# Philosophy of History : A problem with some theories of Speculative Philosophy of History and Substantive Philosophy of History

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Preface

This paper was written in order to examine a common defect in certain theories of philosophy of history, social change and cultural evolution. It is part of my efforts to put the study of social and cultural history and social change on a scientific basis capable of rational analysis and understanding. This has resulted in a hard copy book *How Change Happens: A Theory of Philosophy of History, Social Change and Cultural Evolution* and a website How Change Happens Rochelle Forrester's Social Change, Cultural Evolution and Philosophy of History website. There are also philosophy of history papers such as The Course of History, The Scientific Study of History, Guttman Scale Analysis and its use to explain Cultural Evolution and Social Change and papers on Academia.edu, Figshare, Mendeley, Vixra, Phil Papers, Humanities Common and Social Science Research Network websites.

This paper is related to a series of papers on the History of Science and Technology. Papers in the series on the History of Science and Technology are:

The Invention of Stone Tools Fire The Discovery of Agriculture The Invention of Pottery History of Metallurgy The Development of Agriculture and Pastoralism History of Writing The Invention of Glass History of Astronomy Invention of Microscopes and Telescopes History of Printing The Discovery of Steam Power History of Electricity Electric Telegraph Telephone Radio Television Photography Motion Pictures Internal Combustion Engine Motor Car Aeroplanes The History of Medicine The Discovery of the Periodic Table The Discovery of the Atomic World

Other papers by Rochelle Forrester include works on Epistemology and the Philosophy of Perception such as Sense Perception and Reality and on quantum mechanics such as the Quantum Measurement Problem and The Bohr and Einstein debate on the meaning of quantum physics. Rochelle Forrester's work is also published on Slideshare, Issuu and Scribd. Rochelle Forrester is a member of the International Network for Theory of History.

Abstract

Karl Marx, Emile Durkheim, Leslie White, Allen Johnson and Timothy Earle, and Stephen Sanderson all produced some of the more plausible theories of history, social change and cultural evolution but their theories have a common deficiency. None of them provide an ultimate explanation for social, cultural and historical change. This failure was rectified by J. S. Mill who suggested increasing human knowledge was the ultimate cause of social, cultural and historical change. However even Mill did not ask what caused the increasing human knowledge and why the knowledge had to be acquired in a particular order and how this could affect human history.

Attempts to understand and observe a pattern in the broad sweep of history are usually known as substantive or speculative theories of history or as macro-histories. A considerable number of such theories of history, social change and cultural evolution have been proposed by various philosophers, historians, sociologists and anthropologists. Twenty such theories are offered in *Macrohistory and Macrohistorians* [1] (ed) by Johan Galtung and Sohail Inayatullah and thirteen in Part I of *Theories of History* [2] (ed) by Patrick Gardiner and more are offered in *Philosophies of History* [3] by Rolf Grunger and *Philosophy of History* [4] by Alan and Barbara Donagen. Not all deal with the same subject matter, as some tend to deal with the rise and fall of civilizations, empires, cultures and religions. Others tend to deal with economic, technological or scientific changes in history. Such theories of history, social change and cultural evolution usually attempt to discern a pattern or meaning to history. Sometimes a linear pattern showing history as moving towards a particular end or result is proposed. A cyclical pattern is sometimes proposed involving history in some way periodically repeating itself. Sometimes a mixture of the two is proposed involving repetition in history accompanied by progress towards some end. Speculative theories of history, social change and cultural evolution often involve a mechanism or an explanation as to how change takes place in history. They may also propose a purpose or justification of history.

This paper will examine six speculative theories of history, social change and cultural evolution all of which propose a linear pattern to history, and will point out a deficiency common to five of them. This deficiency is the lack of an ultimate driving force for historical change, a deficiency which is met by the idea that increasing human knowledge is the ultimate driving force for history. This view is stated by Mill in the fourth philosophy of history examined in this paper, but he does not say what causes the increasing human knowledge and why it comes to us in a particular order.

## Marxism

There are many interpretations of Marxism and the interpretation proposed below is one close to the theories suggested in this paper. Marxism proposes a linear development of history from a state of primitive communism, to ancient or slave society, to feudalism, capitalism and then to socialism. Marx begins by noting that humans work to meet their needs. We work to meet our basic needs of food, shelter, clothing and reproduction and also to meet our higher, intellectual imaginative and aesthetic needs.

The production and reproduction of human society requires the use of productive forces. Productive forces consist of human labour power and the means of production. The means of production consists of the instruments of production and the raw materials that labour power works on.

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[1] Westport, Conn, 1977
[2] Glencoe, 1959
[3] Aldershot, Hants, 1985
[4] New York, 1965

The process of production requires humans to be in some relationship with the means of production and with each other. These relations are work relations required during the productive process and ownership relations which concern control of the means of production. The ownership relations of production determine who owns the means of production. The people who own the means of production form a particular class. Those who have no ownership rights in the means of production will form another class. Throughout history (except for a period of primitive communism) there has always been one class who owned the means of production and another class who did not. The class that owned the means of production tended to be economically privileged and were the ruling class in any society. The ideology of the ruling class tended to be the ideology of society as a whole. Society was divided into an infrastructure which consisted of the productive, economic part of society and a superstructure, which consists of the political, legal, religious and other non-economic aspects of society. The nature of and changes in the superstructure will usually be caused by the nature of and changes in the infrastructure, although the superstructure may have some limited effect on the infrastructure.

The relations of production and with it the class structure and ideology of a society may change as a result of a change in the productive forces. Marx is not particularly clear on this point, but it seems hard to see how the relations of production could change, without change in the productive forces.[5] The relations of production change due to an increase in societies productive capacity, which requires a change in the forces of production.[6] Marx does not however say what causes changes in the productive forces.[7] Often the changes in the productive forces can be accommodated within the existing relations of production, so no change in the relations of production is required. However on occasion the improvement in the productive forces will require changes in the relations of production in order to ensure the full productive potentiality of the change in the productive forces will be utilised. This situation may result in changes in both the work relations of production and the ownership relations of production. A change in the ownership relations of production will result in a new class owning the means of production and such a change is likely to occur only after a period of class war between the class owning the means of production and the class about to assume ownership of the means of production. A change in the ownership relations of production will result in a new mode of production as for example when primitive communism was replaced by the slave society, which was in turn replaced by feudalism, which was replaced by capitalism. These changes in the modes of production involved, in ancient society; the slave owner owning the means of production, in feudal society, the lord owning the means of production, and under capitalism, the capitalist owning the means of production. In each of these modes of production there was a class that did not own the means of production. In ancient society this class was the slaves, in feudalism it was the serfs and under capitalism it was the workers.

The above description of Marxism constitutes a model of historical change. Marx however also attempted to give an actual description of the historical changes that lead to the capitalist mode of production. Primitive communism begins with hunting and gathering, but develops into agriculture and pastoralism, but with the land still being owned communally. This society was classless but was soon to be replaced by societies based on slavery.

Slavery began due to war, but was further encouraged by the development of agriculture and animal rearing and by crafts such as metal working and weaving. Slaves were initially owned communally but private property in slaves developed, encouraged by trade and by an increasing economic surplus. Eventually private property in land develops due to individual's eagerness to own the land they possess. Private property developed due to the increasing productive capacity of society as economic surpluses were better utilised privately rather than communally. However as private property developed, inequality grew, as private owners could lose their property through usury,

[5] William F. Shaw, Marx's Theory of History (Stanford, California, 1978) 60-64.
[6] William F. Shaw, Marx's Theory of History (Stanford, California, 1978) 76.
[7] William F. Shaw, Marx's Theory of History (Stanford, California, 1978) 65.

mortgages or trade in a way in which communally owned property could not be lost.[8] This led to the establishment of a wealthy aristocracy and a further growth of slavery. The mode of production of primitive communism gave way to a slave society, ruled by a state and with a new superstructure and divided into slave owners, free men and slaves.

The earliest form of slave society is the Asiatic mode of production. Asiatic societies are ruled over by despots who organise large-scale public irrigation projects to assist their societies agricultural production. The people live in villages and engage in agriculture and small handicraft manufacture. The economic surplus produced is consumed by the government leaving the villagers with little incentive to improve their productive forces. The productive forces of these societies, for example, pre-European India, fail to grow as private property in land and slaves does not develop, as everything is under the control of a despot.

The ancient mode of production, which involves both classical Greece and Rome, was dominated by slave labour. Private property in both land and slaves developed and the rich and powerful dispossess the poor. Large land estates worked by slaves dominated Roman agriculture. Initially slavery leads to significant productive progress and ensures the full utilisation of the productive forces. However slavery eventually retards development of the productive forces as the supply of slaves dries up, slaves require considerable supervision, slaves are reckless with the instruments they use and slavery causes material production to be stigmatised. While Rome had many of the prerequisites for the development of capitalism, such as widespread commerce, money and free labourers, Marx considered it could not have developed capitalism due its insufficiently advanced productive forces. Class conflict leads to the destruction of the classical world. While this is happening slavery on the large estates becomes uneconomic and gives way to hereditary tenancies.

The feudal mode of production begins when serfdom develops as peasants seek protection due to widespread lawlessness, wars and Viking invasions. The serf is tied to the land and the surplus the serf produces goes to his lord. The serf's responsibilities to the lord are usually fixed, but his production on his own land is not fixed, so there is an incentive for economic development. This means there is encouragement for the improvement in productive forces and allows an increase in production for exchange. Under feudalism the towns grew in population and the guild system developed to protect and enhance craft industries. The craftwork improved in quality and efficiency and tools were improved and skills developed. But ultimately the guild system began to hamper further development of handicraft industries by stopping large-scale technical production, with an increased division of labour, which was needed to allow improvements in the productive forces. The guilds limited the master's capital and the number of workers the master could employ.

Marx considered that feudalism decayed before the beginning of capitalism. Feudal production relations dissolved, private property spread and money relations grew. This eventually allowed a primitive accumulation of the conditions necessary for the beginning of capitalism. These conditions were a population of free labourers, free of feudal encumbrances, and a means of production that could allow their independent subsistence and capital adequate for financing industrial production. The free labour force is produced by the expulsion of the peasantry from their land and the capital is derived from the colonial system, commercial wars, over taxation and protectionism. Capital was also derived from usury and the capital of merchants. Merchantry also encouraged the production of goods for trade, a necessary element in capitalism. Capitalist attitude such as the worship of private property and the pursuit of profit are present in usury and merchantry.

Merchants would hire labour to manufacture the goods they intended to sell and would become capitalists. Producers who buy their own raw materials, rather than from a merchant, and who produce for the world market, would also become capitalists. Some artisans and even wage labourers would also be able to turn themselves into small capitalists. Under the pressure of these developments the guilds collapse and the capitalists are able to hire any number of workers they like.

[8] William F. Shaw, Marx's Theory of History (Stanford, California, 1978) 121-122.

The final requirement for capitalism is the development of productive forces able to support capitalism. The productive forces need work relations that can get the maximum production from the productive forces. Capitalism provides this by organising production more efficiently and increasing the division of labour. Capitalism develops, as it is inevitable that people will attempt to make money by hiring free labour.

Emile Durkheim and *The Division of Labour in Society*

Durkheim, a sociologist, was interested in the relationship between the individual and society. He considered this relationship changed over time and this lead him to produce a theory of long term social change.

Durkheim produced this theory in his book *The Division of Labour in Society*.[9] In this work he suggested early societies had a form of social solidarity he called mechanical solidarity. Such societies were characterised by a very low level of division of labour, so that all members experienced the same conditions of existence and carried out one of a limited number of roles within society. Social organization was simple and local and takes the form of an aggregation of individuals. Such a society, because it is an aggregate, rather than a collection of mutually dependant parts, may lose a part of itself and can continue to function. This situation is analogous to simple organisms that can divide to form new organisms. The parts of such a society are held together by mechanical solidarity. This solidarity is derived from commonly shared beliefs that exist because members of the group share the same conditions of existence. Property is owned in common and such a society has a low level of individualism. The commonly shared beliefs are called the conscience collective. Religion is a typical form of the conscience collective in early societies. It tends to be local and concrete in its ideas and deals with beings that are connected to natural phenomena such as animals, trees and storms.

The best way to understand the moral codes and the conscience collective of simple societies held together by mechanical solidarity is to observe their legal codes. Moral beliefs are not easily observed but law and the sanctions provided for breaches of law provide an external index allowing us to objectively assess the state of a society's moral beliefs. An investigation of the sanctions prescribed by codes of law will indicate what type of moral code a society has. There are two main types of sanctions that may be provided by legal codes. Repressive sanctions are those that involve inflicting some sort of suffering or loss of liberty or even loss of life on transgressors. Infractions are usually severely punished, as they are a threat to the solidarity of the society. As religion is such an important part of the conscience collective and moral beliefs of society, breaches of law, tend to be breaches of religious law. The function of repressive sanctions is to reaffirm the conscience collective so as to reinforce social solidarity. Repressive sanctions are typical of simple societies whose cohesion is maintained by mechanical solidarity. An alternative type of sanctions is restitutive sanctions, which are common in areas of commercial and civil law. Restitutive sanctions involve restoring the state of affairs that existed before the breach of law. Restitutive sanctions are common in complex modern societies.

Small, simple societies with little division of labour held together by mechanical solidarity begin to change as population density and volume increases. Increasing population, improvements in transport and communications and the growth of cities all bring about increasing social interaction. This, results in increasing competition and conflict over scarce resources and in the beginnings of a process of disintegration of the societies based on mechanical solidarity. An increased division of labour is a possible solution to the conflict caused by increasing social interaction. Increasing division of labour will mean a society will become more complex and made up of parts that are mutually dependent upon each other. It will become more organic like complex biological systems, which are made up of a number of independent parts, none of which can survive without the others. Durkheim considered such a society to be based on organic solidarity, rather than the mechanical solidarity,

[9] Basingstoke, 1984.

societies with little division of labour were based upon. Organic solidarity involved the interdependence of people in systematic relations of exchange with each other. Organic solidarity results not from the similarity of individuals, which is the basis of mechanical solidarity, but from differences between them. A society based on organic solidarity will still have a conscience collective, but it will be of a more secular nature than the conscience collective of a society based on mechanical solidarity. In particular organic solidarity allows an individualism that could not exist under mechanical solidarity.

The increasing population and social interaction which resulted in an increased division of labour will lead to the gradual replacement of repressive legal sanctions with more restitutive sanctions. The breach of religious rules, cease to be regarded as criminal acts, although repressive sanctions remain in certain areas for offences against persons and property and for offences against the dignity and authority of the state. The change from repressive to restitutive sanctions reflected the change in the collective conscious that resulted from a change in society, based on mechanical solidarity to one based on organic solidarity.

However the process of change from mechanical solidarity to organic solidarity produces strains and tensions within society. This takes the form of class and sectional conflict and social and psychological pressure on individuals. This is because social evolution takes place imperfectly and the de-regulation of the old moral order is not immediately replaced by a new moral order. This creates a situation Durkheim calls anomie, which involves the absence of regulation by either shared moral rules or formal legal rules. This situation is made worse by inequality caused by the inheritance of wealth and factors that stopped individuals from entering the occupations most suitable for them. The existence of anomie showed that the line of development of the division of labour had taken an abnormal or pathological course. Equality of opportunity was needed in societies with an advanced division of labour in order to produce organic solidarity.

Durkheim's solution to these problems is a system of regulation covering conditions of employment and creating institutes which would administer codes of conduct binding on all those engaged in particular occupations. Such regulation would create a normal form of the division of labour allowing organic solidarity in a society with considerable social differentiation, but with full equality of opportunity.

Leslie White and *The Science of Culture*

White proposed a theory of the evolution of culture based upon humankind's control of increasing quantities of energy in his book *The Science of Culture*.[10] Human culture can be divided into three subsystems of culture, the technological, the sociological and the ideological.

The technological consists of the material, mechanical, physical and chemical instruments and techniques used by humankind to survive in nature. It includes the tools and materials of production, subsistence, shelter and war. The sociological consists of interpersonal relations between individuals and groups which are expressed in patterns of behaviour. This includes the social, kinship, economic, ethical, political, military, religious, occupational and recreational systems that exist within a culture. The ideological consists of the ideas, beliefs, knowledge, myths, theology, legends, literature, philosophy, science, folk wisdom and common sense that exist within a culture.

Each of these sub-cultural systems influences and is influenced by the others. However the technological has a much greater effect on the other two than they have on the technological. When technological systems change, the social system will change with it. Technological systems determine social systems, the technological system is the independent variable, and the social system is the dependent variable. In a similar fashion, each technological system will tend to have an associated ideological system that will change as the technological system changes. However the ideological system is also affected by the sociological system. All of these systems influence each other, but the

[10] New York, 1969.

technological system is much more powerful than the other two and it determines what sort of sociological and ideological systems exist within a culture.

All biological systems absorb energy in order to maintain themselves, and to grow and develop. The same applies to cultural systems which must harness and control energy to meet human needs. The means by which they do this is by the technological instruments available within that culture. The efficiency of these technological instruments varies. The productive output of a culture depends upon the efficiency of the technological means by which energy is put to work. The degree of cultural development in terms of productive output is determined by the amount of energy harnessed per capita and by the efficiency of the technological means by which it is put to work. This can be expressed in the formula $E \times T \rightarrow C$, where C represents the degree of cultural development, E is the amount of energy harnessed per capita and T is the efficiency of the technology used in the expenditure of the energy. This means culture will evolve as the amount of energy harnessed per capita increases or as the efficiency of the technological means by which the energy is put to work increases.

The earliest source of energy exploited by human beings was human energy. This form of energy is very limited so that the cultural development that can take place using this source of energy was also very limited. Improving the technological means of putting energy to work developed these cultures to some extent, but these cultures tend to be simple, meagre and crude. Fire, wind and water could be used as sources of energy, but only to a very limited extent in the earliest cultures. This is because they lacked the technology to use fire, wind and water as a substitute for human muscle power.

The first great increase in the amount of energy available for cultural development came from the domestication of plants and animals. The yield of food and other plant materials, was much greater per unit of human labour from agriculture, than could be obtained by the gathering of wild plants. The yield of food and other animal products, per unit of human labour, obtainable from domesticated animals was much higher than could be obtained from wild animals. Some domesticated animals could also be used to carry goods or to pull ploughs or vehicles.

The result of the great increase in the amount of energy, controlled by human beings, brought about by the domestication of plants and animals, was the great civilizations of antiquity, in both the old and the new worlds. Great cities arose, great engineering projects were built, ceramics, textiles and metallurgy were developed, astronomy, writing and mathematics began and great works of art were made. All aspects of culture saw great progress and development. However after a period of considerable progress, the cultural development plateaued and progress continued only at a very slow pace.

Cultural development only began to re-occur at a substantial rate when a new means of harnessing energy was developed. This new means of harnessing energy was the use of the steam and internal combustion engines to produce energy from fuels such as coal, oil and gas. This resulted in great increases in population and in wealth, bigger cities and a rapid development in the arts and sciences. This increase in cultural development continues today and may be enhanced by the harnessing of energy from the atom. On the other hand the whole process may cease if atomic energy is used in a full-scale nuclear war.

The amount of energy harnessed by a culture is not the only determinant of cultural development. Tools and machines are required to put energy to work and the efficiency of those tools affects the amount of energy harnessed and the amount of cultural development that can take place. A more efficient bronze or iron axe will chop a tree with fewer strokes than a stone axe so that less energy is expended to achieve a given task. More energy is then available for other tasks, so that with more efficient tools more cultural development can take place, than with less efficient tools.

However there is a limit to how much tools can be improved. When these limits have been reached little cultural development can take place unless there is an increase in the amount of energy harnessed. There is no limit to the amount of energy that can potentially be harnessed, but there is a

limit to the efficiency of the tools used to harness it. It is the amount of energy that can be harnessed that is the principal factor in cultural development.

A changing technological system will affect the type of social system within a culture. Societies based upon human energy tend to be relatively small and have little structural differentiation and specialization of function. Societies based on the early stages of agriculture and pastoralism also have only minimal social differentiation and specialization. They have a high degree of social equality, have free access to the resources of nature for all and are based on kinship ties.

When agriculture and pastoralism reached a certain level it became possible for part of the population to produce food for all. This enabled part of the population to work at activities other than food production. This resulted in society becoming divided along occupational lines and becoming structurally differentiated. As population increased, kinship relations were replaced by a society based on property relations, states were formed and society was divided into two major classes. One class was a small powerful, wealthy ruling class and the other a large exploited class of peasants, serfs or slaves. These trends were encouraged by the development of organised warfare and by commercial practices such as money lending.

The social system created by agriculture and pastoralism had the effect of reducing technological progress, to such an extent that cultural development nearly ceased. This is because the ruling class had ample for its needs so did not feel any need to increase production by increasing the efficiency of its technology. The exploited class did not feel any need to make the technology more efficient, because if it did, the increased production would be appropriated by the ruling class. As neither class would receive any benefit from improved technology, technological improvements became very rare in societies based upon agriculture and pastoralism. This situation continued until the fuel revolution caused technological and cultural development to recommence.

The fuel revolution brought with it a great increase in population and a process of urbanisation that resulted in the great majority of people living in cities. A capitalist industrial economy and parliamentary political system replaced European feudalism. The social structure became even more differentiated and functions more specialised. A two class system remains but the ruling class consists of industrial and financial lords and the exploited class are an industrial and urban proletariat.

## John Stuart Mill and *A System of Logic*

Mill's theory of history is contained in his book *A System of Logic*.[11] Mill begins by defining states of society by which he means the simultaneous state of all the greater social facts or phenomena. This includes the degree of knowledge, of intellectual and moral culture, the state of industry, the class structure, the form of government and law and the beliefs of society. Mill notes that the different elements that make up the state of society will usually have what he calls a uniformity of co-existence. Where certain elements exist, certain other elements will usually co-exist with them. Particular economic states tend to be associated with particular forms of government, law and religious and other beliefs. However the state of society at any one time is caused by the state of society preceding it, so the fundamental problem is to find laws by which a state of society causes the state of society that succeeds it.

This problem is made more complex as the character of human beings is caused by the circumstances in which they live, but also humans affect the circumstances in which they live. The effects, human character, react back on the causes, the circumstances in which humans live. This causes people and the circumstances in which they live to change over time and this change is of a linear or progressive character. It may be possible by examining the order of succession of the different states of society, to discover a law explaining and predicting this linear progression, but such a law would only be an empirical law and not a scientific law. Such an empirical law could not be

[11] London, 1872.

used to predict future events unless it is connected to the psychological and ethological laws that control the action of circumstances on people. Only then will it become a scientific law. A scientific law of history, would require not only a study of history, but must incorporate laws of human nature which are influenced by the state of society at any given time and which change over time and consequently becomes unpredictable over any considerable length of time. In addition the causal links between human nature and the empirical laws revealed by human history are too complicated for us to understand.

There are two kinds of empirical laws of society. The first called social statics deals with the coexisting uniformities that exist within society at any one time. Certain social phenomena will usually coexist with certain other social phenomena within a given state of society. By comparing one state of society with its co-existing social phenomena with other states of society with their social phenomena, it may be possible to reach certain laws of social statics. The second kind of empirical law, called social dynamics, deals with the succession of states of society, the change from one type of society to another. Social dynamics attempts to explain the sequence of states of society. Social dynamics may involve observing various trends in history, but the observation of trends does not tell us whether those trends will continue or not. In order to produce better empirical laws, it is necessary to combine social statics with social dynamics. This enables us to observe not only the changes in the different elements of society, but also the relation of one element with the other elements of society at a given time. This may allow us to produce a scientific law of the development of human society.

This study would be greatly assisted if there was one element in society, that was the principal cause of social change. When that element changed then all the other elements would make a corresponding change, to create a particular order for change within society. There is such a social element; it is the state of the speculative faculties of humankind. This involves the knowledge and beliefs of humankind. Mill considered every considerable historical change in the material conditions of humankind was preceded by a change in the state of human knowledge. The progress of industry must follow and depend on the progress of knowledge. The beliefs of humankind will also determine the moral and political state of humankind. The order of progression in human society depends on the order of progression in the knowledge and beliefs of humankind. Certain truths cannot be discovered or inventions made, until certain others have been made first and certain social improvements can only follow others. The order of human progress may to a certain extent have definite laws assigned to it. However the rate of progress or whether progress takes place at all for a period is not something that can be made subject to any law. In the longer term progress must occur, as societies can be certain of eventually producing leaders and thinkers through whose efforts progress takes place.

Allen Johnson & Timothy Earle and *The Evolution of Human Societies*

A number of modern theories of history, social change and cultural evolution place a considerable emphasis on population growth and technology. In the *Evolution of Human Societies: From Foraging Group to Agrarian State* Allen Johnson and Timothy Earle propose an evolutionary process the driving force of which is a positive feedback between population growth and technological development. In their theory Johnson and Earle distinguish between the subsistence economy and the political economy. The subsistence economy is the household economy and is designed to meet human needs at the household level. It produces no surplus other than a security margin which is required for times of shortages. The political economy concerns the exchange of goods and services in an integrated society of interconnected families. All societies have a political economy but the process of social evolution makes the political economy larger and more complex. More sophisticated political economies seek to obtain a surplus from the subsistence economy to finance political, social and religious institutions and are controlled by elites. As the feedback between population and technology intensifies problems arise due to the threat of over population and the solution to the problem will normally involve the creation or improvement of the institutions of the political economy.

Increasing population means that the subsistence economy needs to be intensified to feed increasing numbers of people from the same resources. Intensification can involve four problems being production risk, warfare, technological needs and resource deficiencies. The solutions to these problems usually involve strengthening the power of leaders and increasing the economic integration of communities.

Production risk is the risk that insufficient food may be produced for the expanding population. The problem may be solved by measures such as community food storage or agreements with other groups for reciprocal visiting and feasting in lean times. Such arrangements will support a larger population but requires political leadership and support.

The problem of warfare arises as intensification makes certain territory more productive so that the benefit of seizing the territory increases relative to the cost of seizing the territory. This means warfare will become more common and the solution to this problem involves the formation of alliances with other groups and more effective defence. These measures however will require more effective political leadership and control.

Intensification may result in a problem of inefficient resource use which may be solved by the development of costly new technologies. The development of technologies such as irrigation systems may require considerable organization and could lead to greater political organization and control.

The problem of resource deficiencies caused by population growth can increase the need for goods not capable of being produced locally. These goods must be obtained by trade and may involve food imported to cover local production shortfalls or tools which cannot be produced locally due to an absence of local raw materials. Such trade will help feed an increasing population on the same resource base. Trade however requires leaders empowered to make decisions on behalf of the local community which increases control over the local community. The various methods used to solve the problems of intensification all involve the surrender of political control by the community to leaders resulting in greater power for certain individuals and less freedom for the great majority. ( Johnson and Earle, 2000, 29-32 ).

Johnson and Earle's theory of social evolution was designed to explain the change from foraging group to agrarian states. However they consider that the techno demographic engine they propose has also operated since the industrial revolution in the modern industrial world. ( Johnson and Earle, 2000, 368 ). A major difference between agrarian states and the societies that preceded them on one hand and the modern industrial world on the other hand is the much greater role both governments and the self-regulating free market plays in the modern industrial world.

The increase in population in the industrial world required an intensification of production just as in previous societies. The intensification process would involve the same problems of production risks, warfare, inefficient resource use and resource deficiencies as was involved with agrarian states and the societies that preceded them. However the increased role of governments and free markets in the industrial world would mean that these problems were solved somewhat differently in the industrial world.

Production risk is reduced by the ability of people to use bank savings and insurance to reduce risk and the rapid movement of commodities from seller to purchaser reduces loss caused by spoilage and allows food to reach people affected by natural disasters. However this comes at the loss of family and traditional security and when the market fails for one reason or another people become dependent upon the state which leaves them subject to state control.

Warfare is encouraged by the increasing value of the land and resources due to improved technology and population growth, making it more worthwhile to violently seize the land and resources. Free markets discourage warfare as trade increases the value of peace. However sometimes warfare is used to forcibly bring communities within the free market system. The control of violence within a group or state allows greater intensification of production, but also allows elites to strengthen their political control of the group or state.

The problem of insufficient resource use can be solved by the use of substantial amounts of capital available in free markets. The accumulation of capital results in capital acquiring a sanctity

which strengthens the power of the owners of capital. Large amounts of capital enable an ever increasing portion of the world's resources to be brought within the free market. The free market brings an intensification of production through-out the world creating economic integration and increasing stratified decision making over the worlds production.

The problem of resource deficiencies is solved by the free market moving resources to wherever the demand for them is greatest. This enables population to grow without being hindered by insufficient resources. However the market is managed by elites who use capital and political and military resources to protect their own interests.

It appears to be a basic rule of social evolution that the expansion of the political economy, while solving problems in the subsistence economy, involves opportunities for elites to increase their control over society. Increased intensification of production and integration of economic communities leads to increased stratification. Only political controls can restrict the power and wealth of elites and protect the environment from damage caused by free markets and population increase.

The evolution of human society has involved a loss of freedom. The problems caused by technological change and population growth can only be solved by creating a compromise between individual freedom and community-based political controls. The global economic integration taking place in the modern world is an example of the intensification, integration and stratification processes that have always occurred in social evolution. Intensification in the modern world takes place through the process of free markets and integration in the modern world is primarily in the form of increasing involvement in free markets. Stratification in the modern world means elites have great wealth enabling them to protect their interests by political means. The mechanism of the feedback between technology and population growth leading to intensification of resource use requiring increased stratification and political controls applies equally to modern societies as it does to the evolution from foraging to agrarian states.

Stephen Sanderson & *Social Transformations* & Evolutionary Materialism

Stephen Sanderson in his book *Social Transformations: A General Theory of Historical Development* proposes a model for social evolution. Sanderson calls his model evolutionary materialism and he considers evolutionary materialism to be a theoretical strategy which is an "abstract set of assumptions, concepts and principles designed to serve as a broad theoretical guide to explaining empirical reality." It is an orientating device for creating and assessing theories rather than a theory itself.

Sanderson outlines a number of propositions which constitute the theoretical strategy of evolutionary materialism. The first set of propositions dealing with the nature of world history state that "world history reveals social transformations and directional trends of sufficient generality such that typologies of social forms can be fruitfully constructed. These directional sequences of change constitute the bulk of what is known as social evolution. Social evolutionists concentrate on general and repeatable patterns of social evolution … but also show due respect for the unique and nonrecurrent in world history." Social statis (continuity in the social patterns of a social system), devolution (retrogression to an earlier evolutionary stage) and extinction (the elimination of the basic patterns of a social system) are basic facts of world history, but do not undermine an evolutionary interpretation of world history. World history does not involve a pre-determined pattern, but represents the aggregation of the actions of individuals and groups responding to biological, psychological and social needs. Social evolution is to be explained by the use of the same causal explanations that are used in all the sciences.

Sanderson's second set of propositions concern the nature of world history. Social evolution occurs at all levels within social systems from societies to social classes to kinship groups. It is studied mainly at macro sociological level, but applies also at the simplest micro sociological level. Social evolution often involves increasing social complexity or differentiation but also involves transformations that involve reduced complexity. There are some similarities and some differences

between social evolution and biological evolution and the differences are enough for social evolution to be studied in its own terms and not along the lines on which biological evolution is studied.

Sanderson's third set of propositions deal with the principal causal factors in social evolution. Sanderson considers the principal causal factors involve the material conditions of human existence. These factors involve-

-Technology which involves all the knowledge, tools and techniques available to a society.
-Demography which involves variations in human populations and particularly the increasing pressure of population on limited resources.
-Ecology which involves all aspects of the natural environment, particularly those that interact with technology and demography.
-Economic factors which involve the forms of social organization within which goods and services are produced, distributed and exchanged, including the ownership of the means of production.

The causal factors apply in the long run and in the majority of cases but do not completely determine the course of social evolution. Non-material factors play a role in social evolution but in a quite secondary way. The material factors are important as they concern basic human needs for subsistence and the reproduction of human life. Human needs for subsistence and reproduction are a priority in human life and this leads to a casual priority in social evolution. Which material conditions or combination of conditions are casually important varies from one period to another and can only be identified by empirical study. There is no universal cause of social evolution and the driving engines of social evolution are different in different historical periods.

Sanderson's fourth set of propositions deals with, adaption. Adaption is the process by which people originate social patterns which are devoted to meeting their needs and wants. It concerns the origin or persistence of social patterns. Adaption, relates only to individuals and not to any social group larger than the individual. This is because only individuals can have needs and wants. Adaption, can be in response to either or both of the physical or social environments. Sanderson considers that much of what social evolution concerns, comes from adaptional processes.

Sanderson's fifth set of propositions, concern the role of agency and structure in social evolution. He considers that human individuals acting in their own interests create social systems and structure. The systems and structures often develop in ways people never intended due to their actions having unintended consequences. The social systems and structure reflect back on individuals in that they create constraints within which human action takes place. Social evolution represents the effects of the interplay between human agency and social structure. Human agency does not occur freely in that human action is constrained by the biopsychological nature of human individuals and by the social structures that surround them.

Sanderson's sixth set of propositions concern the units of social evolution. He considers the units of social evolution to be social groups, structures and systems and not individuals. Individuals are the units of adaption but they do not evolve in social evolution. Social evolution can occur both due to forces within a society and as a result of forces external to a society.

Sanderson's seventh proposition concerns the pace of social evolution and he considers the pace of social evolution varies from one time to another. However he considers that social evolution was much slower in earlier periods and is faster in recent times.

Sanderson's last propositions concern the methods of studying social evolution. He considers the comparative method, which involves ordering synchronic data into typologies that are treated as reflecting historical transitions from one evolutionary stage to another, is an important tool of evolutionary analysis. The use of the comparative method is justified to the extent it could be independently corroborated by other data. Diachronic or historical and prehistoric data is to be preferred to synchronic data. Social evolutionary analysis involves the acquisition and synthesis of data from archaeological, historical, ethnographic and sociological sources. All of these contribute to the development of evolutionary theories.

Comment

All of these theories have their critics and some of the criticism may be justified. Nevertheless there would seem to be some truth in the theories. But the theories of Marx, Durkheim, White, Johnson & Earle and Sanderson all have one failing in common; they fail to provide an ultimate explanation of social, cultural and historical change. Marx tells us that class warfare is the driving force of history, but class warfare is the means by which an alteration in the productive forces causes a change in the ownership relations of production. No mechanism however is offered for the changes in the productive forces.[12] Shaw in *Marx's Theory of History* suggests a technological determinist theory as an explanation for changes in the productive forces. Such an explanation is often considered controversial, but some sort of explanation is needed for the change in the productive forces. Karl Federn in *The Materialist Conception of History* suggests human intelligence could determine changes in the productive forces.[13] This idea is dismissed by Shaw on the grounds that human knowledge and productive intelligence is already built into the concept of productive forces.[14] However just because human intelligence is built into the concept of productive forces is not a reason for it being unable to be used as an explanation for the development of the productive forces. It would simply mean that productive forces are able to generate their own momentum, rather than relying on outside forces, but the question still remains how can they do this. In order to explain this, it is necessary to explicitly state that an element within the concept of productive forces, drives the productive forces forward and to explain what this element is and how it is able to produce change in the productive forces. Marx has failed to do this.

Shaw's technological determinism is also a suitable candidate to explain the change in the productive forces, but it just begs the question as to what causes the level of technology available to a mode of production and what causes changes in the level of technology. It still does not provide an ultimate cause for historical change.

Durkheim's theory has the same problem. His driving force for historical change is increasing social density, caused by population increases, improved transport and communications and the growth in cities. However, we are not told what causes the population increases, growth in cities and improved transport and communications. Population increases in pre-industrial societies were always limited by the ability of the environment to support an increased population within those societies mode of production. While population will tend to increase it is usually constrained by limited food supplies, disease, war or other factors. There tends to be a stable population level for a particular environment in a particular mode of production. Durkheim fails to tell us how population can increase in a particular mode of production or if the mode of production changes, as they obviously do, what causes the mode of production to change. He also fails to tell us what causes transport or communications to improve and what causes the growth of cities. Like Marx, Durkheim fails to give us an ultimate cause of historical change.

White is the same. He tells us that cultures evolve as the amount of energy harnessed per capita increases or as the efficiency of the technological means by which energy is put to work increases. What White does not tell us is what causes the amount of energy harnessed per capita to increase. Nor does he tell us what causes the efficiency of the technological means by which energy is put to work, to increase. One suspects White might suggest improved technology, but even this would just raise the question of what causes the technology to improve. White, just like Marx and Durkheim, has failed to provide us with an ultimate explanation of historical change.

Johnson and Earle consider a positive feedback between technology and population is the driving force of history. The problems associated with increasing population are solved by increasing the powers of leaders and elites. However the theory does not explain which of population and

[12] William F. Shaw, Marx's Theory of History (Stanford, California, 1978) 54, 65, 124.
[13] Karl Federn, The Materialist Conception of History (London, 1939) 14, 16.
[14] William F. Shaw, Marx's Theory of History (Stanford, California, 1978) 65.

technology begins the process. If population increases first it is likely to be constrained by limited food supplies and disease and other factors. If technology improves that may allow population growth but no explanation is given for why and how technology improves. As with Marx, Durkheim and White, no ultimate cause of historical change is provided.

Sanderson's evolutionary materialism provides a theoretical strategy for social evolution rather than a theory. He does suggest certain causal factors as the driving force for social evolution being technology, demography, ecology and economic factors. Again, while appreciating that Sanderson is providing overall guidelines rather than a specific theory, it is hard to see how any of these factors could be an ultimate driving force for historical change. No suggestion is provided for how and why technology changes, how population growth can occur given limited food supplies unless improved technology allows increased population. If this is the case then there needs to be an explanation for the improved technology. Ecology will vary over time but by itself could not be the ultimate driving force for history, as changes in ecology do not match changes in human history. Even if the ecology does not change, social evolution may well take place. Economic factors involving changes in the social organization by which goods and services are produced, distributed and exchanged are the results of changes in human social and cultural history. Again no ultimate cause of human historical development is provided by Sanderson's evolutionary materialism.

Some progress towards such an ultimate explanation is provided by Mill when he suggests that changes in the state of human knowledge always precede and cause changes in the material conditions of humankind. The progress of human society depends on the order of progression in the knowledge and beliefs of humankind. Increasing human knowledge could explain the change in Marx's productive forces, Durkheim's increase in population density, White's increasing energy consumption per capita, Johnson and Earle's and Sanderson's changes in technology and population.

However, Mill has left us with an unanswered question. He does not tell us what determines the state of human knowledge at any given time and what determines the order in which knowledge becomes available to us. The answer to this, as stated in the first part of this book is the nature of the environment, which we inhabit and the structure and properties of nature and their relationship to human beings. Human beings can only discover the facts concerning the properties and structure of nature in a particular order so we move through states of knowledge in a particular order. That order is determined by how close particular facts concerning nature are to us. We discover the closer facts before we discover the facts which are further away from us.

This however, is as far as we can push the questions back. What determines the structure and properties of the universe is a question that cannot be answered scientifically. Such a question belongs to the realms of theology and metaphysics and we are not able to come up with definite answers to such a question.

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