# 7

# World System and Long Cycle Theories

In this chapter, we discuss *strong* systems theory, that is, theories in which the preferences of the subject are understood entirely as *a function* of the operation of an objective rationality, a structure of society—in this case, the capitalist world economy. Immanuel Wallerstein, who coined the concept of the 'modern world system' to denote the political economy of the capitalist era, drew on debates concerning the history of capitalism, pioneered by Fernand Braudel and André Gunder Frank. From them he borrowed the notion of capitalism as *profit-driven economic activity*; an understanding that differs from the Marxist notion of the exploitation of labour as the primary determinant of capitalist development.

We first turn to the debates from which World System Theory emerged, before looking into this particular theory itself and the materialist structuralism on which it is based. In section 3 we look at Long Cycle theory which also adopts a strong systems approach to the historical process. In this section I also briefly refer to complexity (or 'chaos') theory as a variety of systems theory that introduces *indeterminacy* into the understanding of large-scale (in this case, political economic) processes.

## 1. CAPITALISM AS THE HISTORY OF PROFIT-DRIVEN ENTERPRISE

As will be remembered from Chapter 2, 'capital' in neoclassical micro-economics refers to plant, machines and equipment applied to the production process. Money is separate from the 'real' economy and represents only a claim on economic goods or services. However, in the original meaning, in 14th-century Italy, 'capital' meant a stock of goods *or* an amount of money. It was used interchangeably with terms like 'principal', and referred to the assets thrown into a process of production or transportation.

In the late 19th, early 20th century, the German historical school, as well as thinkers like Max Weber, adopted the term 'capitalism' to describe it as a historical system. Werner Sombart (1863-1941), the author of *Der moderne Kapitalismus* of 1902, like Weber emphasised that capitalism is premised on a particular 'spirit', a mentality without which it cannot thrive. Weber saw this in Puritan Calvinism. Sombart claimed that not Protestantism, but Judaism embodied the capitalist spirit, because it represents a 'legal' (scriptural) rationality that is separate from nature (if not actually contrary to nature) (Slezkine 2004: 54). In Sombart's view, classical political economy had been wrong in thinking that the instincts associated with capitalism were natural; they were new, distinct from traditional attitudes to workmanship. In his subsequent *Der Bourgeois* of 1913, Sombart claimed that modern capitalism had become split in this respect. A progressive industrial element, the entrepreneurs (supposedly driven by a Nietzschean will to create), were preyed on by money-grabbing Jews. In fact, Weber's studies on the Protestant Ethic in part had been meant to rebut this equation of pecuniary, *rentier* capitalism with Jews (Brick, 2006: 28)

Sombart in the end became a sympathiser with the Nazis—as did Henry Ford, another anti-Semitic critic of the financial world (in reality, Jews in the banking sector were always a minority, too). However, the identification of capitalism with Jews has been an easy way to deflect discontent with capitalism in the countryside or among recently urbanised people, who only perceive its predatory, pecuniary aspect. J.A. Hobson

(the author of *Imperialism, A Study* of 1902) was inspired by Sombart's work and included a laudatory reference to him in the revised 1910 edition of his book on the *Evolution of Modern Capitalism* (Brick, 2006: 29). Although not an anti-Semite, Hobson too thought that international finance was controlled by 'men of a single and peculiar race who have behind them many centuries of financial experience' (quoted in my 1984: 16).

**The 'Annales' School and Braudel**

In the period from the 1890s to the 1920s, a French-speaking critique of the work of Sombart and Weber emerged that was to provide an influential alternative. The World System approach is an offshoot of this alternative. It begins with the Belgian mediaevalist, Henri Pirenne (1862-1935).

Pirenne in his work on the Middle Ages develops a materialist theory of social and economic causation (e.g. in his work on *Mohammed and Charlemagne*, he claims that the Viking raids were a consequence of the displacement of the Mediterranean trade routes to the north by the Muslim conquests, cf. Pirenne, 1937). Capitalism therefore does not originate in a specific mentality but in material circumstances, in this case the revival of towns and trade routes in the eleventh and twelfth centuries.

Both Sombart and Weber reacted with arrogant disdain to Pirenne's theses but young French historians Lucien Febvre and Marc Bloch were so enthused that in 1929 they established the yearbooks on economic and social history, the *Annales*. This school of thought followed in Pirenne's footsteps to develop a materialist, bottom-up understanding of economic and social history (Brick, 2006: 29).

In one respect, Pirenne shared Sombart's and Weber's ideas about capitalism—he saw capitalism as a system of production and trade *for profit*. Weber and Sombart also considered capitalism a phenomenon associated with large-scale organisation, especially industry, and looked for mental changes in the period leading up to the industrial revolution (although Weber thought the spirit of gainful enterprise was age-old).

Pirenne on the other hand, as a mediaevalist, detected the roots of capitalism much earlier. Capitalism for him appears in the practice and outlook of the merchants in the Middle Ages. Here too there occurred a particular mutation in people's outlook: the merchants were 'on fire with the love of gain', used credit, speculated, and sought expansion of their business; they were shrewd calculators and driven by a quest for profit (quoted in Brick, 2006: 30).

It was this idea of capitalism as something that begins in profit-driven commerce that also underlies the work of Fernand BRAUDEL (1902-'85), no doubt the most influential of the *Annales* historians.

Braudel's writings include a three-volume history of the Mediterranean during the reign of Philip II, written during the Nazi occupation of France (when the author was in German captivity) and *Material Civilisation and Capitalism, 15th-18th Centuries*, also in three volumes (Braudel, 1981-1984).

Braudel's definition of capitalism is based on a materialist ontology. The level of control of the forces of nature which Marx calls the productive forces, here is conceptualised as 'the limits of the possible' (Braudel, 1981). Exploration and trade routes in his theory chart 'world-economies', that is, concentric zones of economic interaction which have the potential to develop into world-embracing networks, although they can also be captured by others (Braudel, 1984: 25).

The change to a profit mentality as the defining characteristic of capitalism in this perspective is consistent with materialism; ideas are *reflections* of an objective process that ultimately emanates from nature (as does the human brain as such). This understanding resonates in the use of the term 'materialist' in popular parlance, as a one-sided concern with material goods.

**Underdevelopment and Terms of Trade**

Braudel's idea that the essence of capitalism resides in the profit motive and profit-driven activity, makes *commerce the enduring bedrock of*

*capitalism*. In Marx's view, on the other hand, commerce predates capital properly speaking (he does not use '-ism') and even poses an obstacle to its emergence. Only after the separation of labour from its own means of production can we speak of capital, and trade is then made into one of its constitutive cycles of value (see Chapter 8). In the tradition we look at here, unequal exchange in trade is the more fundamental process.

The idea of conceiving capitalism as *a system of exchanges* also was alive in Latin America, which had a long tradition of criticism of the economic role of the United States in the Western Hemisphere. These critics, who became known as the *Dependencia* school of thought, see the poverty of the South as a result of low prices for the exports of primary products to the North—sugar and coffee from Brazil, grain and beef from Argentina, nitrates and copper from Chile, and so on. As a result of the deteriorating *terms of trade* between primary products from the South and industrial products from the North, the Latin American countries failed to industrialise and remained locked in a role as raw material and food suppliers.

André Gunder FRANK (1929-2005) fled Nazi Germany with his parents as a boy and studied in the United States. Working at universities in Brazil and Chile, he coined the phrase of the *development of underdevelopment*. By this he meant that the South (in Latin America and elsewhere) was not originally *un*-developed. Still in 1900, Argentina was considered one of the world powers of the future. However, by being subjected to unequal exchange relations with the United States and other industrialised economies, Latin America had *become underdeveloped*. Unlike the 'stagist' theory of US government advisers like Walt W. Rostow, which assumed that every country in the southern hemisphere begins by being poor, Frank showed that it was only in the exchanges with the 'North' that these economies had lost their balance internally and hence failed to accumulate capital domestically and industrialise on their own.

In a polemical essay, 'Sociology of Development and Underdevelopment of Sociology' of 1967, Frank attacked Rostow's assumption of a series of definite *stages of growth* that every country has to pass through to develop. The only way that countries which were poor by that time, could replicate the development path of the currently rich countries, was by finding other countries to exploit (Frank, 1971b: 25-9). Indeed *under*-development of the South only emerged as a result of development in the North; the two are sides of the same process.

In the process, a global structure emerges in which a *metropolis* (the United States, Western Europe) imposes itself on *satellites* in the south, through colonialism or otherwise. Forcing these satellites to produce cash-crops or raw materials for the metropolis, the North not only profits from the unequal terms of trade (cheap raw materials in exchange for expensive industrial products) but it also distorts the social structure of the south at the expense of a modernising industrial bloc of forces (Frank, 1971a: 34-5). True, the quasi-feudal structures it imposes do not look like capitalism (work is done by bonded labour, there is no free market, etc.). But they are part of a world-embracing capitalist structure in which the capitalist relations prevalent in the North rest and rely on the semi-feudal relations of the South.

Not to see that these are part and parcel of capitalism, Frank argues, can only end in a sterile, formalistic Marxism which does not recognise the systemic aspects that surround the core where wage labour works for capital. Frank later traced the history of this system back even much further than the 16th century and parted ways with Wallerstein on this issue (see Frank, 2000).

## 2. WORLD SYSTEMS THEORY AND DETERMINISTIC MATERIALISM

We can now see where World Systems theory takes its point of departure—in the notion that c*apitalism develops as a comprehensive, structural constraint at the international level.* It combines a core (metropolis, North), where the social transformations have taken place that we use to define capitalist economy properly speaking, with a periphery that is

equally part of this capitalist system. Core transformations were always premised on the world-embracing networks of plunder and trade and continue to be reproduced through them, as much as they are driven by social changes internal to the core.

**Wallerstein's Reading of Braudel and Frank**

World Systems theory under this label is the work of Immanuel WALLERSTEIN (b. 1930).

Dissatisfied with his earlier work as a modernisation theorist specialising on Africa, Wallerstein in the early 1970s he set out to combine the theses of Braudel and Frank into a theory of development and underdevelopment as a process that evolves as a system. Wallerstein wants to analyse the 'Northern' side of this systemic relationship and to do so historically. The systemic constraint according to Wallerstein resides in the patterns of long-distance trade, or as he calls it, the particular *division of labour*. This system is bounded in a specific way, internally structured, regulated, centralised, and subject to functional mechanisms such as self-sustenance, growth through specialisation, removal of dysfunctionalities, and so on—everything we know from General Systems Theory (cf. Goldfrank, 2000)

The analysis starts off by a demonstration that in the early mercantilist era in Europe, long-distance trade began to be transformed by the inflow of precious metals from the Western Hemisphere. In the face of price inflation, 'state managers' (in practice, absolutist monarchs with their advisers, or city oligarchs as in Venice or Holland), resorted to *two different strategies* to profit from the new opportunities of long-distance trade. Of course the world economy as a specialised trade system was only dimly visible at first, so that the actions of rulers had a degree of anticipation of something still in the making, which their eventual actions will even foster (if functional) or not (if dysfunctional).

- One was the *imperial* strategy, of which Philip II of Habsburg Spain was a representative, but also the early French kings. This strategy aimed at bringing all the lands which were or began to be connected into the long-distance trading system, into a single political empire. This was the doomed strategy because it was contradicting the properties of the system that was in the process of establishing itself.

- The second strategy was the strategy of functional *specialisation*, in which each state seeks to adapt its actions to the functional requirements of its place in the system.

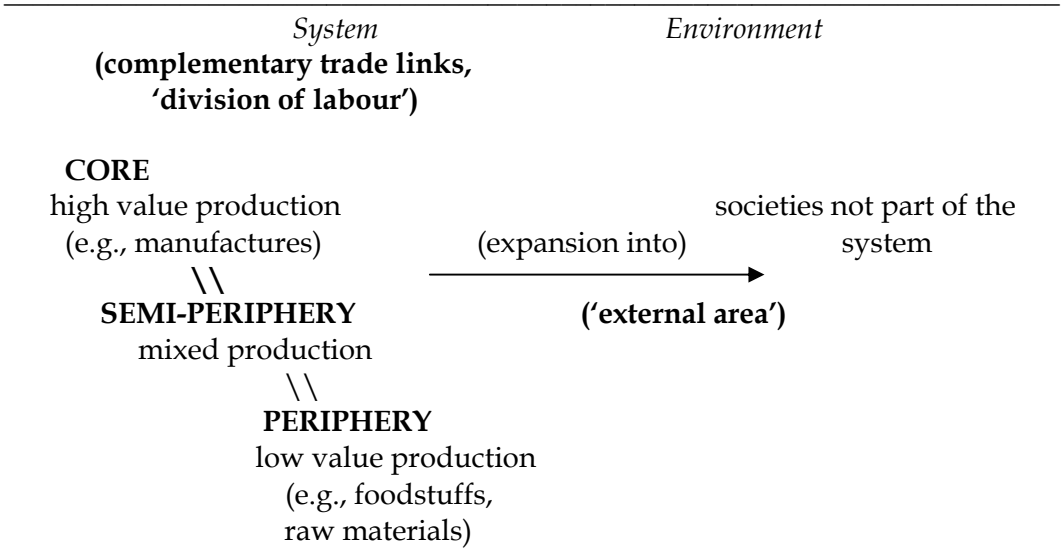
The different components thus gradually specialise, through mutual trade and the right or wrong policies, into the functional complementarity that Wallerstein refers to when he speaks of the division of labour. With the 'external area', there is also trade, but this is random trade, mainly luxuries and gadgets, *nothing structural on which other areas rely for their own functioning and the production of which they have therefore abandoned*.

The system constraint, in other words, resides in the specialisation of the component parts of the European world-economy). This specialisation produces (or reinforces the inherent trend in the direction of *high value production* in the *centre* (core, metropolis) with all its implications for 'regulatory' power). The core crystallises (and the quasi-organic system constraint becomes operative) by contracting out the supplies of raw materials to what thus becomes the periphery or the semi-periphery.

Braudel was the key source of inspiration for Wallerstein but the Frenchman was somewhat sceptical of the result. In his magnum opus (published originally in 1979, five years after Wallerstein's first volume) Braudel estimated that Wallerstein's theory is perhaps 'a little too systematic' (Braudel, 1984: 70). He certainly agreed with the thesis that 'capitalism can only live if it is surrounded by the older modes [of production], and indeed at their expense' (Ibid.: 64-5). But he is too much of a historian and too deeply interested in the variety of daily life to accept Wallerstein's deterministic interpretation of the world economy.

The different areas in Wallerstein's theory are the following (figure 7.1).

**Figure 7.1. Structure of the Modern World System**




The strategy of functional specialisation was followed by the Dutch provinces, by England, and later by France (after it initially, like Spain, had mistakenly pursued an atavistic imperial strategy (a strategy of 'world-empire') that bankrupted it just as the Spanish Habsburgs had been) consisted of a number of partial strategies. These included minimising overhead costs by abandoning territorial-imperial ambitions, forget about fiscal policies aimed to tax the most successful economic sectors and instead foster them by mercantilist policies (active protection). This resulted, over time and by the cumulative effects of an increasingly purposeful mercantilism, in concentrating high value-added production in the core. This consistently reinforces the position of the states making up the core in the division of labour. Indeed *the state itself* was a product of the core role.

In Wallerstein's words,

> The structure of historical capitalism has been such that the most effective levers of political adjustment were the state structure, whose very construction was itself, as

> we have seen, one of the central institutional achievements of historical capitalism (quoted in Palan, 1992: 23).

The form of labour relations, or what Wallerstein calls, *mode of labour control*, is an aspect of the core's position in the overall division of labour (i.e., the specialisation in a specific 'zonal' role in the economic geography of the system. Labour in a core state will be free and in a position to profit from the overall role of the core in the world-economy.

The periphery, too, specialises in raw material and primary foodstuffs, that is, low value-added production. The mode of labour control of a peripheral state is *bonded* labour, because the side-benefits are minimal and pocketed by the local elites, or in Frank's terms, the *comprador* bourgeoisie (from the Spanish term for merchant). The semi-periphery typically combines some of the tasks and characteristics of both, according to Wallerstein in the way a foreman in a factory serves the boss but also faces him. This role has control aspects, as well as aspects of a mediating mechanism in between the extremes.

Wallerstein analyses all this in the spirit of Frank and Braudel, as a critic. Unlike Ricardo's comparative advantage theory and its modern replicas, he does not believe in universal benefits, on the contrary. There is persistent *exploitation* of the periphery by the better-placed zones, and of the semi-periphery by the core. Therefore the state managers of the peripheral states should not blindly continue to increase their production in the sectors that define them as part of the periphery. If a raw-material producing state continues to increase output and keep its labour in a state of bondage to avoid disruption, it only reinforces a losing position.

Instead Wallerstein argues that peripheral states (and here the OPEC experience rises up in the background) should not just try to produce more raw materials, but should emancipate from their structural peripheral position by changing their productive contribution to the division of labour, and move up the ladder by mobilising the resources for a different position in the world-economy. State socialism in Wallerstein's view was never the solution; he considered a state-socialist economy (in the 1970s already) as comparable to a multinational enterprise, albeit one with a peculiar system of internal distribution. In the spirit of Frank,

Wallerstein argues that in a capitalist world-economy there is little chance to opt out in the long run because one remains part of the overarching distribution patterns on which capital accumulation in the core is premised (cf. Wallerstein, 1995).

All along, the issue of the origins and nature of capitalism continued to be debated, in an echo of the disagreements between Pirenne and Sombart. In the 1950s a debate erupted over the issue whether the transition from feudalism to capitalism had to be understood as originating the transformation of the social relations between lord and peasant, as had been argued influentially by Maurice Dobb. Dobb maintained that a full-blown capitalist economy could only come about in/after a prior bourgeois revolution—in England, the Civil War (Brick, 2006: 41). Paul Sweezy, one of the founding editors (with Paul Baran) of the journal *Monthly Review*, on the other hand maintained that long-distance trade had played a crucial role in the unravelling of feudal relations; whilst the origins of capitalism had to be investigated as a separate issue from the decline of feudalism. The trade emphasis of course overlaps with the approaches discussed in this chapter.

Whether the transformation of social relations on the land or the unequal exchange resulting from long-distance trade (Wallerstein's division of labour) is at the root of capitalist development, came back when Robert Brenner challenged Wallerstein along these lines. To Brenner, class struggles in the English countryside had worked to end serfdom without replacing it with peasant small-holdings. Following the enclosure movement in which the *commons*, the village grazing grounds used in common by all, were privatised whilst those formerly working the land were expelled to make way for sheep (Thomas More already spoke of 'sheep eating men'), private ownership and wool production for the market replaced self-supporting agriculture whilst creating armies of landless available for exploitation. This engendered capitalist production as private landowners hired wage labour to produce for the market (Brick, 2006: 41; cf. Brenner, 1977).

What stands out in World Systems thinking (and in the related Long Cycle theories), is that somehow there is *a higher logic* at work, because

once the system is in operation, it seems as if participants' perspectives on it are dimmed; they blindly run their treadmills, especially those in the most deprived parts of the division of labour. This takes us to the nature of World Systems Theory as a structuralist theory, a materialist determinism (cf. Burch, 1995).

**System Determinism and Materialism**

The thrust of Wallerstein's analysis is materialist and deterministic, it is a strong systems theory which defines the system in economic terms. As in all theories discussed so far in this chapter, this materialist starting point includes a specific mentality that arises, as a mental reflection of practice, from the economic structure. Thus state managers and other actors single-mindedly pursue their profit strategies (and directly derived policies in non-economic areas) because of the logic of the system.

In materialism, everything emanates from nature; the economy is the activity which is closest to nature because it is the process of transforming it; all other human activity is in turn determined by the economy. Hence, 'the reduction of political and social actors to the status of mere profit-seeking agencies', Palan writes, 'is not accidental.'

> By decreasing the level of complexity of the world-system down to a one-dimensional place which is named "capitalism", the capitalist world-system can be portrayed as an organic self-regulating and all encompassing system (Palan, 1992: 23; cf. Wallerstein, 1974: 347).

In other words, because the social process is reduced to a single driving force, it can be described as an organism, a system. The equation of the capitalist economy with a natural process, which has its origins in nature itself, defines the approach as materialist, but it is simultaneously a structuralist theory that is highly deterministic and leaves practically no role for actors other than functional behaviour. This may include functional *alternatives* (a strategy of trying to jump a zone instead of trying to improve but forgetting about the structural constraints), but they are still forms of profit-seeking behaviour.

Everything goes back to economic considerations and material flows of

goods and wealth. Not a word of any spiritual forces operating on their own account—which is why superficially, it reads to many like Marxism (in the next chapter we will see that Marxism after Marx broadly speaking slipped back into a naturalistic materialism again). Wallerstein's arguments on the spread of Protestantism (a core phenomenon) and the entrenchment of Catholicism are based on the same determinism.

Theories of subjective rationality as discussed in Part I, take the subject as their starting point *both* in their view of the world (ontology) and in their theory of knowledge (epistemology). They can leave the classical ontological issue of materialism versus idealism largely for what it is, and in British empiricism with its agnostic tradition, the materialist implications of an empirical analysis were played down anyway. Certainly, the subject can act on the basis of ideas (rationality, or a set of values, as in Rational Choice and Weberian action theory, respectively); or on a material basis, as with institutionalism (practical life, in which habits form). But the rationality is subjective (which includes in some approaches that 'we' may not see it as rational at all).

Essentially, subjectivist theories, whether idealist or materialist, give the agent a free hand, and *will* (whether based on rational choice, on values, or on habits) decides how the agent acts. That is why we also speak of *voluntarist* theories, from the Latin 'voluntas', will). We assume the agent is not constrained by structures which lead a life of their own.

The opposite of a voluntarist theory is a *deterministic* one. Here action is preordained (to different degrees) by the operation of the structure. The determinism of a regime, or a mode of regulation, is weak because the degrees of freedom for the agent remain substantial even if there is a price to pay for straying from the regime or mode of regulation, just as there is a premium attached to remaining on board. In the sense that opting out of the neoliberal monetary regime inscribed in the Economic and Monetary Union in the EU is possible, 'as long as you have an army'. But it will be costly.

World Systems theory on the other hand is a *strong systems theory*. It is highly deterministic, because once the modern world system germinated

in the 16th century in Europe, it began to lead a life of its own of which the inner workings were only revealed in the writings of critics like Wallerstein and of course, his predecessors, Braudel, Frank, and others.

In an objectivist, structuralist theory, not only does the 'object' (society, the world, the universe) become transparent *in principle* (it may take very long to discover though). It also completely *determines* the behaviour of the agents active in it, because the system is so comprehensive and extensive, that there is little meaningful reality outside it. Actors *may think* they make choices, but in fact they make these as functional components in a larger organism. Indeed the argument is that they act to maintain the system as a whole without necessarily being aware of that. That is what is called *functional behaviour*.

A 'functionalist' explanation, as we saw, is that the systemic outcome is projected back into the events that led to it: thus if there is a theory that holds that a dominant state loses power after a century, and that a war is then necessary to allow the next dominant state to achieve its position (a typical World Systems/Long Cycle argument), one will get the explanation that e.g. World War II was *necessary* to allow the US to establish its dominant position in Europe at the cost of Britain. The question then may arise, did the belligerents know this—to which the answer is, that is not important. The idea is always that the system works by its own logic, determining the actions of the agents active in it irrespective of their *structural literacy*, that is, the degree of awareness of which system they are actually engaged in keeping in place.

In epistemological terms, this produces the situation that there will always be the 'eureka' moment, the flash of insight that reveals the objective inner workings of the system—not just the discovery of a regulatory mechanism (the WTO to keep the neoliberal free trade regime in place, or the state to observe the balancing of wages and productivity growth), but the system as a whole, in all its aspects. Hence a deterministic theory tends to leave only a small hole through which to escape and then turn around and look back. This escape is usually the weak link in the theory, because if the theory is deterministic, how come it does not determine also the thought of those who understand it, and in

that sense, rise above it. Marx's *Theses on Feuerbach* are the locus classicus of this question: there he argues that this dilemma requires that society has to divide itself into two.

The agents in World-Systems Theory have lost any independent existence outside the system, they are completely enveloped by it except for the occasional escapee and his/her students. They may then convince others and to the extent the insight begins to spread, people will 'stop to think'. Then the spell of the system as it were is broken, but this is a very problematic aspect of the theory and the meta-theory of systems thinking as such. Wallerstein however is almost completely silent on the systems aspect of his work; he apparently does not deem it necessary to convince anybody of its merits as a theoretical tool. Hence it has been argued that Wallerstein applies a system rhetoric rather than a systems theory (Nederveen Pieterse, 1990: 37). One explanation might be that as an established modernisation scholar with a social science training saturated with 1960s systems thinking, this approach had become a second nature when Wallerstein applied it to the critical study of the world economy.

As a result of not making the systems assumptions explicit and investigating their implications, what came out may perhaps be labelled *an idealised materialism*. Whilst the world economy and the political formations active in it, are all analysed in materialist economic terms, the material forces ultimately appear to obey a higher logic, an objective rationality. This rationality can eventually be brought to light by critical scholarship, and changed accordingly—although again the question remains whether insight (and ideational force) or material forces determine this change. The question is that an integral, explicit materialism is *always* metaphysical, because it supposes that critical insight itself also ultimately emerges from nature (through various mediating instances—the economy, society, the brain…

Hegel went so far as to identify himself as an intellectual equivalent of Napoleon, who 'realised' this inherent rationality in the world by establishing the modern state; just as he, Hegel, was achieving the integration of all philosophical speculative thought (McCarney, 2000, and our Chapter 8) . Wallerstein's intervention may likewise be situated in a

specific historical conjuncture, that of the Third World coalition to put and end to unequal exchange with the North through a New International Economic Order.

In our figure, a strong system can be broken down as follows:

**Figure 7.2. Strong Systems Theory— The System in Command**

| *ONTOLOGY* | | | |
|---|---|---|---|
| Agents acting out system requirements | Functional, optimising behaviour in the face of challenges from the environment, or to fulfil requirements for system maintenance | | Self-regulating properties of system |
| functional knowledge for optimising the system ( OR *historic consciousness)* | observation of (dis-)function-alities *(understanding the system as such)* | empirical system effects | System rationality |
| *EPISTEMOLOGY* | | | |

One GPE offshoot from World System Theory is *Global Commodity Chain* (or *Global Value Chain*) theory. This approach, associated with the names of Gerry Gereffi and Raphael Kaplinski, respectively, deals with something that World Systems Theory is badly placed to deal with—the transnationalisation of production. What happens when production is organised *across* different zones in the world-economy?

In this approach, the economic geography and the emphasis on exchange relations (enveloping and determining actual production relations) of World Systems Theory mix with institutionalist elements into a theory in which the organisation of production spread over different zones (from low value-added to high value-added) is organised from a single centre of control. Control is exerted not through markets, but by 'various non-market linkages that are necessary for the functional integration and co-ordination of the linkages within the value chain (input-output structure), the monitoring of quality, price and delivery (QPD) reliability, and procedures in appearance and packaging' (Merk,

2004: 132). This is a process of functional complementarity within a single control structure, because otherwise we would be looking at mere market interconnections. Therefore it raises the issue of regulation in the system sense, for the company or groups of companies that occupy the controlling position within the chain and can (from their 'core' position, i.e., at the controlling end) set the conditions under which the suppliers and handlers of semi-finished products, are integrated into the whole (Ibid.)

## 3. LONG CYCLES—HEGEMONY AND ECONOMY

Long cycle theory is a akin to World System theory and overlaps with it, in that a structure of determination is at work which 'governs' the historical process as a whole and yet this structure is understood in materialist terms as a sum total of 'objective' forces—the structure and conjuncture of the economy, the strength of armies, geographical location, etc.).

There exists a tradition of economic long cycles (Kondratieff, Gerritson). In classical political economy, the sun-spot theory and other natural phenomena gave the original impetus to this sort of analysis. Modern theories of long economic cycles tend to identify a major invention and then trace the accelerator effects of that invention (steam, the automobile, the computer) over the wider economy, until the effects run out. The suggestion of a sort of organic growth, maturity and decay suggest themselves.

In global political economy, the long cycle is connected to the hegemony of a *state* which acts as the regulator in the system sense (i.e. the system is the determining structure, the hegemon is *in* the system, acting in ways to sustain/develop it). Wallerstein himself branches out into Long Cycle theory in *Historical Capitalism* (1984).

### Cycles of Hegemony and War

Peter Taylor has analysed the hegemonies of Holland, Britain and the US

as anchored in the economy rather than in state power. France defeated Spain in the 17th century, Germany did the same to France at the end of the 19th, by using their power to subdue the sovereignty of the other. But the Dutch, British and American states 'did not threaten the sovereignty of other states in the system.'

> Theirs was a sophisticated economic expansion rather than a crude war strategy to gain territory. Instead of the political-military imperatives that are expected to dominate international relations, these states had very definite economic agendas in which political elimination of rivals was simply not relevant. They pursued political-economy imperatives (Taylor, 1996: 23)

Hegemony for Gramsci, who made the term famous, refers to the capacity of a class to gain acceptance of its leadership over others, which is then consolidated through state power. For the Long Cycle theorists (and for Realist and all other state-centric theory), *the class aspect is dropped and only the state aspect remains*. So it is the single state which exerts hegemony (although the consensual aspect remains, it is accepted leadership). However, the system perspective dictates that it is the system which determines what sort of state is needed to act as the regulator (the hegemonic state). There is no point comparing the power of Holland with that of Britain later, and the US still later; the system 'could do' with the relative modest power of the Dutch provinces, because setting the example is for instance as important as a regulatory principle as the straightforward force a state can mobilise.

World hegemony is seen as a property of the whole system and not just of the hegemon itself. Hegemonic states are particular core states that appear at specific conjuncture in the development of the world-system and are implicated in the overall development of the system. In short the capitalist world-economy has evolved through rather long cycles we term *hegemonic cycles* (Taylor, 1996: 25, emphasis added).

These cycles end with a major *war*, the '30-year' transitional fight out of which the next hegemon emerges. War here is not seen as cataclysm and crisis, but as 'necessary' (functional) for achieving certain historical transformations. Thus a new hegemonic sea power takes over from the former by defeating the continental challenger to that former sea-power.

- Holland emerged from the struggle with the Spanish Habsburg empire (the war here is given only as the 30-years' war fought out on German soil from 1618 to '48, although fro the Dutch provinces and Spain it really was between 1568 and 1648);

- Britain emerged from the struggle with France through the revolution and the Napoleonic wars (1792-1815, 23 years) ;

- The United States acquired hegemonic status after World War II, hence after a protracted struggle with Germany that really began in 1914 (31 years).

(Giovanni Arrighi adds a fourth hegemony, Genoa, preceding Holland, and emphasises that all hegemonies end in financial hypertrophy, an overblown financial sphere).

Why then, asks Taylor, is it the hegemon that rises to the hegemonic status, given that this state is only one among the winning coalition? This is, first, because the hegemon is the sea power, and war at sea is less destructive; the navy is used to maintain far-flung economic networks bolstering the economic position of the future hegemon. Secondly, the hegemon-to-be is the economic powerhouse behind the victory, financing or otherwise supporting the others economically.

The important theoretical issue, aside from the actual historical detail (although it is important, it gives us an insight into how the theory is put to work), is the *idealisation of the material system* into an overarching rationality that governs all human and social action. In this respect, World System Theory and Long Cycle Theory are in the same class. By this we mean that the system is defined in material (economic) terms, but somehow acquires a metaphysical status (that is, it rises above history, no longer subject to human intervention). On the one hand, we have materialistic economism (everything seems to arise out of material forces only), and yet at some point, a higher logic seems to be at work, governing the alternations between different phases of cycles that are too long for any living social force to control, but instead control them.

**Structural Theory and Its Alternatives**

In his book *On Global War*, William R. Thompson argues that global wars, wars that change who leads the global system and entail a significant re-concentration of capabilities in the system, are similar in their importance to critical realignment elections and civil wars in the national context (Thompson, 1988: 6-7).

The approach he follows is the strong systemic one discussed in this chapter, although he emphasises that 'national decision makers have interests that they wish to pursue'. But in doing so, they effectively are 'striving to improve or defend their relative positions within various types of networks' (Ibid.: 13). In other words, whilst action is a self-evident phenomenon, the very notion of a system means that 'structures, order, rules, and some degree of regulative capacity influence foreign policy behaviour'.

In his book Thompson then discusses three structural approaches of which the Long Cycle approach of himself and George Modelski is one. Wallerstein's is the other, and Robert Gilpin's interpretation of Hegemonic Stability the third. This will give us a chance to look at Hegemonic Stability theory from the neo-Realist perspective rather than from the weak systems perspective as in Chapter 6. The general argument is familiar:

> Periods of systemic leadership are followed by phases of increased competition that, in turn, devolve into periods of intensive and extensive warfare. War resolves the question of systemic leadership and ushers in a new period of unipolarity and systemic rule creation that once again erodes into multipolarity and, eventually, a renewal of war (Thompson, 1988: 35).

According to Gilpin, disequilibrium in the international system is the result of the fact that economic, military, and technological capabilities grow unevenly. The 'urge to expand', in line with the (neo-) Realist perspective, is seen as 'universal in both time and space', and constitutes 'a basic motor' (Thompson, 1988: 38). In Gilpin's approach, an expanding

state will experience a moment where the cost of further expansion enter a juncture with 'diminishing returns' (note the micro-economic language). Other writers such as Paul Kennedy have of course also analysed the occurrence of the rise and decline of states in terms of such an 'imperial overstretch'.

Importantly, political costs and benefits and economics costs and benefits are both involved here. The regime ('rules of the system') by which the hegemonic state exerted control thus becomes contested, as aspirant hegemons perceive the weakening of the leader and an unravelling of the stability ensured by the hegemon so far. 'This observation,' Thompson notes, 'reflects Gilpin's argument that power and prestige ultimately depend on the perceptions of other states' (Thompson, 1988: 41). Dominant powers provide order and stability; their decline invites contest and entails war. From Gilpin's reading of modern world history (since 1648), the eventual hegemony of Britain and its free market strategy (with the US taking over in the interwar years) makes the free market and English-speaking political leadership coterminous. Hegemonic stability is assured and 'the provision of public goods… is hardly and act of altruism on the part of the hegemon. In return for the benefits it reaps, the hegemonic leader supplies the economic rules of the game, investment capital, an international currency, and the protection of property rights on a world scale' (Thompson, 1988: 44).

In other words, we have a *regime* which does not impose the same compulsion as does a strong system, but which yet provides a measure of stability as a way of universalising the principles laid down by the strongest state(s).

In contrast, Long Cycle theory is a (strong) systems theory, which is objectivist/structuralist instead of subjectivist/ actor-oriented—hence it is not neo-Realist as sometimes claimed (Thompson, 1988: 44). George Modelski, its founder, sees the global political system in fact not as a state-centric order at all. 'The global political system constitutes an exchange structure in which the transactions are focused on the interactions between producers and consumers of the goods and services of global order and justice' (Thompson, 1988: 45; cf. Modelski, 2005).

This global reach in Long Cycle theory is embodied in *sea power*. Through sea power, states command the principal resource for creating and maintaining global reach capabilities, Thompson writes. This of course makes war (especially its naval component) a key mechanism of changing the leadership order in the system.

In terms of GPE, Modelski argues that the leading state also has the most dynamic economy and hence, an interest in the stability of the world-economy. Its political power and economic power 'both draw on the same population and resource base' (Thompson, 1988: 53). That is why the data of long economic cycles and cycles of political hegemony in the global order are correlated: 'fluctuations in the world economy… parallel fluctuations in the global political system' (Ibid.: 54).

What the hegemonic stability approaches fails to appreciate, is that this is not an eternal recurrence; the structure of the economy changes, and hence the goals of states within the global system also changes. Hence Gilpin, like all (neo-) Realists continues to expect to see 'a hegemonic behaviour that is predicated more on traditional behaviour' than a truly systemic leadership that is responsive (and determined by) the new global system, in which territorial acquisition for instance at some point loses its relevance (Thompson, 1988: 64).

What the World System approach according to Thompson fails to see, is that systemic wars are much more important for an analysis (like Long Cycle theory) which bases itself on an 'open-ended' understanding of the world system, whereas World System Theory derives its analysis from capitalism. Long Cycle theory on the other hand has a number of indicators (capabilities concentration/ de-concentration, high and low points in world order, etc., which allow it to view the occurrence of war in a less functional manner. In a way, Thompson here contrasts the economism of Wallerstein with the more agnostic, empiricist approach of himself and Modelski. In other words, if we want to find the strongest systems theory within this group again, it is World System Theory (cf. Chase-Dunn, 1999).

Let me conclude this chapter with a note on how the systemic coherence of the global political economy becomes itself contested by a variety of systems theory, complexity theory, a.k.a. 'chaos theory'.

**Complexity Theory and Global Turbulence**

One aspect of systems theory that has attracted great interest in the recent period is the phase in which a system seems to abandon the predictable, functional pattern of behaviour and begins instead to move erratically. The wild swings, apparently random trajectories, and loss of direction yet have been found to be 'systemic' after all—except that we are looking at a specific condition of a systemic constraint. This variety of systems theory is *complexity* theory, although the phenomena associated with it (rapid, apparently random change, loss of coherence) have made it popular as 'chaos theory.'

Complexity/chaos theory is the theory used to describe the wild swings by which predictable systemic development may suddenly become highly *unstable*. This is then traced to small changes (a butterfly flapping its wings) which via the complex interrelations by which the system hangs together then create momentous upheaval—in the butterfly example, a catastrophic climate event.

It was long assumed that the fact that our ability to predict the weather is limited to around one week, could be overcome by more powerful computers. But complexity theory holds that whilst we may be able to predict which options are possible when we try to predict an entire summer's weather, it is not possible to say which of these options will eventually be the one that becomes reality. The reason for this is that we are looking at a system of such complexity that the totality of interactions generates *systemic unpredictability.* This holds not only for the weather, but also for the climate; scientists today are still not sure whether global warming will result in an overheated planet or in a new ice age, or rather, in which order these changes will occur. If in the mathematical equations on which the prediction of the weather or of evolution are based, one parameter is marginally changed (say, ocean surface temperature), the system may lose its relative regularity and become subject to vast swings

which give it the 'chaotic' characteristics that we are experiencing today—freak weather, floods, storms.

The Greeks already developed the idea that the world originates in *chaos* (disorder), which then becomes subject to *physis* (growth), and out of which evolves *cosmos* (that which exists, 'order'). But as Vroon (1992) explains, there was a dispute among the Greek materialists whether 'matter' behaved in ways that made it predictable. Indeed Democritus (mentioned in our Chapter 1) held that atoms follow straight lines; when they hit each other and bounce, their trajectories can therefore be predicted. Epicurus, an 'atomist' like Democritus, on the other hand maintained that atoms follow erratic trajectories and that prediction of their movements is restricted. It is this latter argument that resonates in complexity theory.

The movement of atoms along erratic trajectories is not the same as complete indeterminacy; in that respect the label chaos theory is misleading. The mathematician, Roger Penrose, speaks of 'weak determinism'—which is relevant to our discussion. As we saw in the last chapter, Regulation and Regime theories are 'weak system theories', that is, the systemic constraints imposed on actors are weak and their latitude of choice remains substantial. This is weak determinism because the role of the system is weak to begin with. World System Theory and Long Cycle theories are strong system theories and their determinism is strong too. Complexity theory, however, is an 'even stronger' systems theory (in the sense that it is far more complex in terms of the number of variables than WST as analysed by Wallerstein); but *its determinism is 'weak' again.* Not because actors retain a measure of freedom but because it assumes several possible trajectories determined by the systemic constraint.

Complexity theory can be written as an inhibited-growth function. A variable *r* determines the development process in which such inhibitors operate; if *r* is higher, growth varies more extremely; to the point where the number of possible states increases but also the difference between them (hence, again, 'chaos' theory). For *r,* we may substitute the amount of energy that enters a system and which increases the number of states it can assume. *These states can each be calculated but it cannot be predicted which*

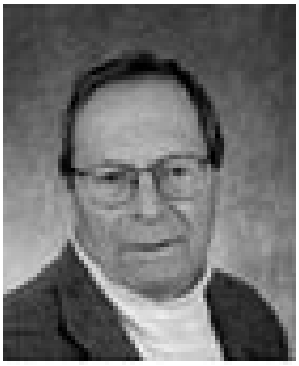
*state will actually obtain.* A system as it were becomes 'restless' as more energy enters it (or as energy, the equivalent of *r,* increases). This is why, as the temperature on earth rises, highly variable weather patterns are the result (the chaos phase, sustained instability), and an ice age as much as endless heat waves may occur. The weak determinism here applies to whether state B or C will follow from state A, not whether actors retain a measure of freedom. What is weakly determined is not that they are not perfectly calculable; it only refers to the uncertainty as to whether they will occur.

Although the weather is based on a fully determined system in which nothing happens that is not part of the totality of determinations, there remains an element of unpredictability because a) the atmosphere is highly sensitive to initial conditions which cannot be established with sufficient precision, and b) even a simple model of the weather with a series of non-linearly coupled differential equations has unpredictable consequences. If a weather system is subject to energy loss (vapour turne into water, water into ice), the system acquires a degree of stability. However, if energy is added, and intense sunlight creates the opposite concatenation of events, increased energy produces wild swings in the movement of air, build-up of clouds based on ice and water, electrical storms break out and instability is the result (Vroon, 1992: 159-60).

In evolutionary biology (where we use *r*), the application of the idea of small changes in parameters with enormous consequences for the system as a whole, has produced the concept of a *chaotic or instable phase in development*, in which for instance a steady rate of growth of a species is replaced by wild swings in population size as a result of a small change in the reproduction rate. From stable growth, the species then becomes subject to possibilities which can be extreme, ranging from extinction of the species itself by a downward swing (or an extreme upward swing but with food supply constant), epidemics because of extreme population density; to terminal consequences for the system as a whole because a function performed by that species falls away (Vroon, 1992: 160-1). In population growth, a high *r* may generate wild swings and may paradoxically end with extinction. Humanity today experiences a chaos phase in this sense.

Chaos processes also occur *within* humans and animals; they actually are essential to well-being and health because they make us sensitive to changes. Irregularity in other words is vital to adaptation and survival. The human brain is based on complexity of this type, and can combine and adapt at record speeds and thus allow us to adjust to changing circumstances. The process involved here is *autopoiesis*. This is different from homeostasis. Autopoiesis means that a system organises and transforms inputs into elements it can use to sustain itself; homeostasis means that an organism adapts to its environment by adjusting internal balances. If applied to social systems, the entry into the chaos phase of the system requires the capacity to radically *innovate* in order to escape from the stifling effects of stagnation and passivity in the face of wild swings in environmental conditions (Vroon, 1992: 176).

The importance of complexity theory is to recognise ruptures in the pace of evolutionary change and by inference (i.e., seeing social history as organic development), the ability to understand why history is not a linear process but one characterised by sharp breaks and crises (The idea of a chaos phase in the global political economy in WST is argued in Rennstich, 2005).



The veteran international systems scholar, James N. ROSENAU (b. 1924), in his book *Turbulence in World Politics* (1990) and related writings sees the chaos element in the unpredictable effects that are produced in the mental make-up of people as a result of *globalisation* and *localisation*. The erratic development of these two main, interacting forces of our age produce chaotic movement, 'turbulence'. On the one hand, change occurs on the globalisation dimension, as business and political activities develop exponentially on a world scale. On the other, individualisation and cultural re-assertion occur locally, contracting the spaces in which activities transpire. As a result, people are confronted with 'A world in motion, an expanding and contracting blur of changing orientations,

organisations, institutions and patterns that transform the ways in which people conduct their affairs' (Rosenau, 1995: 50).

That we may interpret this as part of a chaos phase, is seen by Rosenau as a consequence of the end of the Cold War; whereas before, forces associated with globalisation developed only slowly and apparently unrelated to processes of individualisation and fragmentation. When these processes did begin to accelerate and entwine, the bloc system imposed a stabilising constraint on them. With the end of the Cold War, however, 'the power created by the joining of globalizing and localizing dynamics, the tensions they foster, and the dialectical process they may generate are greatly enhanced and increasingly manifest… As a coherent process that is continually unfolding with inordinate speed in contradictory directions' (Rosenau, 1995: 53).

The unpredictability identified by Rosenau is then focussed on political responses of people subjected to the impact of the contradictory forces of globalisation and individualisation. These produce different 'priorities attached to self' and different 'priorities attached to most salient collectivity', which Rosenau (as he has always done in his writings) presents in a matrix to demonstrate how combinations between them (high or low priority) can be seen to result in 'citizenship' attitudes that can vary extremely between apathy, self-centred or high altruistic/ideological, or democratic behaviour. 'Most citizens,' he notes, 'at every point on the self-environment continuum are in motion, either searching for a new balance or struggling to reaffirm the old one… The world's publics are restless and … this micro-restlessness can have discernable macro-consequences' (Rosenau, 1995: 59).

This may illustrate how the strong systems approach, if enlarged with the awareness of structural instability as theorised by chaos theory, yet can give us an insight into the subjective dimension of social action that otherwise would remain encapsulated in the organic self-stabilising growth metaphor of GST.

**Applying the Method**

The World System approach would require the researcher to take the following steps (this is a free interpretation bringing together elements of WST and Long Cycle Theory):

- Identification of the incidence and boundaries of a system and its position in 'world time' (the time-scale on which all societies exist and which given their mutual exposure through various links, therefore defines the constraints under which the system operates)

- Definition of the 'external area'

- Identification of the nature of the division of labour within the system

- Identification of leading sector (a key theme in Long Cycle theory, in relation to the Long Wave theory (Kondratieff) based on epoch-making innovations, OR to indicate the relative position of a national economy in the division of labour

- Position of the state in either the core, semi-periphery, or periphery

- Identification of the hegemon and its main challenger (sea power versus land power)

By taking complexity/chaos theory into account, a more elaborate and dynamic understanding of ruptures in long trends and cycles might be undertaken through the construction of a systems model. This would involve the elaboration of statistical material about long-term trends and their correlation in order to identify ruptures, moments of greater variance, that can upset the stability of the correlative structure.