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## Economic Institutions and Social Characteristics Favouring Economic Growth and Development : A Comparative Approach

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# Economic Institutions and Social Characteristics Favouring Economic Growth and Development —A Comparative Approach

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## INTRODUCTION

Favorable economic conditions are at the basis of economic institutions that in turn drive economic systems toward the frontiers of further growth. "Economy, polity and culture are interacting and often interpenetrating, and we must remain cognizant of these facts as we begin to study an economy in an overall context" [MURAKAMI 1982: 3].

It is about time that economists recognize the fundamental importance of extra-economic variables in the process of economic development and growth. But to do this poses enormous problems of conceptual definition and even of a philosophical nature since "the existential basis or empirical factors which determine or explain the characteristics of a people's way of thinking...remain unsolved" [NAKAMURA 1978: 36].

The social characteristics that define an economy are therefore fundamental points to be dealt with, knowing that the social characteristics favoring economic development might not always be the same in different regions or historical periods. Undoubtedly, religions play an important role in society, although we should perhaps distinguish the monotheistic religions that characterize Western civilizations, from the widespread polytheism that characterizes many East Asian religions.

The former seem to be more concerned with "heavenly" problems and seem to have little interest in this world, whereas the latter seem to concentrate mainly on "this world". Such a deep interest in "earthly affairs" may imply a more practical and articulate organization of society, and a deeper interest in science and

technology, and these may explain why science and technology were more advanced in China than in Europe in practically all fields from the beginning of recorded history to the Renaissance and the "Scientific Revolution" of the seventeenth century [GRAHAM 1973: 44].

Since culture is an important element in shaping institutions, rules and behaviors relevant for a smooth and efficient functioning of the economic system should become imbedded in the cultural background, and in this respect religious and philosophical beliefs are paramount. Let us consider two wide and distinct cultural areas based on religious beliefs:

- A) the Mediterranean and European area, where the great monotheistic religions (Judaism, Christianity and Islamism) were born and expanded; and
- B) the East Asian area centering around China, where Confucianism and Taoism were born and developed.

In the former area, transcendence dominates: God is dominant but the place of man in the universe is privileged, since all other animals have been created for mankind's use. Between God and every human being there is a special relationship, stronger even than that binding human beings together.

In the latter area, immanence dominates: all beings are subject to natural laws and man is no exception since he is part of nature. Among men social relations have the greatest importance.

In the Western cultural area (A) the importance of the supernatural elements led to a *Weltanschauung* based on dichotomy: body as opposed to soul; this world (bound to end) as opposed to heavenly eternity; action (and its result) as opposed to intention (that originates it); form as opposed to substance.

In the Eastern cultural area (B) complementarity rather than opposition stems out of difference, and although hierarchy plays an important role, it is almost never based on supernatural elements. Rationality seems to dominate here.

In the West it was God that legitimated the power of kings (and on the banknotes of the most important world currency, we can still read "In God we Trust") whereas in the East it was mainly nature that legitimated, since legitimacy to rule was to be found in harmony between the ruler and the ruled, between mankind and nature, and within the larger family that was the nation.

Very probably these differences were not so marked before the birth of the great religions. When they became widespread, however, a process of differentiation and of accentuation of these dominant characteristics took place. For example, the Indian cultural world, in this respect nearer to cultural area (A), gave birth to Buddhism that influenced the Confucian-Taoist-Shinto cultural world, but in the process of Buddhism diffusing to East Asia and disappearing from India, its characteristics were changed remarkably. Although the world in antiquity had closer relations than one might expect given the poor transportation and communication facilities, the two great cultural areas (A) and (B) never shared a "unified" economic structure like the one that increasingly existed from the end of the eighteenth century. Therefore a direct confrontation between areas A and B in the

cultural, political, economic, and military fields never took place until the industrial revolution.

Although it is questionable that "the industrial revolution has been the most fundamental transformation of human life in all recorded history" [HOBSBAWM 1968], it is undeniable that for the first time a mass market for goods coming from distant lands developed in Europe; overseas economic systems which were closely knit to dominating economic powers were created; colonies were conquered and exploited in favor of their European masters.

The tradition of European expansion began in the Mediterranean, with Italian merchants and Iberian conquistadores, then it moved to the Baltic sea with the Hanseatic league city-states, and from the seventeenth century new centers of economic expansion represented by the maritime states of the Northern Sea and Atlantic appeared.

While this evolution was taking place there was a strange contemporaneity of the great Portuguese and Chinese voyages of discovery. All the time that the Portuguese were exploring slowly southwards down the West coast of Africa, the Chinese were trading and visiting all up and down the East coast, with larger ships and larger fleets. It is extremely interesting to speculate what would have happened if the smaller flotillas full of ambitious and blood-thirsty, occidental adventurers had met the larger, sea worthy fleets of great junks, the vessels of a philosophical people which had never had any part in the crusading strife between Christian and Moor [NEEDHAM 1970: 49]. This never took place because China suspended the voyages before the Portuguese sailed to the African East coast. Nonetheless, it is obvious that the styles of these two great maritime explorations were quite different.

East Asia, a geographical area that includes all the peoples influenced by Chinese civilization, had powerful cementing elements in the Chinese script (even if it disappeared from Vietnam since father Alexandre de Rhodes invented [1651] the Quoc-ngu romanized script), and in Confucianism with its implications for the organization of society. Common tendencies also included the maintenance of patrilocal families and a patrilineal kinship system. Ancestor worship, especially of patrilineal relatives, was related to these social features.

Adulthood was achieved by acting responsibly, and not by reaching a certain age or passing some initiation rite. Individual competition remained strong because children, unable to repay their debt to their parents, strove to succeed in order to win parental approval, and thus brothers co-operated within the family but also competed individually. A highly productive, labor intensive type of agriculture, needing community effort for irrigation in the rice growing areas, was developed, while co-operative community effort at the village level for public or semi-public works (roads, canals, bridges, schools, temples, etc.) was an expected part of community living. The belief system centred on tao, although later taoism was influenced by Buddhism, and this placed mankind within nature, and not as the dominant force of nature. Political power was bureaucratized and this led to the rise of centralized non-feudal states. The contrast with Europe and the Western

world in general could not be more striking.

The study of science is particularly well suited to show the differences between the two cultural areas, since "a particular mode of learning does not simply appear...the work of the contemporary scientist presupposes a whole complex of ideas, instruments..." [NAKAYAMA 1984: vii]. The Western scientific tradition can be traced "...from ancient Babylonia and classical Greece to the larger world of Hellenistic civilization (extending as far as India), from the Hellenistic world to the Islamic cultural sphere, and from there to Renaissance Italy, seventeenth century England, eighteenth century France, nineteenth century Germany and twentieth century America—this is the stream that eventually grew into contemporary science. The Eastern scientific tradition was contained for the most part by the Chinese cultural sphere, in almost complete isolation from the European mainstream" [NAKAYAMA 1984: xiii]. Isolation, however, allowed Chinese science to excel in such fields as astronomy, printing, deep mine drilling, and acids technology, to mention just a few of the many branches of science and technology that have been brought to our attention by the works of Joseph Needham and his disciples.

Both scientific traditions relied on paradigms, as defined by Kuhn's study, *The Structure of Scientific Revolutions* (1970), and they were "the works of Aristotle and the Confucian classics. In this case paradigm signifies canonical codifications of classical texts that set scholarly style, legitimate the specialized, professional activities of intellectual groups, and lay out subsequent courses of development for what has come to be normatively defined as scholarly activity" [NAKAYAMA 1984: 19]. "The historic centrality of Aristotelian learning in the Western tradition can be explained in part by the strategic role it played in synthesizing the argumentative learning of classical Greece...The triumph of the Confucian paradigm in China was even more directly influenced by political factors" [NAKAYAMA 1984: 34].

If we consider rationality, as economists do, as an important basic feature favoring economic growth and development, "...if 'rational' means thinking in a practical utilitarian way, then it is the Chinese rather than the Westerners who are far more rationalistic" [NAKAMURA 1978: 16]. Max Weber stressed that Confucianism is more realistic than any other system outside of Bentham's ethical system, in the sense that it lacks and excludes all measures which are not utilitarian (*Aufsatze zur Religionssoziologie*, I, 266). But he also wrote that "the cultural phenomena which promoted the development of universal meaning and applied science happened to appear in the West, and in the West alone" (*ibid*, *Einleitung*). Although not all will agree with this statement, it can be explained by the fact that "modern science began by tackling problems that lent themselves to resolution by mechanical methods...Earthquake prediction and weather forecasting—two areas in which the Chinese left voluminous records of phenomena—but which proved recalcitrant to the available means of solution in China. In Europe, however, the study of culinary tastes and smells was long neglected, and a hierarchy of disciplines emerged in which the status of any particular discipline or field of inquiry was roughly determined by the degree to which the problems it posed were amenable to

mechanical solution" [NAKAYAMA 1984: 96].

How different and (we discover today) how much more advanced was the Chinese attitude towards disease. "Treatment of the whole person, not just a body, is just beginning to make its way into the medical thought, practice, and education of the modern world" [SUGIMOTO, SWAIN 1978: 395].

In China "popular medicine proved to be a source of materials for classical medicine without the two being seen as antagonistic...An abundance of popular medical techniques also existed in the West, but modern medicine, unlike its Chinese and Western predecessors, judged them unscientific and refused to accept a state of coexistence" [NAKAYAMA 1984: 97].

"The determinative influence of yin-yang and Five Phases concepts (wu-hsing: wood, fire, earth, metal and water, which characterize the cyclical changes of all nature) enabled medical scholars to organize their experiences—and thus to perceive—according to naturalistic assumptions, with no need for recourse to supernatural causes and evil spirits" [SUGIMOTO, SWAIN 1978: 91 & 7].

If we consider hygiene as a standard means of disease prevention, we have to recognize that some habits like the drinking of boiled (hot) water and the removal of human excrements or "night soil" for agricultural fertilizers, contributed to the use of pure or bacteria-free water for drinking purposes in East Asia.

The very concepts of man and nature are also extremely rational; "The idea emerging from classical Chinese philosophy is that men are naturally equal. Previous commentators on classical Chinese philosophy have been misled by the Confucian assertion that a hierarchical society is justified by the hierarchical character of nature itself, and that men are of unequal merit...The importance of the idea of natural equality lies in the assumption derived from it by the Chinese: that men, lacking innate defects, are perfectible through education. The educational environment determines whether or not men will be good or evil, and educational reform is a key to the solution of urgent social and political problems" [MUNRO 1969: vii].

"The early Chinese belief in natural equality is intertwined with the Chinese conceptions of human nature...the Confucian conception of man's 'evaluating mind', which is at the core of the ideas of human nature and natural equality, is directly related to their view of that natural order" [MUNRO 1969: 23].

"It is remarkable that a belief in cosmic hierarchies did not lead the Chou Confucians to a belief in natural inequalities among men, as it did the Platonists in Greece...the Confucians instead adhered to a doctrine of natural equality, based principally on the argument that all men have an evaluating mind; this is the key to understanding the Confucian concept of man" [MUNRO 1969: 48].

"By adhering to the doctrine of the equally possessed evaluating mind, the early Confucians had the strongest possible argument to support their contention that merit rather than hereditary status should be the criterion for awarding political and economic privilege" [MUNRO 1969: 83].

The idea of power and the rational basis for its legitimation stems out of this

conception of man. Confucians and Mohists "never considered the individual as other than part of mankind as a whole, and believed that his happiness was inseparably connected with that of the mass" [BAUER 1976: 32].

"In the doctrine of the transmission of the heavenly mandate, there had already existed certain phenomena which were interpreted as the signs of a beginning, a flourishing or a declining dynasty. But they had been confined to certain good or evil acts of the ruler. But during the Han period, a special "language" of the silent heaven was beginning to be discovered. It no longer tended to express itself in the language of the people and their right to revolution, as had been the case in Mencius, but in the language of nature. The ruler (and therefore mankind as a whole) was no longer wholly the master of his own fate. Even when his conduct was exemplary, his time could have run out and an era might end. Historical development no longer followed the laws of men as much as it did those of nature" [Bauer 1976: 72-73].

Given the extremely rational and practical framework for moral philosophy in the East, why did industrialization begin in Europe and not in East Asia? To provide an answer to this question is not an easy task. If we consider the institutions that allowed for the birth of industrial revolution (England 1760-1840) it is really difficult to detect the important elements: but since the major element was the new organization of labor in the factory system (and the ensuing division of labor into small functions) we may say that the diffusion of certain technologies was the dominant element, together with the expansion of transportation. The main technological changes that took place concerned the use of new basic materials (iron and steel); new energy sources including both fuels and motive power (coal, steam engine, electricity, petroleum and internal combustion engine); new machines (spinning jenny and power loom) that permitted increased production with a smaller expenditure of energy.

Changes in agriculture were also an integral part of the industrial revolution, and it could be argued that these agricultural changes provided the very basis of it. In contrast, the high productivity of East Asian agriculture and its sophisticated methods of irrigation and fertilization, did not give origin to an industrial revolution, suggesting that necessary conditions are not in themselves sufficient. As in Europe, agricultural production had been increased by the use of fertilizers and the rotation of crops in East Asia but the market system remained underdeveloped and the specialization of functions remained embryonic. "Agricultural society in densely populated countries is characterized by community-type activities mixed with market-type activities and closed self-contained or family-type activities which together constitute the total economic activities that are each carried out on the basis of specific institutions regarding interfamily relation" [ISHIKAWA 1981: 261]

In a highly unsystematic way we have seen how certain social characteristics (like cultural attitudes toward religion and moral rules, nature and scientific knowledge, man and his role or place in the world and in the community) gave origin to certain economic institutions—or, at least, to certain institutions that have

economic relevance. Let us now see more in detail what variables might be chosen as relevant for economic development and growth.

## 1. FACTORS BEHIND ECONOMIC DEVELOPMENT AND GROWTH

Economic development and growth are geared in any economic system to the following crucial variables:

- a) human resources (material resources can easily be imported);
- b) technology (its diffusion is more important than its creation for the well-being of the economic system); and
- c) organization (stemming from the social characteristics and economic institutions that allow for and favour a smooth functioning of the economic system).

Human resources may be defined as the natural and acquired abilities of the population of an economic system in using the material resources for productive purposes. The quality of human resources, vis-a-vis their efficiency in terms of production of goods and services, is closely correlated with the social habits prevailing in the economic system considered, and we shall examine this point further under the heading "organization".

Human resource characteristics tend to change slowly, and a few generations may be required for major changes to occur. Human resources can, like material resources, be imported into an economic system, but if the extent of such an import reaches certain magnitudes (however difficult to define) serious problems may arise in terms of social unrest, and this may partially or totally offset the advantages arising from the import of such a resource.

Composition by age, hygienic habits, caloric intake, endemic morbidity, life expectancy at birth, educational standards, all contribute as important parameters defining the quality of human resources with which an economic system is endowed.

The quality of human resources may be improved through appropriate policies aimed at increasing health or educational standards, but lack of motivation to work may produce results below expectations. On the other hand policies aimed at changing motivation may be difficult to devise and implement. Also, adapting human resources to changing needs will require time and effort, and may prove to be very difficult to implement.

Technology, or technologies, may be defined as the methods of using material resources for production purposes. It is irrelevant, for the efficiency of the economic system being considered, where the technology has been produced, either domestically or abroad.

As far as economic development and growth are concerned, only the diffusion of technology within the economic system matters. Therefore scientific research is not directly correlated to economic development and growth, and neither is technological research, since a ready made technology can be imported and diffused into an economic system without having been produced indigenously. On the other hand, we may envisage an economic system with a high standard of scientific



research, and even of technological research, unable to diffuse the fruits of technological research for lack of "organization".

It is extremely important to stress this point since expenditure for R & D on GDP is considered a fairly accurate quantitative index for describing the degree of technological sophistication of an economic system. Another important consequence of the considerations made above is that increased expenditure in research facilities will not automatically guarantee a higher technological efficiency. Scarce resources might be more efficiently used in providing channels for a thorough diffusion of technologies produced elsewhere—rather than attempt to produce and diffuse new technologies with uncertain results.

In the post-war period the successes of economies like those of Japan or Italy have all been based on production technologies that have been originated elsewhere, but that have been more efficiently applied by the borrowing countries. Taiwan, Hong Kong, South Korea, Singapore and China have been, and are, following the same path [FODELLA 1983a].

If it is true that technology can easily be imported, there is an important exception to this statement, and it concerns technological monopolies. Except in cases where monopolistic circumstances affect the flow of technology, technology has increasingly become so easily obtainable that one may consider placing it in the category of free goods (like air and water used to be considered).

Organization may be defined for our purposes as the sum of institutions, rules and behaviors predominant in an economic system, that contribute to the efficiency in the use of technologies for production purposes. Organizations may be easily affected by external events (like for example a massive import of human resources) that may seriously damage it, thus reducing the endowment of the economic system and its potential for economic development and growth. An important element of organization that shapes rules and behaviors is the cultural background, and makes it, of the crucial variables which determine economic development and growth, the most important of all. And yet economists have so far paid little attention to it, with few exceptions [NELSON & WINTER 1982].

The social characteristics that determine the efficiency of economic institutions can neither be created at will nor imported. Institutions may have similar labels, but hide different realities in different economic systems. Neglect of this extra-economic variable may lead to a gross underestimation of the potential of the economic systems under consideration. Notwithstanding the vast literature on development, and on the pre-conditions for development, the analyses so far made by economists have not been able to isolate the crucial factors that have promoted an acceleration in the development rate. It would be extremely interesting to construct a model allowing us to understand when a threshold (after which high speed development is possible) is on the point of being reached by any particular country; such a model should take into consideration a certain number of significant variables with a low degree of correlation like the following:

- 1) population distribution according to age (showing the dependency ratio and

- what percentage of the population is made of potential producers);
- 2) life expectancy at birth, an index that tells a lot about nutritional standards, infant mortality, endemic morbidity, health assistance, housing conditions, and life standards in general;
  - 3) degree of education (assigning a particularly high weight to basic education);
  - 4) per capita production and consumption of basic products (in quantity, not in value) like staple foods, cloth, energy, etc.;
  - 5) the technological level of the economic system, in relationship with the quality and quantity (the degree of diffusion) of the technology. For example an advanced but little diffused technology should originate an index with a lower weight than that of a less advanced but more diffused technology;
  - 6) personal income distribution;
  - 7) degree of administrative concentration or decentralization;
  - 8) total productivity in agriculture (of land and labor);
  - 9) productivity in manufacturing;
  - 10) rate of urbanization;
  - 11) composition of exports and imports (according to elasticity and technological contents); and
  - 12) contiguity with other economic systems (allowing the calculation of the degree of isolation or interdependence due to geographic proximity, economic exchange, political or cultural affinity).

Using regression analysis, it should be possible to test the model thoroughly, first on countries that experienced such an acceleration in the growth rate, and then on the data of those countries currently developing. Should the model work, this achievement would be important also for policy-makers, since it may enable them to shape some of the variables according to the needs of growth of their economic systems.

In order to devise policies to foster economic development, it is necessary to recall that to be able to detect in quantitative terms when the threshold of economic development has been reached does not mean that this can substitute for a proper analysis of the factors behind economic growth.

## **2. EAST ASIAN ECONOMIC PERFORMANCE IN THE POST-WAR PERIOD AND ITS PROSPECTS**

During the post-war period in several countries there was an acceleration of the economic growth rate. Such a phenomenon was especially remarkable in East Asia, although it was not limited to that area, but also concerned several European countries and assorted isolated cases. The phenomenon was labelled in two ways: economic miracles (when it concerned countries that had reached a certain degree of development), NICs or new(ly) industrial(izing) countries (when it concerned developing countries). The explanations of the phenomenon were not entirely satisfactory and tended to privilege exports (export-led growth), low-cost labor,

foreign investments due to location, and factor endowments that led to a better comparative advantage.

The economic miracles gradually diminished, but sustained economic growth remained one characteristic of the newly industrializing countries in Asia, the number of which is increasing, whereas elsewhere, other non-Asian NICs appear to be in difficulty.

To grow at average rates per annum of between 4 and 7.5%, in real per capita terms, means that GNP per capita doubles in a span of 10-18 years, which results in a fourfold increase in GNP per capita in less than a generation.

This is what has happened to Japan since the Fifties; to Singapore, Hong Kong, Taiwan, South Korea since the Sixties; to Malaysia, Brunei, Macao, North Korea, Thailand, Philippines, Indonesia since the Seventies; to China and possibly also to Vietnam, Sri Lanka, Burma in the Eighties.

Whereas for the former group of countries this process has already resulted in a standard of living comparable to those existing in Europe, in the latter group some will accelerate whereas others may face political problems that will disrupt the organization of their economic systems.

If we take the case of China, still shown in official statistics as one of the poorest countries in terms of per-capita income (but this is due to a gross underestimation of its economy [FODELLA 1983b]), the economic target made in 1982 of quadrupling the value of agricultural and industrial production in twenty years (1980-2000) does not seem out of place in the light of the performance of the Chinese economy, especially in the last few years. Moreover, taking into account the long life expectancy and the successful demographic battle, at its climax now since the number of women between 20 and 34 years of age has almost doubled between 1950 and 1980, the number of women that will marry and have children will continue to grow. They will have less than two children each in order to win this current battle, but they may have two grand-children once the war is won.

If we take the case of Japan, although its growth rate may remain below 5% per year, its performance will be one of the most brilliant thanks to the proper use of the human resource, well endowed with education and skills, and thanks to an organization that allows the introduction and use of the most appropriate technologies.

In his classical work, Denison [1967] compared the West European economic performance of 1960 to that of the United States of 1925, since the levels of income in Europe were lower than in the States, but the growth rates were higher. In few years Europe was able to reach the American income levels and it is very likely that East Asia may be able to do the same within the next generation.

The impact this growth will have on the economy of the world will be twofold:

- 1) the manufacturing capacity of the area will expand considerably, resulting in a reduction of the export of primary goods; and
- 2) the East Asian area will assume a far more important international commercial role, within and outside the region.

The post-war period has witnessed a remarkable shift of production capacity from one area to another, since it was natural to move capital from countries that had lost their comparative advantage to countries endowed with it in a particular industry.

The economy of several East Asian countries is based on the ability of producing and marketing more efficiently products that have been created elsewhere and that required time, resources and effort before they could be mass-produced. The displacing factor was labor cost, but this will not last forever. Once technology allows automatic production, as it is already happening in certain fields, labor cost will no longer affect production costs significantly, and one of the main reasons behind "technology transfer" will cease to exist.

What will become once again important will be the endowment of other factors, like skills not available elsewhere (but will capital go to skills, or will skills go to capital?), energy and raw materials. Since factor endowments will become important again, economic systems like China will be more favored than those of countries relying solely on human resources like Japan. This will deepen the level of economic integration between China and the neighboring industrialized areas.

All the countries of the area are technology-takers, even if Japan is preparing the ground to become a technology-maker (in certain fields it can already be considered as such, since it has concentrated increasing resources to reach this target). Its technological balance is still in deficit although its coverage has remarkably increased. As a technology-taker, Japan has been able to become a very efficient producer by diffusing technology in the economic system, making use of the Schumpeterian attitude of companies towards innovation, and by making the most of a labor force where two thirds have a high school diploma or a University degree.

In East Asia, the major obstacles, found elsewhere, to the diffusion of innovation do not work; credit is bountiful and low priced; bureaucracy tends to make efficiency a point of honor; opposition to innovation is not exercised since to absorb or introduce innovation has become fashionable, and in all quarters, labor unions included, there is a positive attitude towards innovation. However, many of the countries where innovations have been introduced lacked the superior organization of the Japanese, thanks to which Japan was able to make the most of the radical innovations created elsewhere. In the first phase of development, Japan's competitiveness was based only on price, whereas in the second phase incremental innovations were introduced which widened its competitive base that came to be increasingly founded on non-price factors like superior performance, higher quality and, still later, its progressive image.

Almost invariably the process of economic growth started by widening a domestic and well-protected market, allowing domestic competition to function, in order to improve products. Later, production was more or less cartelized and oligopoly members, sometimes in competition and sometimes in agreement, moved into foreign markets. In this way, the photographic, automobile and electronic industries (to name but a few) of Japan grew and became strong by international stan-

dards. Japan is now trying to become a technology maker by concentrating resources in a few fields like nuclear power, new materials and large electronic computers, while its current industrial competitiveness relies on well-known technologies that Japan has thoroughly diffused.

### **3. EAST ASIAN SOCIAL CHARACTERISTICS AS A BASIS FOR MORE EFFICIENT ECONOMIC INSTITUTIONS**

It is not by chance that the portions of Asia of Chinese cultural influence has had the best economic performance and remains the most promising in terms of economic growth. This is true in spite of differences in the political systems and the various degrees of economic development or stages of economic growth that characterize the countries where Chinese script is used and where Confucian ethics still profoundly influence society, making consensus paramount within the social environment.

If one considers the growing complexity of organized life in economically developed societies, a growing degree of co-operation among individuals seems an essential requisite of progress, and East Asian societies seem to possess this to a greater extent than Western societies. One may say that society is God in East Asia, and sin is the violation of norms regulating social behavior.

Since in such societies the summation of the individuals interests coincides with the economic interests of the system, at least in the medium run, it is more likely that technologies adopted in such societies will be not only feasible technologies, but also efficient technologies, that is technologies which may be used in appropriate ways while keeping entropy at a low level.

Man is not the ruler of nature but is part of it, and in East Asia individuals try to fulfil their aspirations through the group to which they belong, rather than against it; action is judged by results, and not from the intention that originated it; a pragmatic attitude prevails ideologically. East Asian societies seem to have a more positive behavior toward collective aims than do Western societies, and not because, as it is often said, they "lack in individualism"; the drive to forge ahead and succeed is as strong in East Asia as it is in the West, but the way to do so may be different: since society (God) does not tolerate an anti-social behavior and excessive individualism, by which one is motivated to achieve to the detriment of others.

The pursuit of common targets and aims does not stem out of lack of individualism, but from a deliberate de-emphasis of that concept—a shift from individual interests in favor of collective interests. In the light of this, when one takes into account both the demographic pressures and a new way of life which requires greater co-operation among individuals, it is necessary to recognize that East Asian societies are more adapted to meet present and future challenges.

In East Asian societies, the importance laid upon group interests as opposed to individual interests finds its roots in both religious and philosophical beliefs. Not only according to Confucianism, but also Taoism and Shintoism, man is a part of

nature and not the dominant actor. This is contrary to the tradition of monotheistic religions which are the basis of Western culture. In Western culture attitudes of dichotomy (God and man, man and nature, mortal and eternal life, body and soul, action and intention etc.) prevail, whereas in East Asia we find a philosophy which tends to be unitarian and ideally suited for integrating individuals into productive organizations where their energies are entirely absorbed by activities which in the past would have been considered "earthly".

If we reflect on some traditional characteristics of the West (and of the East): private property of land (it belongs to the community or to the sovereign); personal responsibility (family responsibility); meat diet (vegetarian diet); studying nature in order to conquer it (to co-operate with it); link between individual and God (between individual and mankind through family, ancestors, nation); city states and national states (village communities and supra-national states); individual effort (family effort); conflict resolved with clear victory of one part while the defeated is destroyed (with a compromise where the winning part tries to absorb/convince/re-educate the opponent); etc., it seems that the social characteristics and economic institutions that form the organization of an economic system appear better suited in the East to meet the needs of today and tomorrow's world where conflict should be solved without destroying the opponent, community targets should prevail over the individual's, a more sympathetic attitude toward nature is appropriate for a developed ecological consciousness, the positive evaluation of the community efforts may push towards a re-composition of labor made possible by the technological and educational revolutions that are taking place, the increasing importance of decentralization in administrative and economic fields that requires at the same time efficiency in local government and ability of co-ordination with other decentralized bodies may be better implemented where it is already understood. Indeed it was so in the past, according to the marveled reports of those travellers to the East coming from the richest areas of Europe during the thirteenth to seventeenth centuries. This leaves no doubts about where the most "developed" part of the world was then found [NEEDHAM various years].

In 1793, Ch'ien-lung could still write that the Chinese empire possessed all things in prolific abundance, and the nineteenth and twentieth centuries may be considered as a parenthesis characterized by Western scientific, economic and political superiority, made possible by the decline of China and made evident by the first direct confrontation of history between Europe and East Asia. During the century of decadence of China, from the Opium Wars to the Pacific War, Japan absorbed modern technology from the West in the first half and created and lost its own empire in the second half; succeeded in building up a well-organized economic system thereafter, a task that also other East Asian territories as well as China are accomplishing at rapid pace. In the past few centuries the Western social characteristics gave rise to a situation of temporary superiority, but future economic development is likely to be more securely guaranteed within communities where the consciousness of the public good and of common long-term goals already

exists, and is based on beliefs where immanence prevails over transcendence, and where a less dichotomic attitude is the norm.

#### **4. A PROPOSAL RATHER THAN A CONCLUSION**

How the present social structures in East Asia and in the West are going to cope with tomorrow's economic problems is an open question. In the past city states could develop fast, but their economic and political life was easily threatened by the fact that they could not afford a confrontation with larger economic and political units. A more secure international community, and an evergrowing quest for decentralization of decision power, might allow a similar kind of institution to flourish again. The evolution of joint stock companies also does not follow a clear trend; large (especially publicly-owned) companies do not seem suited to prosper within societies strongly based on individual and family, rather than on wider interest groups. However family companies have frequently faced extinction within two or three generations for lack of "innate" managerial abilities. De-centralization of production may nevertheless provide new patterns also in this field.

One major problem that can be solved only by creating appropriate economic institutions, concerns the always latent and evermore clear conflict between long-term and short-term economic goals.

It is becoming clearer and clearer that individual short-term choices may lead to disaster for the economic system. The examples are numerous and found in all economic systems: individual choices concerning the dimensions of families may lead to uncontrollable demographic explosions; whereas individual choices in the dietary field may lead to the impoverishment of the economic system concerned. To merely follow the signals received from the market may lead to decisions that prove to be wrong subsequently. If we take the energy sector, for example, we can see that, although oil resources will be depleted, prices are falling due to the budget constraints of the oil producing countries. The prices will soar again when oil is on the eve of disappearing, but this signal will come too late to allow the adoption of proper policies to remedy the situation.

Polluting methods of production (be they industrial or agricultural) may lead to the destruction of the asset (land, soil, water, air) on which they depend, and to induced ill effects on the human population, whereas non-polluting, more costly but resource-saving and health-protecting methods of production cannot be adopted by considering market signals alone. The use of the existing resources with short-term efficiency only in mind (cost-wise, price-centered) is going to be replaced by the necessity of long-term efficiency.

The social characteristics (and ensuing economic institutions) of East Asian countries, being more community-oriented, seem better suited to shift from a short-term to a long-term perspective in the organization of an economic system.

Thus, although one cannot predict the future, it seems possible and highly probable that after a period of a few centuries (counting from some time ago), the East

Asian area may take the world economic leadership in a more open and direct way, while this area was previously unnoticed for lack of comparison or of a clear confrontation between the two areas, East and West. The two areas developed independently and had few contacts in the classical period. Subsequently, East Asian superiority was eclipsed in the eighteenth & nineteenth centuries when the West was able to capture the world scientific, economic and political leadership. But we are not so much concerned with the historical problem of "why it happened in Europe first". We will leave this question to historians since, as we have already seen, it is not contradictory that countries where inventions took place earlier develop less rapidly economically. In this respect the examples of Japan and of other East Asian countries like Korea are enlightening, since their economic development and growth has been based on borrowed technologies that were thoroughly diffused into the economic system in such a way as to overcome the rates of development that occurred in the countries that originated the technologies.

It is true that the mere availability of any given technology does not automatically guarantee that it will be adopted and, even less, that it will be diffused into the economic system in such a way as to supplant existing, less efficient economic and technological systems.

Material resources are of course an essential part of this picture, but only at the world level while their domestic availability is not: it is only essential that material resources be available somewhere, not necessarily at hand, with the possible exception of water, the only natural resource that it is difficult to import.

All other material resources can be imported. Sometimes it is more advantageous not to possess certain natural resources because in this way they may be imported from the most efficient producers at the lowest prices. They can then become inputs of production at the lowest possible cost, thus guaranteeing the competitiveness of the economic system that makes an efficient use of them, as it happened, for example, in Japan.

However, the problem of long-term production remains unsolved, and that is why I want to conclude this paper with a policy proposal concerning two countries that belong to the two areas that have been here considered, but that have much in common from the economic point of view, if not the performance of the last twenty years: Japan and Italy.

The problems of raw materials and energy resource shortage are typical of densely populated industrial countries. These countries have at the same time serious environmental problems since traditional waste disposal and relatively limited land resources, due to industry concentration and to intensive agriculture, compels them to make use of chemical fertilizers, herbicides and pesticides in an excessive manner so as to affect future soil productivity and water quality, thus worsening the quality of life. For such countries it is therefore necessary to devise a strategy aimed at securing (in a short-term perspective) a stable supply of the needed raw materials and (in a long-term perspective) the substitution of non-renewable commodities with renewable ones, and the adoption of methods of industrial pro-



duction and of agricultural cultivation aimed at protecting the environment and not negatively affecting human health as well as the life of other species.

To undertake such a deed poses enormous problems, especially of an economic nature, and it is a difficult task to be undertaken by a single country. On the other hand, a deep analysis of the real situation and the problems associated with it are less difficult if the countries involved are many. It would therefore be an important step in the right direction if two countries being particularly affected by raw material shortage and by environmental pollution, namely Italy and Japan, created a permanent commission empowered to suggest policies to be examined, and if successful, subsequently adopted. The policies adopted might become important examples for other countries in Europe, Asia and elsewhere. Some of the suggestions, made in order to produce goods and services while protecting the environment, may become the object of resolutions to be adopted by international organizations and subsequently enforced by member-countries, or at least suggested by them for adoption.

A concern for the environment should not be limited to the two countries involved, but pollution and environmental disruption should be considered from a more comprehensive perspective, involving both local countries (however small and separate from the two countries concerned) and world powers.

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