

Technology and Convergence*

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There are various economic systems in the world. Countries categorized as 'capitalist' can be divided up into various subspecies, and pure capitalist economies, unadulterated by any socialist elements, do not, in fact, exist. They exist only as ideologies. Socialist countries are just as diverse. These economies, though based on Marxist principles, interpret Marxism in a variety of ways, and since they must also reach a compromise with their historical legacy and other indigenous elements it is not surprising that we should end up with a variety of socialist countries.

What are the chances of these heterogeneous systems coming closer to each other in the future, and growing more like each other than is the case at present? This question was discussed by J. Tinbergen as a problem of convergence between the economic systems of East and West.¹ However, with the continuation of the Cold War thereafter, the West saw the appearance of fiercely anti-socialist conservative administrations, and the issue was discussed less and less. However, with the appearance of Gorbachev the question of convergence has once again come to the fore.

Despite this, we must always bear in mind the following point. That is, at the present stage of events a Cold War could easily be reactivated. There remain many people in both East and West who have a strong mutual suspicion of each other, and against this background it is quite possible for conservative politicians in both East and West — prime minister, president or party secretary — to engage in activities such as the expulsion of the

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¹ Tinbergen, Pronk and Linemann, "Convergence of Economic Systems in East and West," in *Disarmament and World Economic Interdependence*, Benoit, E., ed., Columbia University Press, 1967.

other side's diplomats on some pretext or other. From such trivial beginnings, repeated tit for tat retaliations can in a short time escalate to a cooling of diplomatic relations, justifying heavy rearmament and a revival of the Cold War.

This paper is based on the presupposition that there will not be a worsening of the Cold War; should, unfortunately, this turn out to be the case, what I have to say in this paper will not be realised until the remote future. It must, however, be realised at some point.

My basic premise in this paper is that society, economy and politics must all adapt to technology. In the first section I discuss the fact that at the present advanced stage of development of means of transport and communication, countries' historically determined national boundaries become economic obstructions. The only exceptions to this rule are large countries such as America, the Soviet Union, China and India. For most countries, therefore, economic union transcending national boundaries becomes imperative, and such unions are eventually likely to lead to political union between the various constituent countries, i.e. the forming of a supernational in the form of a federation of the member countries. So far it is only in Europe that we actually have a concrete manifestation of this, but we are likely to see further instances in the near future in areas such as East Asia and Latin America.

The second section comprises a discussion of convergence in the form of enterprises. An enterprise is an organization which carries out production through the effective use of technology, and the character of the enterprise changes according to how the surplus which has been produced is distributed. Whether the surplus is returned to the hands of the state or capitalists who have originally supplied the capital, or whether it is distributed in the form of a bonus to the workers and entrepreneurs who have actually been engaged in the production of that surplus, has until now been very much a question of economic ideology. In a classical capitalist economy it is capitalists who acquire the whole surplus, while in centrally planned economies they end up in the state coffers. In certain capitalist economies, and in socialist countries — for example Japan and Yugoslavia — substantial bonuses are paid to workers and entrepreneurs. The second section considers where or not there are rational standards for the distribution of the surplus. Should such rational standards actually exist, then enterprises in all systems must at the end of the day distribute their surpluses in line with these standards.

Section three discusses how, as a result of the new technology which started with the appearance of robotization, the integrated production process of large enterprises is likely to become broken up into several parts

manufacturing operations and other operations to assemble those parts. The manufacture of parts will be carried out by small enterprises, and the final assembly work allotted to large enterprises will also take place on a smaller scale, so the large scale factory system is likely to be replaced by a collectivity of small enterprises at the stage where robotization has been carried out. This suggests that something approximating to a family or an extended family can become the basic unit of productive activity. A Confucian society which has long emphasized the importance of the family thus has a distinct advantage where new technology is concerned. Should the move from the inhuman, large scale factory system to the small, family-based firm become marked, a movement to take over certain elements of Eastern culture may well appear in the countries of the West.

Finally, we must be aware that productive activity using powerful technology can give rise to substantial pollution, and cause severe damage to the earth as a whole. Further free competition will mean the destruction of the human race. In order to protect the globe we must carry out productive activity in an ordered manner. The urgent question is not whether to turn to classical capitalism or to socialism. For the inhabitants of both capitalist and socialist countries, it is a case of having to have faith in the advent of a 'new society,' where productive activity can be carried on in a systematic manner, while at the same time protecting the earth on which we live.

The views presented here are diametrically opposed to those held by most Marxists. Apart from the conclusion expressed in Section I that historical national boundaries dissolve completely when confronted with rapid technological development, the other two conclusions reached in the paper are strongly 'anti-Marxist.' These conclusions are, firstly, that as far as both production and distribution are concerned, capitalist enterprises and socialist enterprises will in the future come more and more to resemble each other (Section II); and secondly, that the movement towards large scale factory operation will come to a halt, and clusters of small scale industries will become the basis of production (Section III). However, the conclusion expressed in Section IV that at the stage when technology has been highly developed, it becomes extremely dangerous for enterprises to engage in the unrestrained pursuit of profit, and the new era will come whether they like it or not probably smacks of Marxist determinism. Marx himself roughly outlined the influence of the progress of technology, and, as can be seen from his statement that, at such a time, 'production based on exchange value breaks down,' he obviously believed in the advent of a totally different kind of society.²

² K. Marx, *Grundrisse*, 1973, Penguin Books, pp. 704-6. Whether or not this kind of

However, at the present point of time, this kind of society seems very far from being realised; it may well be in the indefinite future. In the transitional period until that time, the existing legacies of the past will be everywhere apparent, but at the same time there will always be notable experiences which will give us confidence in our progress towards that future. In that sense the answer to the question of whether convergence will occur must be yes.

I.

Modern countries are nation states. It is true that countries such as America, the Soviet Union and Britain have a complex racial composition, but it is certain that the peoples of these countries identify themselves as these countries' nationals, and they consider that they will give up, if necessary, their lives for their country. A nation is a group of people which forms a union in the present on the basis of community in the past, and which believes that it has a common destiny in the future. In that sense Americans, Soviet citizens and British people, too, constitute nations in the present. Even in Japan, an example of a nation made up of a single people, there are subtle regional differentiations in the people, and so the difference between Japan and, for example, Britain is no more than one of degree.

A nation is one form of community (*Gemeinschaft*). By contrast a state is an artificial entity established for the purpose of protecting the freedom and possessions of its constituents by means of law or force; it is a kind of association (*Gesellschaft*). Thus the subtlety that a nation state is at the same time both a community and an association gives it a complex and contradictory character.

A state can engage in rational judgment and transform itself. It can dissolve itself or, if it thinks it to be in its interest, amalgamate with another state. The point is that in a nation state (a composite body that is both community and association), the relationship between the community (people) and the association (state) established to govern them changes over the course of time. Many of today's nation states are of a size which might have been appropriate in the days when the railway was the main means of transport — though Europe, for historical reasons, contained many small states too small even for the railway age —, but in the present

society would be a communist one is a matter of indifference to me — and possibly even to Marx himself.

era, when the aeroplane has become the main means of transport and communications networks have developed to a remarkable degree, the scale of their territory is just not big enough. In economic jargon, their situation is now one where they are Pareto-inefficient.

In terms of assessing advantages, it would probably be far more advantageous for several countries to unite to form a bigger entity, than to sustain existing nation states. In the age of air travel, the difference in travelling time between London-Manchester, London-Glasgow and London to Bonn, Paris or Rome, is negligible, so the map which describes places to which travelling time is the same as places of an equal distance away is quite different from what it was in the past. People in London do not just turn their attention to people in Manchester; they have regard to Bonn and Paris just as much. But this is assuming that the benefit gained through having regard to Manchester is equal to the benefit gained from having regard to Bonn or Paris. If the benefit is greater in the latter case than in the former, then the tendency will be to turn to where the advantage is greater.

Thus, as the profits from Bonn and Paris get greater, relations with there get closer, while on the other hand, as contact with Manchester gets less, profit from there get progressively smaller. If one was to draw a contour line of profit centred on London, Manchester is clearly located on a much lower contour line, while Bonn and Paris are located on the higher contour, nearer to London. Thus the economic map is being totally redrafted. The state itself, as well as the various interest groups within the country (the financial world, the business world, academics etc.) will respond vigorously on the basis of this new kind of topography.

Whether national boundaries may rationally be drawn from an economic viewpoint will depend upon the degree to which use can be made of already developed means of communications and transport, and where it is possible to make use of new communication networks, countries within a certain area will unite to form a larger regional union in accordance with these new networks. The *Gesellschaften* of various countries will all support this kind of integration, therefore states will end up supporting it as well. This means that the *Gemeinschaften* inside the area will be left behind, and, at the very worst, that they will be left to die before our very eyes.

Some *Gemeinschaften* will collapse in as far as people from communities in areas declining as a result of integration will leave them, while communities in prosperous regions will collapse through the influx of people from other areas. Of course, the new economic union will end up producing the appropriate new *Gemeinschaft*, but this is likely to be a

long term process, but in the interim, unification will give rise to sharp frictions over a whole range of issues within the union.

Integration, such as is occurring in Europe, commences with the setting up within the new integrating area of a market where wealth and labour can move with perfect freedom, a market with at least the same degree of freedom of movement as currently found in nation states. An essential condition for achieving this is for there to be established within the new area a single currency system, such as each nation state already possesses. That is to say the new union must have a single central bank, and a single currency in circulation. This means the existing central banks of each country giving up their various rights of currency issue and merging to form the new central bank, so it will take a fair amount of time for this to be realised, and until it is realised, long-term provisional measures will have to be implemented. After the new system comes into effect, a single monetary policy will operate within the area.

Interim measures would include maintaining fixed, or more or less fixed, exchange rates between the currencies of the various countries in the area. This means, however, that the monetary authorities in all the countries must be persuaded to adopt a monetary policy which will maintain the exchange rate at a fixed level. Even in the period during which interim measures are in operation, each country's autonomous decision-making power over monetary policy must thereby be infringed. At the same time the various national governments will no longer be able to decide matters of fiscal policy autonomously and independently. Suppose, for example, that a government wished to implement a massive reduction in tax. By doing so the country's imports would increase, the trade deficit would go into the red, and the exchange rate of that country's currency would deteriorate. In order to maintain the exchange rate at the fixed level, interest rates would have to be increased, which would mean that the cost of capital as a component of the cost of that country's products would rise, making those products rather expensive. This would lead to a stagnation of exports and an increase in imports, a further worsening of the trade deficit, and a deterioration in the overall situation. Not just that, but a rise in interest rates will cause inflation, again causing the value of that country's currency to fall. Thus, when any country becomes a member of a larger economic union, it is no longer able to make autonomous decisions regarding fiscal policy with the total independence it hitherto possessed.

There are other things as well. A country's diplomatic rights also become subject to limitations. For example, a Falklands war of the kind undertaken by the Thatcher government becomes impossible once Europe

has achieved a greater degree of economic integration. The reason for this is that the war will have an influence on the value of the pound, and cause disturbances in the circulation of money and goods within the area, thus leading the other countries within the area to express their strong disapproval of the kind of audacious behaviour shown by Mrs. Thatcher.

Thus the constraints imposed upon each country's monetary policy, fiscal policy and diplomatic policy by the will for greater economic union, mean a marked reduction in the sovereignty of each individual country. The existing governments of nation states, once the process of integration begins, are compelled to descend from what has up to now been the very highest position, and retreat to a more lowly one. In the final analysis what are now national governments will be transformed into regional governments within the union.

Such a state of affairs is somewhat shocking for the people of a monarchy. The king or the queen will no longer be the repository of the highest dignity. They will be at the very most no more than local feudal magnates. Moreover the international regulatory and executive organs which are likely to be newly established will not be those of a monarchy, but those of a republic. It will be the bureaucrats of the union who will wield power, and the degree to which member states can produce such bureaucrats will have a decisive influence on their fortunes. Whatever the case, the contradictory character of contemporary nation states will become openly apparent with the formation of a union. Particularly where the leader of a state is a nationalist and in addition a believer in the free economy, he (or she) will be placed in a very difficult contradictory situation, finding themselves compelled, as they would see it, to betray their nation, or to go against their own economic principles.

Cooperation is likely to become an important code of state activity not just in relations between the various countries within the area, but even in relations with other countries which belong to no kind of economic union at all. The contemporary state came into being as a *Gesellschaft* which would control in a rational manner a community (*Gemeinschaft*) born out of a nation, and when the spheres of activity of the various *Gesellschaften* which have existed in the nation state begin to operate on an international level, the nature of the state must also alter in accordance with this. States must provide a new framework within which these *Gesellschaften* can operate more easily. This means that each state must work more harmoniously with other states. At the very least, the benefits received by a country's own *Gesellschaften* in other countries must also be accorded by that country to other *Gesellschaften*. Under such circumstances, imperialism of the old kind cannot arise, moreover the concept of sovereign-

ty must cease to have the absolute character which it has up until now possessed. Patriotism will either become a value of the past, or, at the very least, its meaning will be substantially changed. For the sake of harmony apologies from other states must be accepted, and, in certain cases, the right of another state to intervene must also be recognised. Once cooperation becomes the accepted order of the day among states, there will need to be a place (organization) to which complaints can be taken if cooperation does not proceed smoothly, and such an international court will possess an authority above that of the individual state. Even if contemporary nation states can continue as independent countries, they can no longer remain sovereign.

At present the move towards this kind of economic union is restricted to Europe, but the same question is likely to arise before too long in Asia. However, an economic union of this kind would be quite different from the Greater East Asia Co-Prosperity Sphere advocated by Japan during the Second World War, just as the European Community is quite different from Hitler's *Grossraum Wirtschaft*. Both the Co-Prosperity Sphere and the *Grossraum Wirtschaft* had core nations, and the other member states had to serve the needs of these core countries. They were no more than blueprints for the imperialist exploitation of the member nations by the core countries.

In the new kind of economic union, countries will participate on a basis of equality, and both wealth and people must be able to move freely within the union. It is historically inevitable that countries should form unions, but it is also inevitable that it will take a long time for such unions to be perfected. During the transition period, when the relationship between the *Gemeinschaften* of the various member states and the superstate resulting from their union has not been established, there will be many occasions on which people will be tormented by not being able to achieve what they want, and overcome by feelings of frustration. The course of history cannot, however, be defied.

II.

The above is the most likely scenario for a global shift in society; on it may be superimposed a description of the same movement on a micro-economic level, as follows. In the most important sectors of both capitalist and socialist economies large numbers of workers carry out production using machines. The division of labour and the cooperative nature of work impose on the workers a strict operating discipline. If they do not adhere to this discipline they are thrown out of the factory. The code of operation

must coexist with, and be geared to, the movement of the machines.

This is not just true for the workers. Factories and enterprises expect all their members to conduct themselves in accordance with the prevailing discipline. The system of job ranking requires that obedience to orders be strictly adhered to. Such a system is the most effective one for a large organization which wishes to realise its goals with the maximum efficiency. This kind of structure is not just peculiar to modern bureaucracies or modern armed forces, but is conspicuous in modern enterprises (both public and private) as well.

The relations of control which operate in modern enterprises in this way are not democratic, they are based on the system of job ranking; they are thus bureaucratic, legal and systematic. Administration by a modern bureaucracy is not influenced by the motives and sentiments of individual bureaucrats, and there is no discrimination according to who is being dealt with; ideally matters are dealt with according to prescribed rules, objectively and without any sense of arbitrariness. It goes without saying that enterprises in a socialist society must be in accordance with the law, and at the same time impersonal, but this is also true of private capitalist enterprises. This is true even where the founder or largest shareholder is the manager of an enterprise. Even these individuals are not permitted to manage the enterprise in a selfish fashion.

Workers in modern enterprises thus become a part or a cog in an impersonal organization, in the hierarchical structure of the factory, and must work in a systematic fashion within the organization as a whole. As Max Weber said, the whole development of advanced capitalism in the modern period is tied up with the growth of the bureaucratization of economic management.³ This remains true, however bad may be the image of the bureaucracy, with its connotations of haughty and arrogant behaviour and inefficiency.

Under both capitalism and socialism modern factories establish clear goals and carry out planned productive activity in order to realise those goals in the most efficient manner. After the plans have been implemented the activity is repeated many times and recorded. That is to say, the activity is preserved by becoming objective and being systematized in a way which means it can be audited. Managers in modern enterprises are thus regularly faced with the possibility of being judged by a third person; they are not dictators. The criticism must, however, be objective. The goals of the enterprise, the sacrifices necessary to realise those

³ M. Weber, *Economy and Society*, ed., G. Roth & C. Wittich, vol. 1, part 1, chapter 3, Bedminster Press, 1968.

goals and the means by which achievements are evaluated are all formulated in an objective manner, and the accounts must be ordered so that an evaluation of the results for each period can be made in an impersonal manner. Where sacrifices and results are defined in relation to various kinds of goods, the quantity of each good must be converted into a common standard, so a conversion rate must be allotted.

Fixed prices or market prices are normally used for conversion rates, but there are some goods which appear during the course of the production process and exist within the factory, but which do not circulate on the market. Assets of this type include goods in process or intermediate products, and machinery which may have been in use for one or more years. Such assets do not have a market value. In determining the surplus from the production process the accounting prices of these assets must be worked out.

Production possibilities are described by a series of linear activity vectors. Let us now divide goods into two groups. The first group is those which do not have official or market prices (goods in process in the factory, equipment set up in the factory etc.⁴), while the second group is those which do have official or market prices (ordinary products, raw materials, labour etc.). The input coefficients for each production process relating to goods in the first group is represented by matrix A, while the output coefficients for goods in the second group are represented by matrix B. However, the volume of the second group of goods, which are used as inputs at each stage of the production process, for example, raw materials and labour, will be shown to have a minus value in B. Now, if the vector representing the operating rate of each process is X (a column vector), supposing the price vector of the goods in the second group is P (a row vector) and the goods in the first group held by the factory are Z (a column vector), then the value of the gross surplus will be shown by

$$(1) \quad PBX$$

and X must fulfil the condition

$$(2) \quad AX \leq Z$$

The gross surplus must be distributed in a rational manner among the goods in the first group which have contributed to production, and

⁴ If enterprises pay for the hire of machinery from other enterprises or from the central authorities, then this machinery is counted as assets in the second group, and the rent paid is the value of those assets.

without leaving any residue. Now, let V be the row vector of accounting prices for the purpose of determining that distribution, and define Q as PB . V is set such that

$$(3) \quad VA \geq Q$$

In relation to process i , (3) permits

$$(4) \quad (VA)_i > Q_i$$

so that the total allocation of the surplus to the assets in the first group will be of a kind to permit the existence of the process well above the surplus. However, in order for that to happen, any shortfall in the surplus must be made up for by borrowing from another process, and since this kind of process should not be adopted, process i with (4) cannot be used for production. That is to say, the rate of operation of process i , X_i , will be 0. Defining the process of the kind found with (4) as unprofitable, we get the rule of profitability, whereby the processes used in production are limited to profitable processes.

Let us next introduce the rule of free goods. We now suppose that for good j in the first group, (2) is realised with the sign of strict inequality '<'. Because goods of this kind are abundant, they are called free goods, and we shall recognize the rule that for free goods there is no distribution of the surplus ($V_j = 0$), the so called rule of free goods. If we do that, it follows from (2) that $VAX = VZ$. On the other hand, according to the rule of profitability, from (3) we get $VAX = QX$, therefore under the two rules we get

$$(5) \quad QX = VZ.$$

That is to say, the total gross surplus which has been produced is all distributed between each good in the first group which has been used in production.⁵

Of the goods in the first group, a part of the surplus distributed either to goods in process or to capital goods is incorporated into the funds of

⁵ Concerning the above see Morishima, *The Economic Theory of Modern Society*, Cambridge University Press, 1976, pp. 74-96. To ascertain the X and V which fulfill the above two rules, we need to solve the linear programming problems: (i) to maximize (1) under (2), and (ii) to minimize VZ under (3).

the enterprise, and serves as capital for the future renewal of capital goods; the remainder is allotted to shareholders as income on the goods in process or capital goods owned by them. In a socialist economy the whole may be paid into the enterprise funds. There are, however, other goods in the group. Wages have already been paid for each category of work, and these are dealt with in PB as a minus item, but nothing has yet been paid to reward any special positive characteristics or attentiveness displayed by workers during the course of their work, or to reward any particular inventiveness or leadership qualities on the part of managers. It is apparent, however, that productivity varies tremendously according to the absence or presence of attributes such as these. Let Z_j be the total amount of the characteristic j actually displayed by workers during the process of production, and regard it as if it is fixed at this level. For all of such j 's the constraint (2) holds with equality and V_j 's are determined so as to satisfy (3). It is in this way that bonuses for both managers and workers are determined. The process of production also gives rise to waste products and to environmental pollution. These too must be regarded as belonging to the first group, and the permitted volume is laid down. Once the waste products and environmental pollution resulting from production have reached the permitted level, the enterprise must pay a certain price, and this price is determined by V . This V is used as capital to combat pollution, whether by being paid to the central authorities, or retained within the enterprise.

When funds are needed to carry out each process, one of conditions (2) represents the limitation formula of necessary funding for production. Where this formula is realized with the sign of strict inequality ' $<$ ', the enterprise has sufficient funds — whether through past borrowing from others or in its own previously saved funds — and the accounting (shadow) price of funds is 0 according to the rule of free goods. Where the limiting condition is realised at equality, only the amount $V_m Z_m$ of the surplus (m represents funds) is attributed to funds. The enterprise pays, out of $V_m Z_m$, the interest on the money which it has borrowed, and the remainder is accumulated within the company as retained profits. Where the value of $V_m Z_m$ is 0 or very small, and thus insufficient to cover interest payments, then these payments will either be met from a decrease in the company's retained profits held over from the past, or, if even that is insufficient, by reducing the dividend paid to shareholders.

Where the price P of goods in the second group is given as an official or market price, then Q is determined, and the accounting prices V of goods in the first group, being dependent on Q , are determined according to (3). Thus it is P that ultimately determines V . Moreover, produc-

tion activity vector X is also dependent on P . This framework of determination applies to both capitalist and socialist economies. There is thus the same tendency in economies of both kinds for an error in P to cause the economy to run off in the wrong direction, so it is essential for an economy to be provided with a mechanism which will enable the actual level of P to be set as close as possible to its correct value. In a capitalist economy this role is performed by fair competition on the open market. A socialist economy has either to establish such a market, if it has not previously had one, or else has thoroughly to survey demand, analyse the level of P necessary to satisfy this demand, and then set the price accordingly. An analysis of this kind is extremely difficult, and in almost all cases the P settled upon by the authorities is the wrong one, probably by quite a considerable degree. The central authorities must therefore have the courage to engage in frequent revisions of P , which means acknowledging that they themselves have been mistaken in the past. However, by means of detailed comparative research into the price structures of capitalist countries, socialist countries are able to find a rough value for their own P . For them, under a formula whereby any departure from that value brings a rise in the price of goods for which there is excess demand, and a fall in the price of those where there is excess supply, the operation to correct the value of P is not necessarily a hopelessly difficult one.

This kind of understanding is likely to bring home to those running a socialist economy the importance of a market where free competition is carried on. In fact, in many socialist economies, the idea of a completely centrally planned economy has been abandoned, and the economy is moving in the direction of decentralized, competitive socialism. On the other side, in distribution as well both kinds of economy are becoming closer. In capitalist economies the age in which the total surplus went into the hands of shareholders is now past, and it is becoming increasingly the norm for part of the surplus to be paid to workers and managers as a bonus. In socialist economies it is no longer the case that the whole surplus is always completely taken up by the central authorities; instead it is paid as a bonus to workers and managers, or retained by the enterprise to fund welfare facilities for employees. If we compare this situation with that of capitalist and socialist economies in the prewar years, it is clear that a large measure of convergence has taken place. This growing proximity is not just a temporary phenomenon; it will continue in the future and the two types will become ever closer.

Of course, in reality enterprises, whether capitalist or socialist, do not necessarily seek to maximise their surplus. Some may do, but others may well act to maximise their growth rates or in accordance with other performance indicators. If the desired indicator is different, then of course the X

selected will also be different. However, these various X must all fulfil condition (2) of feasibility of production — and the goods fulfilling (2) with strict inequality must be dealt with as free goods — and must also fulfil the rule of profitability in the distribution of the surplus. In this sort of situation (5) will obtain regardless of the chosen performance indicator. Whatever the nature of the economy and whatever the object function, as long as the production is made so as to satisfy the rule of free goods and the rule of profitability, enterprises will conduct themselves in a more or less similar manner. Thus, in the era of the 'new socialism' in the sense I shall talk of later, the object functions also will inevitably converge.

III.

It is quite possible that the new technology burgeoning around us may bring changes in society, for example along the lines I will suggest below. The technology which brought about the British industrial revolution and provided the basis for nineteenth and twentieth century capitalism was the technology of mass production. It was not production to order; it was, as it were, table d'hote production. If it was estimated that a good could be sold it was produced and stockpiled in large quantities, then sold to the customer out of the warehouse. To carry out mass-production large workforces were necessary, and workers were brought in from the countryside. Workers thereby came to form industrial cities.

Factory workers' families inevitably turned out to be nuclear families. Separated from the villages in which they had been born, these families had to live in the cities with no-one to depend on but themselves. Eventually, the workers' families in the cities created a new community of city workers, but until they were able to create their own new 'home town' (*Heimat*), they were compelled to endure isolation and conduct themselves with a belief in their own strength and with a conviction that they were in the right. The process of industrialization thus encouraged individualism, and brought about the destruction of the large family (multiple and extended) which had existed since the medieval period. The perception of capitalism up until now — of both Marxists and Weberians — is one which is more or less paralleled by the phenomenon of the destruction of the family.

The new technology makes possible a totally different form of industrialization. I will cite below the example of Italy, discussed by Julia Bamford. Apart from the industrial zones such as Turin, Genoa and Milan, developed on the basis of large factories, Italy also has regions called Terza Italia (Third Italy), where there are concentrations of small firms.

The process of transformation in some of these areas from farming villages to towns with small factories has increased productive capacity, and brought about substantial rises in the level of income and standard of living. The phenomenal 'high speed growth' of Italy in recent years is largely due to the upsurge in these small enterprises. Emilia Romagna and Tuscany can be cited as examples of areas of Terza Italia. For example, Modena, in Emilia Romagna, was in 1970 the seventeenth richest province, but by 1979 it had become the second richest. In Val d'Elsa in Tuscany in 1951 70% of the working population was engaged in farming, but by 1981 no more than 10% were working in the agricultural sector.

In these areas extended and multiple families had remained intact since the mediaval period, continuing to engage in farming. They had their farm houses, outbuildings and seeds provided by the landlord, and they themselves provided labour, tools and animals. The resulting product was split with the landlord, a form of sharecropping agriculture. The system meant that the head of a large family had to negotiate with his landlord and organize the labour of family members, thus compelling him to take on something of the character of an entrepreneur. He acquired this character on the basis of learning by doing. In this region, therefore, the transition from share cropping farm to small industrial firm was a relatively easy one.

In addition, after the Second World War the position of the sharecropper vis-à-vis the landlord was greatly improved. Sharecroppers became able to purchase land from the landlord, and the mechanization of agriculture reduced the need for large amounts of labour. Those family members who were no longer needed on the land left to work as artisans in nearby small towns, where they acquired certain skills. The extended family had now acquired both land and skills; the head of the family was possessed of an entrepreneurial spirit and had control over a certain number of workers, which meant that all that was needed to turn a sharecropping family into a small firm was the cooperation of a bank. This role in Italy was played by local banks.

These small enterprises are engaged in component production, taking over one element in the integrated production process carried out by large enterprises. Large enterprises hand over various stages of the production process to these small enterprises (most with fewer than fifteen employees), and these enterprises have grown on the basis of these subcontracting operations. The dividing up in this way of a complex production process into large numbers of production processes carried out in small enterprises necessitates skillful coordination between these small enterprises. This kind of coordination is also assisted by the nature of the

traditional community in Italy. Every small Italian town has a bar, where the townspeople meet numerous times every day, providing a traditional locus of information exchange. Discussion between the owners of these small enterprises at this kind of bar has served to facilitate smooth coordination between them. Bars have effectively played the role of offices for federations of small firms. Thus the process of industrialization of these farming villages has not been accompanied by large movements of population, and has been accomplished in many areas of Terza Italia while preserving intact the traditional lifestyle.⁶

With small enterprises growing out of the large family in this way, it is to be expected that labour relations should be extremely paternalistic. The atmosphere within the firm is correspondingly warm, and no strictly hierarchical relationship prevails between the head of the firm and those who work under him. The way in which the firm operates is flexible, to see it in a good light, and loose, to put in a bad, and its action are almost always somewhat disorganized. For that reason Italian enterprises are the exact opposite of the capitalist enterprise as an ideal type, for example, as depicted by Max Weber, where rational calculation governs action and strict, cool human relationships prevail. The 'modern enterprise' which I looked at in the previous section was more or less of the Weberian type, so this means that the Italian example given above shows that there can be alternative types of capitalist enterprise. Given these various alternatives, the type of enterprise which takes root in a particular country or area will be that most suited to the ethos and temperament of the people of that country or area. My own feeling is that since both capitalism and socialism will increasingly incorporate the strong points of the other, the difference between them will gradually get less and less, causing them eventually to converge towards a situation where there is a fair degree of resemblance. It must be emphasized, however, that this does not mean that all countries' economies will become completely identical. Countries have different cultural traditions, giving rise to different temperaments; it must be stressed that for that reason alone a variety of economies will be established.

It seems, moreover, that the small, family-based enterprise will in the future become an increasingly popular form of enterprise. Robots are suited to the production of several different goods manufactured to different standards, each in small quantities. For that reason, when they pro-

⁶ The above is a precis of J. Bamford, "The Development of Small Firms, the Traditional Family and Agrarian Patterns in Italy," in *Entrepreneurship in Europe*, ed. R. Graffae & R. Scase, Croom Helm, 1987.

duce certain goods for a number of companies — the goods for each company being produced with subtle differences in specifications — they can demonstrate a high degree of efficiency. Moreover, since robots considerably reduce the requirement for labour, those industries which have robotized have very small labour forces, and it is possible for a single family to establish a highly productive firm by hiring only a very few workers. The family which serves as the basis of production is not necessarily a large, extended family; even nuclear families can start an enterprise with the assistance of a few workers. Since these companies can supply components for several large companies, the risks from any one of the large companies falling into difficulties are dispersed. Large companies achieve the finished product by purchasing and assembling various components from small companies, which leads to a reduction in their scale of operation. The large scale factory production system characteristic of the impersonal, mass production society, becomes a collectivity of small, family-based enterprises, and the structure of production becomes far more paternalistic, warm, loose and flexible than is the case at present. The so-called capitalist economy model is inappropriate for analysing this sort of economy; more suitable is perhaps Marx's model of simple commodity production, where the producer himself owns the requisite machinery (robots) and tools, and acts as his own workforce. In areas where robots can be used, this form of production is likely to be the most efficient under both capitalism and socialism, so small, robotized enterprises are likely to flourish regardless of the economic system.

Max Weber maintained that the Protestant faith was conducive to the spirit of capitalism. Certainly, as far as Western Europe is concerned, it is possible to view Protestantism rather than Catholicism as conducive to providing the capitalist work ethic, at least in Weber's time. It has become abundantly apparent from the economic success of Japan, however, that it is a great mistake to take the view that Protestantism alone can act as the spiritual basis of capitalism. I have looked into the spiritual basis for Japan's economic development elsewhere, and shown how the disciplines of a Japanized Confucianism, distinct from Chinese Confucianism, were very well suited to assisting the growth of capitalism in Japan.⁷ However, since the Japanese version of Confucianism was very different from the original Chinese version, even if it can explain the spiritual basis of the Japanese economy, it can in no way explain the work ethics of the people of Taiwan and Hong Kong, and of the overseas Chinese of Southeast Asia, nor the spiritual bases of these versions of capitalism. Japanese Confucianism emphasized the virtue of loyalty above

⁷ M. Morishima, *Why has Japan 'Succeeded'?*, Cambridge University Press, 1982.

all others, and was nationalistic and militaristic; by contrast original Chinese Confucianism emphasized the importance of benevolence, and was individualistic and humanistic. Japanese Confucianism may have played an important role in making workers aware of the importance of working for those enterprises, which are the nation's key structural elements, while Chinese Confucianism was inappropriate for producing workers of this type. However, in small, robotized enterprises, the qualities of benevolence and trust emphasized by Chinese Confucianism may well prove highly suitable. Chinese people lay great stress on the importance of the family. Confucianism sees the family as the axis of society, and places the highest value on affection and harmony prevailing within the family. It goes without saying that Chinese people educated in these values are well suited to the management of small enterprises. The Confucianism of Korea is not that of Japan, but more akin to that of China, so what I have said above applies also to Korea.

In China, Korea and Japan, Confucians generally place a very high value on knowledge. They therefore have a tremendous enthusiasm for education. Parents try to make sure that their own children receive an education, even if it means restricting their own consumption, and the children for their part are well aware of how important their education is for their lives as a whole. What I am saying is that in Confucianism people are divided into the intellectual (or literati) class, and the masses (those of little standing). Those of little standing are uncultured, frequently illiterate, and their status is therefore low. Whether or not one is a member of the intellectual class plays an important role not just in finding a job and gaining promotion, but also in marriage and even in the education of one's children. For that reason both children and parents take education very seriously. One never finds in a Confucian environment the sort of attitude found in Western Europe, which calculates the financial return on investment in education, and gives up the idea of higher education if the return seems bad. Confucians sink their money into education with no regard to the return it might bring. Highly educated workers become of vital importance at a time when factories are being robotized. This is a time when Confucian countries will be far more able than Protestant ones to supply large amounts of human resources suited to the requirements of the economy. We may expect that the result of this will be an increasing recognition of the importance of education within the Christian church as well.

IV.

Finally, I want to say something about the idea of a 'new socialism.' It

goes without saying that socialism was born out of a desire to help the poor and the disadvantaged of society. In contemporary advanced nations, where the development of capitalism has to a certain extent brought the provision of a welfare system, these kind of aims of socialism have in part been realised. At the same time, however, those individuals who have been the driving force of socialism have, as one might expect, themselves behaved in a high-handed manner and created new forms of discrimination. The labour union bosses and the bureaucrats responsible for operating the welfare system are the aristocracy of socialism. A situation of this kind will develop whatever the ideology and whatever the system. However, on this point a clear asymmetry exists between capitalism and socialism. That is to say, it is regarded as inevitable that those people who act as the driving force behind capitalism should dominate the country as its upper class, whereas if the people who constitute the driving force of socialism become the country's upper class and rulers, they are then criticized for being anti-socialist.

It is thus the fate of left wing political parties to advance in the face of constant and harsh self criticism, and when this self criticism has been insufficiently thorough, a left wing party in a capitalist country may well be abandoned by the people.

That is not all. The socialism which has prevailed up to then will be no longer wanted, it will be out of date. Once, socialists viewed capitalism in terms of a schema of confrontation between capitalists and workers. However, with the phenomenal increase in productive capacity, the pollution that accompanies productive activity is not something which has to be faced just by workers, but affects the whole of society. At this stage of economic development the major question is how to protect society from the evils of pollution. The 'new socialism' is not a question of class, but a question of the contradictions between production and welfare. It is simultaneously a problem for both capitalist and socialist countries. It is essential that in the twenty-first century the advanced countries unite and cooperate in protecting the earth from the ravages of productive activity. In the advanced countries, which already enjoy a sufficiently high standard of living, victory in the competition for higher per capita national income levels must cease to be the main priority of national leaders. If we do not abandon the era of economic liberalism, the arms race and the Cold War, and enter the era of 'new socialism,' neither man nor the earth can continue to exist.

