventions.

On the other hand, Usher's stress on the 'constructive statecraft' of modern liberals that was revealed in the presidential address at the annual meeting of the American Economic Association, December 1933, might have estranged Schumpeter, who had a totally pessimistic view of politics after his bitter experience in his home country.

---

<sup>7</sup> See the comparison of Schumpeter and Usher by Ruttan (1959).

In this address he maintained that "the development of the concept of evolution has exerted its most direct influence upon economics by placing institutions in a new light."(Usher, 1934: p.2) According to him, an evolutionary understanding of institutions enables people to intervene in its development constructively. In this respect, Usher used the term 'innovation' in the field of politics and public administration, too. However, he did not recommend a voluntarism but a liberalism that grounds the reform on the existing potentialities.

"Once we recognize the reality of innovation over wide fields of activity, the significance of constructive activities of both state and individuals becomes strikingly clear."(*ibid.*: p.4)

"The modern liberal thus believes that social evolution is a constructive process which involves both individuals and state." (*ibid.*: p.5)

"The liberal concept of the function of the state and of a social process is realistic. Statecraft is treated as a process of adjustment and adaptation. The only aim is the achievement at each moment of the greatest measure of social welfare, national and international."(*ibid.*: p.8)

The use of the old-fashioned term 'statecraft' is impressive. This term appeared also in the '1933 Plan,' where an "economic statecraft" was explained as a "development from naïve empirical maintenance of 'tradition' to conscious constructive social adaptation." Further, we have to notice that this plan viewed in the "development from implicit relations to explicit institutions" and "rhythmic development through increasing specialization of function and increasing integration of control" the "models of institutional development." This view of institutional development in the '1933 Plan' is very isomorphic to the view of the sequence of inventions in *HMI*, which I mentioned just before.

### **3. A Footnote in the *BC***

In a footnote of *BC*, Schumpeter revealed his indebtedness to Usher's *HMI*.

"We take the opportunity to refer to Professor A. P. Usher's History of Mechanical Inventions, 1929 from which work the present writer has derived much help, ...."(*BC*: I p. 85n)

In this footnote, other researches such as S. C. Gilfillan (1889- ) and R. K. Merton (1910- ) were also acknowledged. All of them studied inventions empirically with an evolutionary viewpoint. They were against 'great men' or 'hero' theory of inventions and grasped inventions as the result of accumulation of learning and experiences. Gilfillan regarded 'social need' a major factor for the emergence of inventions and Merton initiated quantitative analysis of the trend of invention using statistics of patent. Gilfillan went so far that he maintained a prediction of inventions would be possible.

Although Schumpeter admitted that "we may accept a theory of invention as

presented, for example, by Mr. S. C. Gilfillan,' he made reservations to such a deterministic view, "necessity is the mother of invention." (*ibid.*) Further, Schumpeter declared that he did "adopt another point of view for our purposes," without clarifying how his purpose differed from Gilfillan and others', as well as his point of view differed from theirs.

In the former part of this rather long footnote, Schumpeter discussed over the indeterminateness of innovations. He admitted that in many cases, innovations were more economically conditioned than inventions were. Without 'objective needs' and 'objective conditions,' no innovations would become possible. However, even if the above two objective elements exist there are many ways to satisfy 'objective needs.' Further, the interval from the emergence of 'objective conditions' to its realization of potentialities is 'indefinite.' Thus, there is no determinate relation between 'objective need' and the emergence of innovation. We can say that there is 'subconscious' need for motorcars. But it is also thinkable that people could have gone without motorcars. So far as 'need' is related to the realized economic phenomenon, it is created by the industry, not by potential 'objective' need. As the terms in this part ('conditioned', 'objective need', 'subconscious' etc.) suggested, Schumpeter seems to have been conscious of the reasoning made by invention researchers, when he wrote this discussion on 'innovation.'

However, the text to which this footnote was attached stressed the categorical distinction between 'invention' and 'innovation.'

".... even where innovation consists in giving effect, by business action, to a particular invention which has either emerged autonomously or has been made specially with a view to a given business purpose and in response to a given business situation, the making of the invention and the carrying out of the corresponding innovation are, economically and sociologically, two entirely different things. .... Personal aptitudes – primarily intellectual in the case of the inventor, primarily volitional in the case of the businessman who turns the invention into an innovation – and the methods by which the one and the other work, belong to different spheres."(*ibid.*: I, 85f.)

The motive which forced Schumpeter to a strict distinction between invention and innovation was that he would treat 'innovation' as "a distinct internal factor of change."(*ibid.*: p.86)

"As soon as it is divorced from invention, innovation is readily seen to be a distinct internal factor of change. It is an internal factor because the turning of existing factors of production to new use is purely economic process and, in capitalist society, purely a matter of business behavior."(*ibid.*: p.86)

Then, did Schumpeter regard 'invention' as an exogenous factor to the economic development? The answer is not so clear, since Schumpeter confessed his agreement to an internalist view of invention presented by S. C. Gilfillan and R. K. Merton. Thus the question, what is the 'purposes' and 'point of view' of Schumpeter that differ from theirs, will appear again.

My interpretation is parallel to the general question of 'determinateness' and

'indeterminateness' in Schumpeter's economic sociology.<sup>8</sup> First, he regarded 'innovation' and 'invention' as belonging to different sectors of socio-economic activity. 'Innovation' belongs to economy, whereas 'invention' belongs to science and technology. Economics deal with the former, and sociology of science and technology deal with the latter. To economics that deals with 'innovation' as an 'internal factor' of economic change, 'invention' is an external factor that derives from socio-cultural sector. To the sociology of science and technology, economic factors are external factors. Then, we remember, Schumpeter divided approaches of social sciences in the static one (equilibrium approach) and the dynamic one (evolutionary or developmental approach). The former views its internal factors in determinate relations. The latter views them in indeterminate relations. The nature of equilibrium as well as the qualification and activity of the break through are different ('innovation' and 'invention') in the economic sector and in the technology sector. The static approach is applied also to the interrelations of sectors (the economic sector and the cultural sector including science and technology). If a change in one sector is explained by the given data of another sector, it is just an extension of static approach. Thus, Schumpeter who set the investigation into the process of social evolution as his 'purposes' adopts a dynamic approach, thus an indeterminate view in both sectors as well as in their synthetic result of social evolution. (See Table 1.)

Table 1. Innovation and Invention in Schumpeter's Economic Sociology

	economics	sociology of science & technology	economic sociology
static view	Response to data Circular flow (general equilibrium)	conditioned by scientific knowledge technological equilibrium	Relative independence of each area State in other areas as data Static state of social culture (general interdependence)
dynamic view	Entrepreneurs' innovation Followers' response Economic development	inventor's activity  relatively autonomous development of technology	Interaction Socio-cultural development (social evolution)

---

<sup>8</sup> See Yagi (2006).

## **Appendix II** Footnote to *Business Cycles*, vol. I, p.86

In many important cases, invention and innovation are the result of conscious efforts to cope with a problem independently presented by an economic situation or certain features of it, such as, for example, the shortage of a timber in England in the sixteenth, seventeenth, and eighteenth centuries. Sometimes innovation is so conditioned, whereas the corresponding invention occurred independently of any practical need. This is necessarily so whenever innovation makes use of an invention or a discovery due to a happy accident, but also in other cases. It might be thought that innovation can never be anything else but an effort to cope with a given economic situation. In a sense this is true. For a given innovation to become possible, there must always be some "objective needs" to be satisfied and certain "objective conditions"; but they rarely, if ever, uniquely determine what kind of innovation will satisfy them, and as a rule they can be satisfied in many different ways. Most important of all, they may remain unsatisfied for an indefinite time, which shows that they are not in themselves sufficient to produce an innovation. The rise of the motor car industry may serve as an example. The sense in which it may be true that motorcars emerged when condition called for them is not relevant to an economic inquiry. For any "need" for them that may have existed was certainly subconscious and not an element of in the then existing system of economic values. The "need," as far as economically relevant, was created by the industry, and people could obviously have gone on without any motorcars. Therefore, it seems reasonable, on the one hand, when everybody calls for a certain innovation and everybody endeavors to effect it, to recognize this fact and, on the other hand, not to insist on seeing it when it is not there. The problem of determining how far "necessity is the mother of innovation" is a difficult one. Its solution may well read differently for different purposes of analysis. We shall have to emphasize this more than once. Meanwhile, it should be pointed out that we may accept a theory of invention as presented for example, by Mr. S. C. Gilfillan in his *Sociology of Invention* -- the present writer, as a matter of fact, substantially does -- and yet adopt another point of view for our purposes. We take the opportunity to refer to Professor A. P. Usher's *History of Mechanical Inventions*, 1929, from which work the present writer has derived much help, and R. K. Merton, *Fluctuations in the Rate of Industrial Inventions*, *Quarterly Journal of Economics* for May 1935. The writer wishes to acknowledge his obligation, in the matter of invention, to a report made for him by Mr. Gilfillan.

### **4. Reformulation of Entrepreneurship?**

I myself don't think that Schumpeter's dual distinction of economy (economics) / society and culture (sociology) as well as statics (equilibrium approach) / dynamics (development or evolutionary approach) is tenable. All the three invention researchers mentioned in Schumpeter's footnote were interested in the dynamics of economic and social change deeply. Their research results were those that revealed the necessity of an integrated approach for the study of inventions and related socio-economic changes. Probably, Schumpeter's peculiarity to them consists in his strict understanding of statics and dynamics. To him, a deterministic approach is no more than an extension of a static (equilibrium) approach, even if it is dealing with the progress in technology. As a mere quantitative economic growth could not maintain in Schumpeter's scheme the qualification of dynamics, so a technological progress that could be explained by given data was not placed in a truly dynamic world.

Schumpeter seems to have refrained himself from entering into the history of technology and limited himself to concentrate on innovation study. Schumpeter did not

deny the empirical approach of American scholars he met at Harvard. According to R. Swedberg, a reformulation of the 'entrepreneurship' hid in Schumpeter's several writings in the 1940s. He argued that the reformulated version is firstly less individualistic, secondly more theoretically indifferent, and thirdly more empirically oriented.<sup>9</sup> It is controversial whether this is a new version or a necessary adaptation to empirical research. I am inclined to the latter.

Schumpeter's relation to the researchers of 'invention' seems to have not continued long. Instead he found another historian who could go along with him. Arthur Harrison Cole (1889- ) was also a genuine Harvard scholar that acquired M. A (1913) and Ph D (1916) and became the associate Professor (1928) and Professor (1933) there. From 1932 to 1956 he worked also as a Librarian and maintained the Research Center in Entrepreneurial History from 1948 to 1958. Together with other senior professors (Fritz Redlich and Thomas C. Cochran), Schumpeter supported this Research Center actively. Cole's approach was genuinely empirical, since he believed that the research in entrepreneurship had to start from the collection of business documents.

“Innovation, management, and the imposed adjustments. The actions for these three purposes along any other six lines are the resultants of executive decisions; these decisions are the acts of a real person, or a real, but variantly composed, group of persons at or near the top of individual business units; and these decisions are made in response to divers psychological imperatives and are conditioned by various and changing environmental forces.” (Cole, 1946: p.7)

Schumpeter's 1947 article, "The Creative Response in Economic History," was written originally to back Cole's proposal for the documentation of for entrepreneurial history. This article begins with the hope of collaboration of historians and theorists in economics.

"Economic historians and economic theorists can make an interesting and socially valuable journey together, if they will. It would be an investigation into the sadly neglected area of economic change."(Schumpeter, 1947: p.149)

He called the reactions to the change in the data along with existing practice as "adaptive response," and reactions that surpass it as "creative response." The function of entrepreneur is to produce the latter. This response may turn out to be an inevitable result, but even in such case, ex ante, it depends on creative action of entrepreneurs. In this article, Schumpeter rehearsed his distinction of entrepreneur from managers and inventors. The distinction of entrepreneurs and inventors is more precise than that in the *BC*.

"Many inventors have become entrepreneurs and relative frequency of this case is no doubt an interesting subject to investigate, but there is no necessary connection between two functions. The inventor produces ideas, the entrepreneur 'gets things

---

<sup>9</sup> Swedberg (1991), pp. 171-74. Swedberg further maintained that even those who knew Schumpeter closely misinterpreted his theory in the former heroic version of entrepreneur.

done,' which may need not embody anything that is scientifically new." (*ibid.*;  
p.152)

Thus, entrepreneurs and inventors, or innovation and invention are separated into two different worlds of actions and ideas. However, still Schumpeter's discussion on entrepreneurship followed a similar path of invention researchers, i. e. the path toward the problem of 'automatization.' He asked himself "does the importance of the entrepreneurial function decline as time goes on?" and answered "There are serious reasons for believing that it does." (*ibid.*;  
p.157)

"it [personal intuition of entrepreneur: Yagi] could be expected to yield its place to the teamwork of specialists; in other words, improvement could be expected to become more and more automatic."(*ibid.*)

If we interpret "specialists" as researchers and scientist in the laboratory owned by private business, it coincides with the view of invention researchers. But Schumpeter would extend his parallel not to this direction but to military affairs.

"Our impression to this effect is reinforced by parallel phenomena in other fields of activity. For instance, a modern commander no doubt means less in the outcome of a war than commanders meant of old, and for the same reasons; campaigns have become more calculable than they used to be and there is less scope for personal leadership." (*ibid.*)

From this discussion he suggested its impact on the "class structure of capitalist society." (p. 158)

"Just as warrior classes have declined in importance ever since warfare -- and especially the management of armies in the field -- began to increasingly 'mechanized,' so the business class may decline in importance, as its most vital figure, the entrepreneur, progressively loses his most essential function. This would mean a different social structure." (*ibid.*)

Such an interest in the command and leadership characterizes the interest of Schumpeter. I have the impression that his final interest consisted more in hegemonic aspects of social structure than the effects of ideas.

## **5. After Schumpeter's death\*** [\*This part is mostly borrowed provisionary from Yagi(2006).]

In the 1950 Schumpeter memorial publication by his Harvard colleagues, Usher contributed it with "Historical Implication of the Theory of Economic Development." It contains several arguments that have some relationship with the topics in the 1933 Plan.

In Usher's view, Schumpeter's theory of economic development provided "a basis for the comprehensive analysis of events in terms of history, statistics, and theory" by providing a "defensible and workable concept of process" in "the process of cumulative

innovation."<sup>10</sup> However, Schumpeter was still constrained by an "idealistic philosophy" that explain social change as "the result of unconditional acts of great men, to whom underlying truths are directly revealed."<sup>11</sup> Although Schumpeter opened the way to break an idealistic view of the historical process, he could not liberate himself completely from it.

"The theory of economic development advances beyond the limits of idealistic position both in terms of the number of innovators and in terms of the explicit interest in the process of change as such. It moves into positions that subject the idealistic categories to severe strains, and really require a complete abandonment of the idealist position. Even in the first edition of *The Theory of Economic Development*, innovation is conceived as a massive social process closely related to the process of learning by an individual of techniques already significantly established in the traditions of the group. But the application of a concept of innovation to cyclical fluctuation involved a truly final break with earlier interpretations of social change. The romantic idealists and the various historical sociologies identified change with the transitions from one stage to another. The discontinuities of history were, thus, restricted to long-term movements dated in terms of centuries. In *The Theory of Economic Development*, change became a completely pervasive feature of social life. It was presented as a fundamental internal phenomenon in addition to the purely external factors which would in some measure account for many of the cyclical phenomena."<sup>12</sup>

This is a surprisingly penetrating interpretation of Schumpeterian contribution. A "massive social process" of innovations based on a socially embedded learning process and its cyclical fluctuation is the very vision of social change that evolutionary economists of present stage are exploring. Usher considered this a criticism of an idealistic theory of stages. Presumably, he supposed theoreticians that characterize the features of each stages idealistically and explains transitions by extraordinary powers (ideals, religions, wars, and revolutions) or long-term intervals. This is a sort of idealism that appears typically in the historical science.<sup>13</sup>

Usher's criticism against idealism is not confined to the massive process. It is apparent also in the understanding of every individual innovation as a "social process."

"Once innovation is conceived as asocial process, differences and changes that seem to involve qualitative differences are actually resolved into quantitative differences. The theory of innovation is therefore inconsistent with a qualitative differentiation between routine and novel action. Even when action has been stylized and stabilized by habits and policies, much novelty still emerges. Some forms of novel action are ignored by Schumpeter, and the pervasiveness of

---

<sup>10</sup> Usher (1950), p. 125.

<sup>11</sup> *Ibid.*, p. 126.

<sup>12</sup> *Ibid.*, pp. 126f.

<sup>13</sup> As a historian of economic science, I am tempted to apply such criticism to the static equilibrium theory which Schumpeter preserved as the core theory of economics and his view of the dynamic development process that intervenes between two independent static equilibriums.

novelty is certainly underestimated."<sup>14</sup>

Making use of the Gestalt psychology instead an idealistic philosophy, Usher wished to explain the emergence of novelty in every layer from the unconscious formation of the skill to a deliberative action with clearly defined purpose. The cumulative process from which innovation emerges is described more in details in the 2nd revised edition of his *History* (1954).

In *Business Cycles*, Schumpeter classified the increase in population, technological knowledge, and capital in the category of quantitative growth, thus out of the area of innovation. If we follow Usher and conceive that microscopic novelties emerge at any place at any time and form a massive process, we cannot maintain the distinction between "quantitative growth" and "qualitative development."

Usher's criticism on Schumpeter is plausible to those who know the recent progress of evolutionary economics.

On the other hand, Cole could recollect Schumpeter in the last stage of the life as a patron theorist to his entrepreneurial history.

“Thanks to the extraordinary path-braking contributions of Prof. Schumpeter, entrepreneurship has tended to be made synonymous with the introduction of technological innovations, especially innovations of a momentous character. I believe this identification to be an error, and that Schumpeter came in his latter years to take a broader view.” (Cole, 1959: p.180)

For a few decades after Schumpeter's death in 1950, invention studies and entrepreneurial history seemed to have developed rather independently. However, in the mid of the 1980s, when the direction of an 'evolutionary economics' emerged with the name of Schumpeter, the need to deal with invention and innovation simultaneously was felt keenly. Schumpeter himself might be guilty for the relative retardation of the advent of '(Neo-)Schumpeterian' economics.<sup>15</sup>

## 6. Concluding Remarks

Now, let us surmise findings in my investigation.

1) In the campus of Harvard, Schumpeter met or crossed several pioneer scholars in the invention studies. Most of them were empirically oriented and regarded invention as an evolutionary process. They didn't draw a clear distinction between 'innovation' and 'invention' and shared an antipathy against 'great-men theory.' Since Schumpeter stuck to the distinction between 'innovation' and 'invention,' his contact with this group could not continue.

2) I argued that peculiar scheme of social evolution lay behind Schumpeter's distinction between 'innovation' and 'invention.' This scheme consists of the double

---

<sup>14</sup> *Ibid.*, pp. 127f.

<sup>15</sup> See Nelson (1959) as an evaluation of the invention researches by a (later) representative figure of 'evolutionary economics.'

distinction of the economy/society (culture/ideas) and the statics/dynamics.

3) After the separation from invention researchers, Schumpeter found his place in the circle of entrepreneurial history. He adapted his theory of entrepreneur so as to be able to apply it to empirical research. But this reformulated entrepreneurship theory resembled to the arguments of invention researchers.

4) To understand the origin of modern Schumpeterian economics, we have to extend our scope so as to include pioneer researchers that founded the invention studies as well as entrepreneurial history.

## REFERENCE

- Allen, Robert Loring (1991) *Opening Doors: The Life and Work of Joseph Schumpeter*. 2 vols. Transaction Publishers: New Brunswick and London.
- Backhaus, Jürgen ed. (2003) *Joseph Alois Schumpeter: Entrepreneurship, Style and Vision*. Kluwer Academic Publishers: Boston/Dordrecht/London.
- Harris, Seymour E. ed. (1951) *Schumpeter, Social Scientist*. Harvard Univ. Press: Cambridge, MA.
- Cole, Arthur H. (1942) "Entrepreneurship as an Area of Research." *The Journal of Economic History*, Vol. 2, Supplement: The Tasks of Economic History. (Dec., 1942), pp. 118-126.
- (1946) "An Approach to the Study of Entrepreneurship: A Tribute to Edwin F. Gay." *The Journal of Economic History*, Vol. 6, Supplement: The Tasks of Economic History (May, 1946), pp. 1-15.
- (1959) *Business Enterprise in its Social Setting*. Cambridge, Mass.: Harvard University Press.
- Gilfillan, S. Colum (1935) *Sociology of Invention: an essay in the social causes of technic invention and some of its social results especially as demonstrated in the history of the ship*. Chicago: Follett.
- (1945) "Invention as a Factor in Economic History." *The Journal of Economic History*. (Dec., 1945), pp. 66-85.
- (1952) "The Prediction of Technical Change." *The Review of Economics and Statistics*, Vol. 34, No. 4. (Nov., 1952), pp. 368-385.
- Harris, Seymour E. ed. (1951) *Schumpeter, Social Scientist*. Harvard Univ. Press: Cambridge, MA.
- Merton, Robert K. (1935) "Fluctuations in the Rate of Industrial Invention." *The Quarterly Journal of Economics*, Vol. 49, No.3. (May, 1935), pp. 454-474.
- Nelson, Richard R. (1959) "The Economics of Invention: A Survey of the Literature." *The Journal of Business*, Vol. 32, No. 2 (April, 1959), pp.101-127.
- Parker, William N. (1956) "Abbott Payson Usher." In Joseph T. Lambie ed., *Architects and Craftsmen in History: Festschrift für Abbott Payson Usher*, Tübingen: J. C. B. Mohr, 1956, pp.157-166.
- Ruttan, Vernon W. (1959) "Usher and Schumpeter on Invention, Innovation, and Technological Change". *The Quarterly Journal of Economics*, vol. 73, no.4.
- Schumpeter, Joseph A. (1911) *Theorie der wirtschaftlichen Entwicklung*. Leipzig: Duncker & Humblot.

- (1926) *Theorie der wirtschaftlichen Entwicklung*, 2te Al., München und Leipzig: Duncker & Humblot.
- (1934) *The Theory of Economic Development: An Inquiry into Profits, Capital, Interest, and the Business Cycle*. Translated by Redvers Opie. Harvard University Press.
- (1939) *Business Cycles: A Theoretical, Historical and Statistical Analysis of the Capitalist Process*. New York and London: McGraw-Hill Book.
- (1942) *Capitalism, Socialism and Democracy*. New York: Harper & Brothers.
- (1947) "The Creative Responses in Economic History." *The Journal of Economic History*, Vol.7, No.2 (Nov., 1947), pp.149-159.
- (1950) "American Institutions and Economic Progress," in Schumpeter (1991), pp.438-444.
- (1954) *History of Economic Analysis*. New York: Oxford University Press.
- (1991) *The Economics and Sociology of Capitalism*. Edited by Richard Swedberg. Princeton, N.J.: Princeton University Press.
- (2000) *Briefe*, ed. by U. Hedtke and R. Swedberg, Mohr: Tübingen.
- (2005) "Development" with an introduction by Markus C. Becker, Hans Ulrich Esslinger, Ulrich Hedtke and Thorbjorn Knudsen. Translated by Markus C. Becker and Thorbjorn Knudsen. *Journal of Economic Literature*, Vol. 43 (March 2005), pp. 108-20.
- Swedberg, Richard (1991) *Joseph A. Schumpeter: His Life and Work*. Cambridge: Polity Press.
- Usher, Abbott Payson (1920) *An Introduction to the Industrial History of England*. Boston: Houghton Mifflin Company, Pp. xii, 529.
- (1929) *A History of Mechanical Inventions*, 1st ed., New York and London: McGraw-Hill.
- (1932) "The Application of the Quantitative Method to Economic History." *The Journal of Political Economy*, Vol. 40, No. 2. (April, 1932) pp. 186-209.
- (1934) "A Liberal Theory of Constructive Statecraft." *The American Economic Review*, vol. XXIV, No. 1 (March 1934).
- (1951) "Historical Implications of the Theory of Economic Development." In Seymour E. Harris ed., *Schumpeter: Social Scientist*. Cambridge, Mass.: Harvard University Press, pp.125-129.
- (1954) *A History of Mechanical Inventions, Revised Edition*. Cambridge, Mass.: Harvard University Press. Pp. x, 450. Reprinted (1982), New York: Dover Publications.
- Yagi, Kiichiro (2003) "Schumpeter's view on social evolution: the 1933 plan and his publications." *Economic Transformation and Evolutionary Theory of J. Schumpeter*. (The 5th International Symposium on Evolutionary Economics, Pushino, Moscow Region, Russia, September 25-27, 2003.) Center for Evolutionary Economics, Moscow.
- (2006) "Schumpeter and the Concept of Social Evolution: Determinateness and Indeterminateness in Economic Sociology." Paper presented to the Schumpeter Session of the First Joint Conference of the European Society of History of Economic Thought and the Japan Society of the History of Economic Thought, Dec. 16-20, 2006, Nice-Antipolis.

