Andrew Tylecote: Institutional integration and its dynamic tension with globalisation

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Introduction: techno-economic paradigms, socio-institutional frameworks, and institutional integration.

History could and should involve backcasting: comparing what happened, with what should have happened, given our current understanding of the dynamic processes at work. But superficially accurate backcasting is much easier than accurate forecasting, because one can cheat: change the theory until it fits the known historical facts. 25 years ago I published a book on The Long Wave in the World Economy which did a great deal of backcasting, and on the basis of it, considerable forecasting. It seems appropriate to show the reader what some of the basic propositions were, what forecasts were made on the basis of it, and how the forecasts can be updated without changing the basic propositions. We begin by summarising some of those basic propositions, much as they are presented in the book. [Points which were not known in 1992 are confined to square brackets.]

The concept of 'techno-economic paradigm' (interchangeable with 'technological style') goes back to Perez (1983), who built on Dosi (1982). The basic argument is simple: 'a pervasive technological style [appears], embracing a whole constellation of technically and economically interrelated innovations and influencing almost all industries and an entire phase of economic development' (Freeman, p.166 in Tylecote and van der Straaten 1998). A similar concept, familiar to mainstream economists, is 'general purpose technology' (Bresnahan and Trajtenberg 1995). A good example is available from recent history: what has been called Fordism had 'crystallised' (become technologically mature) by the early 1920s in the United States. The key process technologies were the assembly line, built round dedicated machine tools, and continuous flow chemicals. The key products were consumer durables, motor vehicles and electro-mechanical 'white goods' (refrigerators, washing machines….). The core infrastructure was the electricity grid and networks of roads and fuel stations. [We can now, similarly, recognise Fordism's successor, information and communication technology (ICT), which had crystallised by the late 1990s in the USA and other advanced economies, completed by the arrival of the internet as key infrastructure.]

The new paradigm has the potential to stimulate the world economy for decades through the contribution its application and diffusion can make both to supply and demand. But this impulse will initially be largely blocked by 'socio-institutional frameworks' which are *mismatched* to the new paradigm. Thus the Fordist boom of the 1920s in the USA was undermined by a *macro-economic mismatch*: the split between the high-profit, high-wage Fordist oligopolies and the more competitive structures of the older, largely rural economy, generated highly unequal incomes which limited the market for precisely the goods Fordism excelled in producing. In Britain and Germany, on the other hand, industrial relations and labour market were organised in a way which obstructed the introduction of 'Taylorist' mass production - *micro-economic mismatch*.

[We can now observe similar mismatches with ICT. Its excellence in co-ordinating production over distance has greatly facilitated a number of aspects of 'globalisation', including the relocation of low-technology operations to the low-cost bottom. Meanwhile it creates network economies of scale in the 'tech economy' which entrench monopoly power. The two tendencies combine to form a macro-economic mismatch exacerbating inequality.] (We shall look further at mismatches below.)

We now let Tylecote (1992) take up the story, near the beginning of chapter 3, 'Integration[1], disintegration and crisis'.

> Perez [1983] argued that a new technological style tended to change the 'techno-economic subsystem'; that this then became 'mismatched' with the existing (and unchanging) 'socio-institutional framework'; that the mismatch caused crisis; and that the crisis, in due course, led to a renewal of the framework and thus a good match between it and the new style. This in turn led to a Long Wave upswing and another change of style. [Above] I argued that there were two types of crisis. The type which arose in and out of a Long Wave upswing was due to a *socio-political* mismatch between style and framework when the latter was not (or no longer) preventing fast growth. The type which arose in a downswing, partly causing it and partly caused by it, reflected an *economic* mismatch. But what is actually *wrong* when there is an economic or a socio-political mismatch? And is it simply due to the inertia of the socio-institutional framework in the face of changes in technological styles?
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> Inertia can explain a good deal. For example, any major change in technology demands changes in the educational system, to produce workers with the necessary aptitudes and attitudes. It is scarcely likely that the reforms required will take place quickly enough to avoid some mismatch in this (economic) sphere. But equally, one may expect enough 'give', soon enough, in such areas to avoid any really serious problems, were it not for obstruction elsewhere. Where entrenched resistance to change is most to be expected is in those aspects of the socio-institutional framework which are closely bound up with the vested interests and power struggles of social groups. What is more, where power is at stake there is worse to be feared than inertia. *Regressive* change, which makes the framework *less* well matched to a given style, may occur - either because it is such as to protect or enhance the power of some dominant group, or because it is an expression of their power (for example, increased income inequality).
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> What we can find, then, within any socio-institutional framework, is a particular arrangement of power relationships, of links between social groups. The jostling of the various groups is bound, in time, to change this arrangement. The direction of change will depend on circumstances, including the challenges posed by any new technological style, and the effects of its diffusion. For economic growth, and social and political stability, the arrangement needs to be of such a kind as, without necessarily resolving conflicts, contains them in a constructive way. If it is conducive to economic growth, we can then speak of *economic integration*; if conducive to social and political stability, we have *social and political integration*. The key relationships here are essentially *vertical*: for economic integration, they are relationships between the different levels of the hierarchy of work; for political integration, they are those between different interest groups and social classes; and

[1] In the book I referred to 'integration' *tout court*; I prefer now to use the clearer though clumsier term, institutional integration.

for social integration, they involve the different elements of the family, and the institutions which (may) support it. To the extent that these relationships break down, we have *disintegration*, and we would expect economic stagnation, political instability, social demoralisation. … In each long wave the forms of integration which are appropriate to the new technological style, are different; thus the coming of a new style makes for disintegration until such time as appropriate reforms have been made.

The forms of integration which are appropriate with a given style will differ somewhat among countries. More importantly, the degree of integration actually achieved will vary greatly among countries, as will the balance between economic and political spheres. Two countries might emerge from the same depression crisis with quite different degrees of integration, across the board - in which case we could expect the more integrated to be the more successful and stable in the following long wave. Or A might emerge well integrated economically but poorly integrated politically, whereas in B it was the other way about - in which case, watch for political instability or aggression from A, economic stagnation in B.

INTERNATIONAL INTEGRATION

International integration, like other forms, involves the "functional adequacy" of essentially vertical relationships: politically, between the "world power", other "great powers" and the rest; economically, between the economic leader(s) and the rest, and between the "North" collectively, and the South, "developed" and "less developed" countries. …The status of countries - as world powers, challengers or others; as economic leaders, or followers; even in some cases as members of North or South - changes gradually from one wave to the next; so do the forms of relationship required for a high degree of integration. As with other types of integration, the degree achieved varies a great deal over the long wave, particularly over the 'double long wave' of the 20th Century. The difficulty in maintaining integration is not simply that technological styles change, but that (only partly in consequence) so do the relative political and economic positions of countries. Thus before 1914 Britain was in financial as in other terms the world power, and "managed" the gold standard while dominating world capital flows. After 1918 Britain was no longer the world power, and the USA was not yet ready to take her place…. The result was a leaderless international financial system which was much more fragile than before and broke down completely after 1929. The reintegration of the world financial system under US dominance was not achieved until the late 1940s, when at the end of a depression crisis the US took up its responsibilities as world power. A degree of disintegration again took place, rather suddenly, in the early 1970s, by which time the US, though still the world power, had lost much of its financial dominance….

Similar factors make for integration and disintegration in North-South, core-periphery relationships. The North being far more important to the South than vice versa, these relationships have been most clearly reflected by conditions in the South…. (pages 71-2)

[….Here the concept of political integration is introduced, for which we have no space here, except for one sentence which summarises much of the argument: ‘upswings breed reactionaries, who help to beget depressions’(p.77). Mirowski has now given a name to the reactionaries who bred in the last upswing: the neo-liberals (Mirowski and Plehwe, 2009; Mirowski 2014). We return to the text of chapter 3 where economic integration is introduced:]

The rate of interest…. is only one aspect of a broad relationship, between the providers of financial capital and the users of it. …. At least as important is the character of the relationship between borrower and lender: how close, trusting and well-informed it is. The same applies (only more so) to the relationship between the providers of share capital and its users, that is the top management of the firm …. We may call close, trusting and informed relationships, a high degree of integration of financial capital and management. With a high degree of such integration, more capital will be raised and invested, and to better effect.

There is a parallel relationship further down, between management and labour. ….what is at stake is the extent to which conflict - essentially over the distribution of added value between the parties - can be prevented from interfering with joint efforts, cooperation, to maximise the total added value, the net income of the firm. Success in this we may call, again, a high degree of integration of management and labour - which should not be taken to imply the subordination of the latter. High integration is compatible with vigorous union defence of workers' interests; conversely, an atomised workforce without any independent organisation may have a very low degree of integration with management. …. Integration, again, has a crucial effect on the level and nature of investment. If it is high, then other things being equal management will be prepared to put more capital into the hands of the labour force - most of all, it will be prepared to put more capital into their heads, that is to say, spend money on increasing their level of skill, their human capital. Such investment may be inhibited by the fear of giving employees increased power within the firm, which will be used against management, or increased power in the labour market, to get a well-paid job elsewhere, and walk away with the firm's investment - or it may be that the management does not know or respect them well enough to realise what they are capable of. These are all aspects of low integration.

I have suggested that integration at both levels is likely to be relatively high in the early upswing and low in the early downswing. We can see why if we take the early upswing's high integration as starting point. In the upswing, capital blossoms and spreads itself. Firms expand overseas, responding to freer trade, easier movement of capital, increased confidence. Later, more defensively, they come together, in great waves of mergers. Both of these movements make top management more remote from workers. At the same time the gap is widening between financial and industrial capital, for the same reason - the greater size and complexity of firms. In the most recent long wave, in the US and UK, this occurred in two distinct phases: in the first phase, the increasing difficulty of exercising control gave management more independence of shareholders and more scope to form and follow their own objectives. In the second, shareholders (mainly financial institutions) became increasingly concerned with the income from their shares, and more and more impatient with managers who could not or would not make high profits - their main sanction being to reduce the market price of the firm's shares or to sell to a take-over bidder. By the 1980s the use of financial controls and incentives (including profit-based bonuses) was putting heavy *short-term* pressure on management for increased profitability, which deterred it from investing at the rate which the firm's long term prosperity demanded. This short-term performance pressure particularly inhibited spending on training, and on the long term development of radically new product ranges - categories which had become increasingly important. Clearly, for management under such ignorant pressure from above, integration with workers was

> scarcely possible, particularly as its key feature, the development of their skills, their human capital, was being discouraged.
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> Let us now look at the opposite movement, which brings integration back to its high point of the recovery. The traumas of the depression crisis drive the three parties of industry - financial capital, management and labour - back into closer partnership with one another. In the last depression, of the 1930s, and early 40s, this was assisted by the closing of geographical frontiers, through tariffs, restrictions on capital movements, and war; capital, become so footloose in the boom, now had little choice but to go into domestic industry, and had to get to know it better. Likewise, after the long conflicts of the downswing, management learned to reach a new *modus vivendi* with the workers. ……this was associated with a less unequal relationship with them … every reintegration within the firm, as within society in general, involves such a reduction in inequality.
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> This new *modus vivendi* was associated, in almost every western country, with an upsurge in the membership and strength of trade unions…. and it accordingly involved recognition of the unions' rights to represent the workers. At this stage the unions and their leaders had their members' full confidence, and a powerful and respected position socially and politically. In most countries and industries, there followed gradual disintegration during the upswing, not so much initially, in the relationship between management and unions, as in that between unions and their members, as the leadership became <u>too</u> co-operative with management and ineffective in representing workers' interests. This growing gap found expression in the widespread upsurge of shopfloor militancy in the late 1960s and early 1970s, which formed an important part of the "crisis of the upswing". The union leaders responded by paying more attention to their members' wishes, but this did little to reverse the process of disintegration, rather to change its form: it moved back towards the old gap between management on the one side (under more pressure from shareholders now) and workers and their organisations, on the other side.
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> Economic integration is not unchanging in its relevance to economic growth. Variations in the management-worker relationship, in particular, are more important now than previously - in the small firms of the last century there were neither the same problems nor the same possibilities. Nor are its fluctuations neatly symmetrical in each country over the course of the Wave. A country may reintegrate much more in and after the depression than it disintegrates in the periods before and after - that is the Japanese case, for the depression of the 1930s-40s…... Conversely, another may disintegrate much more in and after the boom than it reintegrates later - which appears to be the case for the United States and Britain over the last long wave. So much the better for our theory, for it can help to explain the shifts in countries' relative position in the world economy, while at the same time, if you take all the countries together, aggregated or averaged, you find something of the symmetry you need. (pp.77-80).

Indeed it could ‘explain the shifts in countries’ relative position in the world economy’. The micro-economic disintegration identified was largely between ‘shareholders and managers of businesses [and] between managers and workers’:

> There is one simple and effective way of dealing with both these problems at once: to give workers an important stake in ownership and control……

> the elements which are necessary, or highly desirable are first, 'local participation' (in decisions immediately affecting the individual worker)' second 'distant participation' (through elected representatives, in the control of the firm), third, a share of profits, in some form. (pp.288-9)

The countries with the first and the second element of reintegration (Germany, the Nordic countries, Austria and the Netherlands) have all shown relatively high rates of growth of productivity since 1990; those with none of those elements (mainly Britain, Italy and France) have performed worst. But stakeholder capitalism as practised by Germany is less convenient for globalisation than shareholder capitalism as practised by Britain.

Globalisation (not a term used in the book, but a reality described) is associated in developing countries with high levels of inequality: elites use Northern technology to control the state and thereby resources like oil, and firms with market power in key sectors:

> 'the technological disparity between North and South is bound to lead to a severe distortion of political relationships within the country: those in power depend heavily on their link with the North, and so less than they otherwise would, on support within their own country. The extreme political inequality of the top-heavy State structure is bound to make for economic inequality: those in power redistribute income and wealth to themselves and their friends from the rest of the population. There is extreme regional inequality, to the advantage of the capital…' (p.154).

While China's 1980s boom was based largely on rural entrepreneurship and little opening to trade and inward FDI (thus high institutional integration, low spatial integration), after Tienanmen rural entrepreneurship was suppressed and the countryside made a source of cheap labour for low-tech export industries (Huang Yasheng, 2008). There is still little prospect of a fundamental change in China's position in the globalising world economy: it has largely failed to establish itself in high-tech industries. State power protects the market power of state-owned enterprises controlled by Communist Party factions. In other sectors inward FDI brings large profits to foreign multinationals and their shareholders, while in developed economies low-skilled workers suffer through competition with Chinese exports. Still, China's wages have risen a long way by comparison with Bangla Desh, Indonesia and a number of other countries prepared to establish themselves in the world market for cheap labour.

Conclusion: the best of times, the worst of times.

It is entirely consistent with the arguments of the book to see globalisation as it has proceeded - towards the free movement of goods, capital and people - as a neo-liberal project,

and one with harmful consequences for institutional integration. It must thus tend to increase inequality and reduce economic growth; and the book predicted a 'depression crisis', though not of the severity of the 1930s. This is an ominous judgment, given that Globalisation Mark 1 ended in depression and war; and given the relative stagnation of the world economy over the last decade, with international tensions on the rise. But in fact, ironically, the book predicted that the world would be saved from depression by 'a crisis which has been brewing for many decades now: …the level of carbon dioxide in the atmosphere, which is (at present) the main cause of the 'greenhouse effect', has been rising at an accelerating rate since the beginning of the Industrial Revolution…..there are other greenhouse gases – oxides of nitrogen (NOx), methane, chlorofluorocarbons and ozone near ground level' (p.278). 'The greenhouse warming….must be drastically slowed down. This requires (among other things)… a reduction in fossil fuel consumption and in loss of forest cover….a turn away from nitrogen-based fertilisers….(p.279).

The hope that the political wind would be blowing in this direction before long was encouraged by the fact that 'the United States seems the most vulnerable of the major countries of the North to the greenhouse effect: in particular to the likely shift in rainfall patterns, and the increase in frequency, ferocity and range of hurricanes.'(p.293). A key policy to slow down greenhouse warming would be 'ecotaxation' including road pricing and a carbon tax (p.288): 'the sharp rise in transport costs envisaged will encourage firms to cater to relatively small local or regional markets' (p.280) – and so the excesses of free trade would be reined in without a return to high tariffs. 'The new biotechnology paradigm – drawing heavily on genetic engineering - can and must soon produce new strains of key food species which are pest-resistant, not too thirsty, and with the legumes' capacity to play host to nitrogen fixing bacteria.' (p.282). Renewable energy would play a key role: 'Enough has been done in this direction to show that, with an investment on the same scale as that in nuclear energy, wind, wave and solar power can be made tolerably cheap, if not (perhaps) as cheap as 'fossil' electricity at current prices; and wind and solar power are both particularly suitable for the small-scale generation needed in the South.' (p.280).

I rest my case.

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This paper updates propositions put forward in Tylecote (1992).

Institutional integration is the maintenance of constructive relationships among social and economic groups within a given society/economy - between management and employees, for example. It requires institutional effort and accordingly has a cost. So does the spatial integration required by globalisation, defined as increasing mobility, globally, of capital, goods and labour. There are organisational arrangements which favour institutional integration, and others which suit spatial integration. Thus German/Nordic capitalism gives employees a share of power through co-determination at board level; Anglo-American capitalism reserves all power to shareholders. The former appears to favour high productivity in economies using it. The latter is more flexible for multinational firms. Globalisation is associated in developing countries with high levels of inequality, based on control by elites of the state and thereby resources like oil, and market power in selected sectors. While China's 1980s boom was based largely on rural entrepreneurship and little opening to trade and inward FDI (thus high institutional integration, low spatial integration), after Tienanmen rural entrepreneurship was suppressed and the countryside made a source of cheap labour for low-tech export industries. State power protects the market power of state-owned enterprises controlled by Communist Party factions. In other sectors inward FDI brings large profits to foreign multinationals and their shareholders, while in developed economies low-skilled workers suffer through competition with Chinese exports. The prospects for changing this situation are good, once climate change forces drastic action against greenhouse emissions. The renewable energy technologies which will replace oil, coal and gas exploitation are overwhelmingly small-scale and distributed - thus egalitarian in impact; doubly, as providers of energy to rural and other entrepreneurs. Meanwhile high carbon taxes will discourage long-range movement of goods. Biotechnologies and other new technologies will facilitate the closing of recycling loops.

Introduction