

The archaeology of economic thought

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ECONOMIC THEORY is an axiomatic system: as long as the basic assumptions hold, the conclusions follow. But when we examine the assumptions closely we find that they do not apply to the real world ... The assumption of perfect knowledge proved unsustainable, so it was replaced by an ingenious device. Supply and demand were taken as independently given. This condition was presented as a methodological requirement rather than an assumption. It was argued that economic theory studies the relationship between supply and demand; therefore it must take both of them as given.

George Soros¹

In September 1992 George Soros made £1.3 billion by leading the speculative attack on the pound on Black Wednesday, forcing Britain out of the Exchange Rate Mechanism (ERM) and demonstrating a mastery of practical economics unrivalled by professional economic theorists. Nevertheless, economic theory is held in great esteem not only by supporters of the *status quo* but also by critics of economic growth. Attempts to create a more socially just and environmentally sustainable economy are therefore labelled ‘alternative’, ‘new’, ‘heterodox’, or even ‘heretical’. Using quotes from mainstream economics texts, this chapter explains neoclassical general free market equilibrium theory with a view to assessing its merits as a guide to rational action.

Economics – a belief system, not a science

As Douglas’ first writings appeared in print (1918-24) the economics profession was in the final stages of establishing itself as the dominant science of society. By modelling itself upon a natural science, physics, it purported to offer a value-free analysis of the economy as a guide to public and private policy formation. A decade later Hugh Gaitskell could with confidence classify Douglas as an ‘economic heretic’. According to Gaitskell, although orthodox economists might differ on specific matters, they held a common world view. Heretics could easily be identified: despite public recognition they were amateurs. ‘None of them has ever held an academic appointment in economics’.² Throughout the interwar years social credit theory was judged heretical because it did not conform to neoclassical orthodoxy. It is valuable to study the origins and development of this economic orthodoxy, partly because this can help us understand why Douglas’s analysis found so little favour amongst economists. But more importantly, such a review sheds light on the proven incapacity of orthodox economics to guide policy formation on social and environmental issues. The issues which Douglas attempted to address have certainly not been tackled effectively in the seventy years since his proposals were so roundly rejected by the establishment of his day.

The economics profession would today describe itself as a broad church embracing many schools of thought, from the right-wing Austrian, through the neoclassicals, the

macro-economics of the Chicago School, orthodox Keynesianism, post-Keynesianism and institutionalism to a collection of Marxian and radical economists. However, the distinguishing feature of a school of economics is that it accords with the neoclassical paradigm. J. M. Gee broadens the religious metaphor in a manner that is quite startling in its implications:

The neoclassical school is a broad church, offering a methodology and a paradigm embracing many sects. The high-priests of the church are well versed in mathematical technique, which they employ to trace out the consequences of individual behaviour on the assumption that economic agents constantly strive to maximise their economic well-being. These agents may not be, indeed typically are not, regarded as flesh and blood actors; they are mythical creations, designed so that their behaviour is perfectly predictable according to a hypothetico-deductive chain of reasoning.³

In other words, this orthodox economist of the neoclassical school maintains that neoclassical theory consists of 'a hypothetico-deductive chain of reasoning' flowing from the assumed actions of a group of 'mythical creations'. Such an evaluation of the actions and motives of human beings is so completely at odds with our actual experience, that it is tempting to leave the matter there; to simply ignore the paradigms and projections of such a blatantly reductionist group of thinkers. However, so deep-rooted are these assumptions and so great is the practical influence of economists over policy formation in matters of production, distribution, exchange and all other concerns relating to the conduct of our daily lives, that it is necessary to look further into neoclassical theory. We must attempt to understand the behaviour of these mythical creatures and their 'perfectly-predictable ... 'hypothetico-deductive reasoning.'

General free market equilibrium theory

Anybody seeking to understand orthodox economics faces an almost insuperable problem. The first step for any student is to suspend disbelief on a number of vital matters, all at the same time. As Gee explains:

For the neoclassicist, an individual is in economic equilibrium when, given the commodity prices he faces, given his ownership of factors of production and their prices, given his initial endowments in general, he cannot increase his utility through altering the mix of products bought or factor services supplied to others.⁴

To consider what the above sentence may mean we consider one phrase at a time, starting with the 'individual in economic equilibrium'.

Mushroom Man

The 'mythical creation' the budding economics student must first come to grips with is the 'agent' or economic actor. Rational Economic Man (REM) is not a real flesh and blood person existing in space and time. *He* (for there is no Rational Economic Woman in neoclassical theory) has no ties, duties or responsibilities save

that of operating as an economic agent. He exists to register the pleasures and pains of the various options open to him as he makes his rational choices in the role of consumer. In his exercise of choice he operates from rational self-interest.

Julie Nelson quotes Thomas Hobbes, who wrote: 'let us consider men ... as if but even now sprung out of the earth, and suddenly, like mushrooms, come to full maturity, without any kind of engagement to each other'. As Nelson goes on to explain, the mythical 'agent' studied by economists in their abstract models has 'no childhood or old age, no dependence on anyone, no responsibility for anyone but himself'. He appears from nowhere, 'fully active and self-contained', influenced by nothing except his rationality. In an ideal market he has perfect knowledge of prices, which form the only medium for his interaction with society.⁵

The hedonistic conception of man is that of a lightning calculator of pleasures and pains, who oscillates like a homogenous globule of desire of happiness under the impulse of stimuli that shift him about the area, but leave him intact. He has neither antecedent nor consequent. He is an isolated definitive human datum, in stable equilibrium except for the buffets of the impinging forces that displace him in one direction or another. Self-imposed in elemental space, he spins symmetrically about his own spiritual axis until the parallelogram of forces bears down upon him, whereupon he follows the line of the resultant. When the force of the impact is spent, he comes to rest, a self-contained globule of desire as before.⁶

Although Veblen's early picture of REM remains a classic expression of the limitations of orthodox theory, it has been neatly sidelined by generations of economists as they induct their students into the mysteries of the subject. According to the rules of orthodoxy, the individual undertakes rational calculations at lightning speed in order to remain in equilibrium, that is, at a point where he could not adjust his purchases in such a way that he would be better off. His 'rationality' dictates that purely economic considerations determine his actions. He does not act 'irrationally' by allowing sentimental or ethical considerations to sway his judgement. The data upon which he bases his calculations are commodity prices.

Commodity prices

'Commodity' is the general name given to goods and services, the basic objects of production and exchange. To qualify as a commodity, the good or service must not merely exist: it must exchange on the market. Although fresh air is essential to life, it is not normally exchanged on the market. Therefore, in terms of economic theory, it does not exist. Equally, the desire of the starving for food does not register if the starving person has nothing to offer in exchange for food on the market. To feature in the story of economics, a commodity must be both in demand and supply; economic agents must be prepared to 'demand' it by offering and 'supply' it by accepting something in exchange for it, normally money. Where the forces of supply and demand are equal (in equilibrium), price is determined. In other words, the individual makes rapid calculations which determine price. However, as Gee indicates, the commodity prices the individual faces at the point of purchase are 'given': they are determined by the accumulated costs of the production process. At this point in his or her studies Rational Person (RP) turns to the world of classical fiction or politics, leaving REM to his own devices! For those prepared to believe anything in prospect

of earning a good income, the story unfolds as follows. The next phrase indicates that REM's 'ownership of factors of production and their prices' are 'given'.

Ownership of factors of production

If goods are 'demanded' for exchange on the market, the theory suggests they must be supplied, since production for exchange is an essential element of the science of economics. Production occurs in two forms. Nature produces trees, fruits, flowers, crops, minerals and the soil upon which every form of civilisation depends. Equally, society produces human beings and many services, including mothering, socialisation of the young, care of the physically and mentally exhausted, spiritual guidance, mutual support and other forms of service which may be exchanged, but not *on the market*. Unless or until the products of nature or the services of society become 'commodities', that is, subject to exchange on the market, as far as the economist is concerned they do not exist.⁷ Although the formal economy would cease to function if the natural world or human society became incapable of providing the goods and services upon which the real life economy depends, this minor detail is ignored by orthodox economic theory. Hence it is necessary to suspend disbelief on this point also in order to pursue the study of economics.

In terms of orthodox theory, production is production for exchange on the market. Factors of production are, therefore, 'the economy's productive resources – land, labour and capital'. They are defined as follows. Land is natural resource of all kinds: the earth and all that is therein *before* it becomes subject to economic exchange. Labour, often termed 'human resources', is the muscle power and brain power of human beings. Capital is the physical assets generated from past output, including equipment, buildings, tools and other manufactured goods used in production. Although land and capital may be owned by a household, firm or government, economic theory reduces the economic agent to the individual, REM.

To participate in the economy the factor of production must be owned by REM. From its sale he derives an income: if he sells the use of land, he claims rent, if he sells capital he derives profits and if he owns labour he draws wages. In this way he can register as a consumer, able to 'demand' the products he wants the economy to supply. The number of exceptions and objections and the gross simplification involved in elaborating an economic theory from such a narrow starting point are obvious, but again, disbelief must be suspended.

Of particular importance is the fact that these narrow definitions lead to a glaring confusion between profits and interest. In assessing factor incomes paid by firms to households (the incomes paid to consumers in respect of their contribution to the productive process) 'interest' appears in GNP calculations; interest is thus included in the general measure of productivity. However, interest derives from the sale of the use of money, that most mythical of all 'factors of production': it is not even included within economics texts in the standard definition of capital as a factor of production. General equilibrium theory (see below) has nothing to say about the role or origin of money in the economy: its proponents make the mind-boggling assumption that money just 'happens to be present' in the economy. The narrow terms of their original definition then forces them to classify interest payments on this mystical entity, whose origins are not discussed, as the sale of the use of capital. In other words, interest is considered a form of profits accruing not to real capital (machines) but to that

mythical entity, 'money capital'. The significance of this confusion becomes apparent when the creation and availability of money is discussed more fully.

To the economic theorist REM's 'ownership' and sale of a factor of production (land, labour or capital) entitles him to an income in the form of rent, wages or profit. As Gee indicates, economists do not consider how or why some people come to own the land or capital which the producer needs in order to produce goods and services, nor why a large number of people own nothing but the 'labour power' which they are forced to accompany as they 'sell' it on the market in the attempt to survive: as far as the study of economics is concerned, ownership of the factors of production is settled by some inexplicable mechanism outside their field of expertise. Equally, in studying equilibrium, the prices of the factors of production, determined by demand and supply, are 'given'.

Initial endowments

Further confusion relates to the practice in economics of classifying labour as a factor of production. The notion that 'labour' time' can be sold as a commodity subtly obscures the relationship between the factors of production. No person can sell his or her labour time when they are not present physically within the productive process. The implications of the statement form a major part of this book. Here, it is sufficient to note that in the real world labour, the worker, is a real person, a citizen with rights and responsibilities, who produces goods and services needed by the community. In real life the worker is not merely a factor of production to be bought and sold on the free market, handing over all responsibility and judgement to the employing body: that is wage slavery.

Utility and factor services

The final phrase of Gee's explanation contains words requiring further definition. 'Utility', the benefit or satisfaction that a person obtains from the consumption of a good or service, is a key term in neoclassical theory. It is assumed that REM registers the level of utility of a good or service by selecting it in a certain quantity through exchange on the market. Using their sophisticated mathematical techniques, the high priests of neoclassical theory can measure two types of decisions. They can measure opportunity costs, in the form of goods and services rejected by REM as he makes his lightning calculations (they assume that the economic actor, REM, has perfect knowledge of all possible alternative choices). Also, they can measure the 'disutility' to REM of supplying his land, labour or capital. When REM supplies capital or land for exchange on the market he gives up the present or alternative use of the factor.

However, REM's supply of labour also registers as a disutility, implying that work is a purely unsatisfying activity. In Chapter 5 we see that pure disutility of labour belongs to the slave state. This provides us with a further paradox in view of the stress placed by orthodox economists on their libertarian stance. Moreover, the notion of disutility cannot be applied to finance capital with any degree of accuracy, since the lending of money is done through the agency of banking. As Chapter 6 indicates, the holder of original capital does not give up use of any concrete goods or services. The lending of money is a purely accounting process.

General equilibrium

The freedom of the individual is paramount in neoclassical theory. As Gee further explains, since the economy is made up of a large number of individuals and firms, the general equilibrium theorist raises two questions in relation to the economy as a whole:

1. Is there a theoretical price configuration for all goods and services, from, say, bananas for final consumption, to steel used as an input (a factor of production) in the production process, such that *none* of the economic agents (individuals or firms) could increase their utilities through further trade, that is, so that supplies equal demands in all markets? Such a state is known as general equilibrium.
2. If there is such a theoretical price configuration, can general equilibrium be attained, that is, are the price adjustments in the market likely to move towards it: and would the general equilibrium state be stable?⁸

Neoclassical economists see their task as pointing the way towards achievement of general equilibrium in order to secure social harmony. As Gee explains: 'If it cannot be shown theoretically that a general equilibrium price configuration will always exist, and that general equilibrium can be attained and maintained, *through free exchange between individuals* under reasonable assumptions, then it can hardly be shown that a spontaneous, harmonious, economic and social order is possible (let alone likely!).'⁹ As we have demonstrated, the assumptions postulated by economists are *not* reasonable.

The archaeology of economics

It is very difficult to argue with the logic encapsulated in Gee's statements, since they are the products of generations of theoreticians, each adding their contributions to the body of thought known as neoclassical theory. However, for those who wish to see sane management of natural resources and equitable distribution of access to the necessities of life for all who comprise human society, it is not enough to argue that 'we would not set out from here'. Economic orthodoxy has a firm hold over the minds of producers and consumers and the everyday reality they face. In order to change perceptions of reality it may be useful to retrace our steps in order to discover the primitive origins of Rational Economic Man, to work out 'how we got here'. First, however, it is necessary to pause a while and consider what has happened to the central subject of study, money.

Money

The greatest mystery of all is that, so far, the role of money has not registered. Economics students are informed early in their studies that, contrary to popular perception, money is not a major feature of the study of economics. Supply and demand reach an equilibrium through price, prices are money prices and REM performs his lightning calculations in money. Nevertheless the neoclassical theorist assures his students that money is a matter for mere accountants. Economic theory

studies equilibrium between commodities. Money is a commodity like any other. It just *happens* to be used because it is very convenient, and money is just assumed to 'be there'.

Of course, orthodox economics does have a theoretical analysis of money. In the dim and distant past, when money was waiting to be invented, commodities were bartered directly for each other. This was highly inconvenient. A person with a cow to sell and wishing to buy a cabbage had problems too numerous to mention here. The invention of money abolished the necessity to achieve a 'double coincidence of wants'. It offered four benefits. *As a medium of exchange* it guaranteed that people with something to sell would always accept money in exchange for it, while people wishing to buy would always offer money in exchange. *As a unit of account* it offered an agreed measure for stating the prices of goods and services. *As a standard of deferred payments* it enabled contracts to be written for future receipts and payments. And finally, money could be used *as a store of value* for later exchange.

The many and various forms that money can take, and how it is created and supplied to an economy, is explored within the chapters of this book. What is so striking is that it is actually possible to leave a close analysis of money to a later stage. This underlines the surprisingly minor role of money in neoclassical theory.

Although students are taught that money does exist, but is of little importance, they are asked to perform yet another leap of faith. The study of economics is divided into two levels, micro and macro.

Microeconomics is the study of the determination of relative prices of commodities, relative employment of the factors of production and relative distribution of income through the pricing of the factors of production. Subjects considered at this level include technological change, production and consumption, wages and earnings. Money is a useful tool as people register their choices or 'preferences', but at the micro-level money has no theoretical function: REM operates his lightning calculations on a moneyless barter-system, still mentally comparing cows and cabbages.

Macroeconomics is the study of the aggregated behaviour of the entire national income, price level and employment. The whole system, rather than its individual components, now becomes the subject of study. Macroeconomics looks at what determines unemployment, aggregate income, average prices, inflation and the differences in wealth among nations. At this level it is impossible to ignore the existence of money as a relevant factor. It therefore becomes a specialist branch of the subject (monetary economics). However, money is still regarded as functioning purely as a useful tool enabling the free market to achieve general equilibrium. In orthodox theory, money has no role to play in its own right as a determinant of the subjects of the study of economic theory – production, distribution and exchange.

From tradition to reason

Originally, the study of economics was a quest for a theoretical framework to explain and justify the break from an inequalitarian and unjust feudal tradition. The pre-industrial economy was dominated by a religious world view which placed God at the centre of the universe. The natural world was considered to operate according to God's decree, with higher plants taking precedence over lower ones, animals over plants and humans having dominion over all earthly interests. The human economy operated within this framework, each class within the hierarchical system being assigned appropriate duties and obligations towards other humans. In the medieval

world the lending of money and trading for profit were unacceptable: exchange was determined by custom in support of the God-given hierarchy of class. Industrial 'progress' could not be accommodated within this world view.

Therefore it became necessary to create a 'scientific' body of economic theory based upon objective facts and rational thought. In the 'Age of Reason' individuals should be at liberty to follow their own self-interest. If individuals wished to operate according to Christian values they were free to do so. They could not, however, cling to an outdated model of the universe in order to justify their oppression of others.

Adam Smith

The social science of economics was born under the protective shade of the Scientific Revolution. Rene Descartes, the seventeenth-century philosopher, mathematician and founder of analytic geometry, took the view that mathematics was more reliable than human sense perception. To Descartes, a distinction could be drawn between the incorporeal mind and the physical body with its clockwork attributes. Isaac Newton followed with his picture of an orderly and predictable universe governed by natural, God-given law. It was but a short step to assume that the economy had also been set in motion by the hand of God, so that attempts to improve upon it by policies formed by mere humans would upset the mechanism and disturb its ability to function in an orderly way. As a social science, economics was from the outset framed by its founding father's admiration for Newton's mechanical view of the universe.

In *An Inquiry into the Nature and Causes of the Wealth of Nations* (1776) Adam Smith established the scientific study of the market system, developing the world view that capitalism is necessary for freedom and wealth creation. The 'Invisible Hand' must be left to create order out of chaos. Smith's rational social science rescued commerce and industry from the restraints and regulations imposed by the ruling aristocracies of powerful trading nations. His targets were mercantilism and the physiocrats.

Mercantilism was the first alliance in modern history between government and business, established to increase national wealth and state power. Since power and wealth were equated with gold and silver, the mercantilists believed that output of domestic goods should be stimulated, while domestic consumption by the masses should be limited. Meanwhile imports should be discouraged by tariffs or quantitative restrictions and exports encouraged, in order to create a favourable balance of trade. In this way a country would have a strong economy, with wealth and power flowing to its aristocracy. The role of the church, allied to government or business interests, is outside the scope of this analysis, save to note that church leaders tended to be drawn from the families of the powerful, whether landed aristocracy or the newly emerging bourgeoisie. For this reason the church was attacked *both* as an agent of reaction *and* as condoning new forms of exploitation. Hence the attraction of the rational scientific approach to the study of society. Wealth accumulation was allowed to become the dominant value-system.

However, Smith's rejection of physiocratic theory presents the most intriguing insights into the future development of economics. Based in France, the physiocrats argued that land, the gift of nature, was the form and source of a nation's real wealth. Land, not mercantilist trade, enabled agriculture to produce a positive net product in excess of its production costs. Hence agriculture was the only truly productive enterprise. The physiocrats took issue with government restrictions, mercantilist

subsidies and privileges which protected industry and commerce. In their view manufacturing produced no more than it received. It generated no surplus. Their proposals included the elimination of the feudal landholders' tax exemption, relief of peasant farmers from their heavy tax burden and an end to the protected status of manufacturing.

On the eve of the Industrial revolution in England, Smith's positive view of the role of manufacturing in the creation of wealth had more appeal than the views of mercantilists on the one hand and physiocrats on the other. Reared in urban comfort, Smith identified the peasant lifestyle with material, cultural and spiritual poverty. In his view, *production* created real wealth. Trade restrictions and gold accumulation did not create wealth, neither was land the ultimate source of wealth. Rather, free trade and the creation of machinery and new technology existed in a symbiotic relationship: the expansion of markets would enable the economy to grow, creating wealth for all. Workers and merchants would be free from feudal overlords and state bureaucracy. As machinery replaced the sweat of the brow in rural field and urban factory alike, wealth could be created in abundance so that all could live in urban affluence. Although misguided, this exhilarating dream forms the basis of Western economic thought.

The selfish economist

Smith presented two concepts which have underpinned economic theory throughout its history: *self-interest* and the *division of labour*. The two are closely linked. In a world where people are motivated by pure self-interest, where tasks are divided up in the name of speed and efficiency, both the notion of service to others within the community and the intrinsic satisfaction of labour are rejected. 'It is not from the benevolence of the butcher, the brewer or the baker, that we expect our dinner: but from their regard for their own interest.' In Smith's well-known sentence the theory of the money economy was born.

Smith regarded specialisation as the key to the growth of wealth in a nation. At the level of the individual worker, he argued in his famous example, one worker *could* create a pin unaided, but the process would be very inefficient. If ten men specialised in the ten separate stages they could make 4,800 pins each, 48,000 in total, where one worker on his own would struggle to produce twenty. On the same principle, specialisation between trades and countries would improve skills, vastly increasing output and thus expanding economic growth. The question of need – whether there was intrinsic utility in owning more pins or other artefacts of the industrial age – did not enter into the debate. It was assumed that expanding markets were necessary to put food on the workers' tables.

On its own, division of labour merely initiated growth in the industrial process. Growth needed to be maintained through capital accumulation, for somebody had to buy the new machines and pay for the raw materials and the wages (*i.e.*, to buy fixed and circulating capital). Production takes time. When workers enjoyed some access to subsistence from the land, wages might be paid *after* production and sale had been completed. However, the urban landless labourer must be paid in advance from an accumulated pool of wealth, the 'wages fund' which was thought to rise as production expanded. As profits rose, they enabled manufacturers to accumulate plant and machinery – capital – the life-blood of the economy.

Private ownership, private wealth

The accumulation of property gave rise to a further principle of the secular social science of economics that was novel to the Industrial Revolution, the notion of private ownership of property. Following John Locke's natural rights arguments, Smith held that accumulated private property should be protected from state appropriation. Manufacturers needed to accumulate capital in order to acquire the machines, raw materials and labour essential to the expansion of wealth production. The vesting of property in individuals by virtue of their *future* potential to create wealth, unhindered by community rights and obligations, accorded well with the Newtonian vision of a clockwork society. Where the scale of production was small, the numbers of manufacturers capable of entering the market would be large. Hence competition would be the dominant regulatory influence in the 'atomistic' economy of self-interested individuals.

According to Smith, unregulated natural laws operating in the economy enable the market mechanism to work through a process of price adjustment. The money price of a commodity is part of a natural economic balance. Although fluctuations in supply and demand may cause the price of a commodity to deviate from its 'natural price', such deviations will only be temporary. Over the long term the price of every commodity is determined by its costs of production. The forces of competition, he argues, are the vital regulators of the economy. Individual consumers and suppliers are both too small and too numerous to influence the market as a whole. Left to itself, the market is completely self-regulating.

Although the value of wealth created by self-interest and the division of labour could be quantified and measured, a question lingered to trouble Smith's disciples: how was value created? Money was merely a measure, of no intrinsic value. Did all wealth come from the land, as the physiocrats maintained? Could it come from machines, although they were themselves created? Smith advanced the labour theory of value, the notion that the value of a product can in some way be equated with the quantity of labour used in its production. In the atomistic world of economic theory the questions of value creation and of values struck a discordant note. The labour theory of value, further developed by Ricardo, and in turn by Marx, was bypassed by mainstream economic theory.

The classical economists and J. B. Say

Smith's theoretical framework dominated economic thought for the following century. The classical theorists of this period believed in economic, political and religious freedom, that is, freedom from traditional restraints. Government should not interfere save in matters of national military defence and criminal justice, where protection of private property was vital. The maintenance of the unprofitable infrastructure and institutions necessary to promote economic growth were also sanctioned as 'rightful acts of government'. Ricardo, Malthus, James and John Stuart Mill refined and developed Smith's theories. However, it was J. B. Say, the leading French advocate of *laissez faire*, who amplified a crucial aspect of Smith's theorising, the neutrality of the role of money in wealth creation.

Say followed Smith in regarding money as a neutral arbiter of exchange. According to Say, money has no intrinsic value. It follows that supply and demand are inextricably linked. Say's theory of the market rested on the concept that every supply

creates a demand. Hence product exchanges for product: every commodity put on the market creates its own demand, and every demand exerted on the market creates its own supply. Therefore in the clockwork economy there can be no *general* glut of commodities, no *general* over-production. Since money has no intrinsic value, savings will be invested in new production, generating new demand and re-establishing the balance. Hence a glut of an individual product is a symptom of a temporary malfunction which should be left to correct itself. The classicals, including Marx, expended considerable mileage on these issues.

However, it is in the theory of *money* that Say consolidated Smith's mechanical principles of economic activity, paving the way for general competitive equilibrium theory. The presumed neutrality of money (Smith), and asserted neutrality (Say), forms a major plank upon which the mechanism of free markets and the free choice of REM are based. Hence the supposed neutrality of money was a principal point of contention by Douglas, which thus sets him apart from the developing orthodoxy of neoclassical theory.

Theories and practicalities

The Scientific Revolution established that natural objects had neither souls nor emotions, being impelled by physical forces alone. Since the science of economics was founded upon the same principles, it followed that economics was the study of individuals impelled by impersonal forces. As practitioners of a positive science, economists sought to ensure that normative values based upon subjective opinions of individuals or groups (*i.e.*, beliefs in any but money values), did not interfere with the free play of market forces and so hamper long-term economic progress.

Many economists struggling to understand the new social science drew attention to the unsustainability of unrestrained economic growth. In 1857 J.S. Mill questioned the value of 'the kind of economical progress which excites the congratulations of ordinary politicians; the mere increase of production and accumulation'. Using thoroughly normative language, Mill expressed the view that an undiluted diet of material satisfactions in overcrowded urban conditions might be limited in value:

Nor is there much satisfaction in contemplating the world with nothing left to the spontaneous activity of nature; with every rood of land brought into cultivation, which is capable of growing food for human beings; every flowery waste or natural pasture ploughed up, all quadrupeds or birds which are not domesticated for man's use exterminated as his rivals for food, every hedgerow or superfluous tree rooted out, and scarcely a place left where a wild shrub or flower could grow without being eradicated as a weed in the name of improved agriculture. If the earth must lose that great portion of its pleasantness which it owes to things that the unlimited increase of wealth and population would extirpate from it, for the mere purpose of enabling it to support a larger, but not a better or happier population. I sincerely hope, for the sake of posterity, that they will be content to be stationary, long before necessity compels them to it.

It is scarcely necessary to remark that a stationary condition of capital and population implies no stationary state of human improvement. There would be as much scope as ever for all kinds of mental culture, and moral and social progress; as much room for improving the Art of Living, and much more

likelihood of its being improved, when minds cease to be engrossed by the art of getting on. Even the industrial arts might be as earnestly and as successfully cultivated, with this sole difference, that instead of serving no purpose but the increase in wealth, industrial improvements would produce their legitimate effect, that of abridging labour.¹⁰

Although generally more optimistic about the long-term outcomes of industrial capitalism, Marx also sounded a cautionary note:

In modern agriculture, as in the urban industries, the increased productiveness and quantity of the labour set in motion are bought at the cost of laying waste and consuming by disease labour-power itself. Moreover, all progress in capitalistic agriculture is a progress in the art, not only of robbing the labourer, but of robbing the soil; all progress in increasing the fertility of the soil for a given time, is a progress towards ruining the lasting sources of that fertility. The more a country starts its development on the foundation of modern industry, like the United States for example, the more rapid is this process of destruction. Capitalist production, therefore, develops technology, and the combining together of various processes into a social whole, only by sapping the original sources of all wealth – the soil and the labourer.¹¹

However, mainstream orthodoxy threw caution to the wind. Economic theorists increasingly rejected the notion that human beings and their actions were rooted in space and time of everyday earthly reality. Hence the science of economics studied a particular version of reality, the material aspects of human activity capable of being isolated from all other dimensions of reality and measured in terms of money. Failure to establish the existence of the ether led in science to the suspension of belief in time and space and the establishment of the relativity principle. Similarly, failure to establish the existence of a value system outside the money economy led to belief in a market economy operating outside time and space.

Divorced from everyday life, economic theory began to merge with the body of ideas known as ‘political economy,’ as a means to inform and justify political change. In this form it emerges as neither natural nor scientific. Shorn of its traditional community and religious restraints, unbridled self-interest would, left to itself, result in a permanent state of mayhem and destruction. The freedom to starve and the freedom to exploit, or be exploited by, others was enshrined in a legal system which rejected traditional rights and duties in favour of the sanction of physical force.

On the ground, in the real world, the history of ‘economic progress’ is a catalogue of injustice and brutal suppression. Hanging in chains, the highland clearances, enclosures, transportations, the slave trade, colonialism, and child labour in mines and mills are justified by economic historians as ‘adjustments’ necessary to smooth the path of economic progress. The seizing of the commons and the creation of the institutional framework of private ownership of land, capital and intellectual property in its many forms was justified by the theory of market freedom.

Economics became a new secular religion, beautiful in its soaring logic, yet divorced from the land and from traditional social restraints necessary for the long-term survival of the human venture. Whilst Marx, Mill and many others searched for explanations, traditional checks and balances were stripped away in the name of a ‘freedom’ informed by economics, enshrined in law and consolidated by force. Economic theory became a belief system in which faith had a greater role to play than fact.

From political economy to neoclassical economics

As economists rejected the normative values of political economy in favour of a more 'scientific' body of theory the number of assumptions, stated and unstated, increased. When assumptions conflicted with reality, economists increasingly advocated policies which were undesirable to many people. A common assumption made by economists was that 'factor endowment' (who owns what in the first place) could be taken as 'given', having no bearing on outcomes (who ends up with a massive share of the cake and who ends up with the crumbs). However, the fact that some individuals might own land, others capital and many nothing more than the labour of hand and brain was of considerable significance in relation to income distribution.

The assumed irrelevance of 'factor endowment' to influencing outcomes was further disproved by the vast increases in scale of productive enterprises in the latter part of the nineteenth century. Whereas Smith believed that competition would prevent monopoly, Marx more accurately predicted that the search for profit and higher levels of technology would result in production being concentrated in large enterprises. This 'second industrial revolution' placed enormous power in the hands of private banks and the joint stock companies they financed. Small farmers, businesses and landless workers were powerless to negotiate with vast enterprises, which followed the introduction of the internal combustion engine, transcontinental railways, steel manufacture of precision tools and the oil and electricity industries. Although industrial power was concentrating in fewer hands, economists continued to advocate *laissez-faire* policies, enabling states and industrialists to cooperate in a form of economic development based on state enforced 'freedom'. As economic activity broke the bounds of tradition and ignored the physical restraints of nature, economic theory was invoked to guide policy formation.

Money and value

The definition of wealth or 'value' presented a problem. The mercantilists equated particular commodities – gold, silver and other precious metals – with wealth and power. However, as the industrial revolution progressed one did not require formal training in economics to notice that money did not hold a constant value. When gold was used as money, a gold rush in South Africa or California would exert a discernable economic impact. The creation of money does not create wealth: it merely facilitates the extension of the money economy into areas hitherto not monetised.

Wealth might, perhaps, derive from land, capital or labour. Neoclassical economists rejected land as the source of all value: it held potential, but did not create wealth. Coal in the ground, timber in the forest and wool on the sheep possessed potential value, but it did not register within the economy. Perhaps exchange created value? Clearly it did not. If machines were the source of wealth, this might explain and justify the disproportionate share of wealth claimed by the owners of large factories. However Marx, following Smith and Ricardo, argued that labour was the ultimate source of wealth, since machines were the product of past labour. The debate over the relationship between money, wealth and value was neatly sidestepped by the so-called 'marginalist revolution.' Occurring in the 1870s, this theoretical 'revolution' coinciding with the 'second industrial revolution,' enabled economics to evolve into a pure science of society. But this pure economic science was constructed upon a

question that was unresolved and eventually deemed irrelevant by default. Despite heated controversies over the instability of money throughout the nineteenth century, the debate over the nature of the medium of exchange and its relation to wealth, value and general economic activity was never pursued, still less resolved.

The evolution of economics into a pure science of society gave the discipline a new status. As in any other science, theoreticians adopted the view that significance rested in measurable and hence countable objective facts. While the *application* of this knowledge might rest upon subjective opinion and the outcome of debate, the role of the theorist was to describe how the system worked. The task of the economist was to observe and measure the mechanisms which made the market tick. The scope for mathematical calculation of market transactions was evident. A crucial question remained; what was being measured?

Utility

Neoclassical economic theory is based upon the ethical principle of hedonism. Hedonism is the doctrine that moral value can be defined in terms of pleasure and that the pursuit of pleasure is the highest good. The doctrine of utilitarianism was enshrined as economic theory's most fundamental assumption through the work of Jeremy Bentham. According to this doctrine, 'right (sic) action consists in the greatest good for the greatest number, that is, in maximizing the total benefit resulting, without regard to the distribution of benefits and burdens' (*Collins English Dictionary*). The implications of accepting this doctrine as the basic assumption underlying the objective science of society are profound, and beyond the scope of this book.¹² It is sufficient to note that students of economics are swiftly marched on to the next point. Accepting that pleasure can be greater or smaller introduces the notion that it can be measured as an objective fact. Rational Economic Man was in business!

Equilibrium

Economists took the concept of equilibrium in Newtonian physics and applied it to the market. Just as the harmony of the spheres indicated that equilibrium in the natural order was God's design, a balance among contending economic forces was normal and natural, a part of the same overall design. Equilibrium can be static or dynamic. In physics an object in dynamic equilibrium moves along a predictable path over time. It is kept on that path by the balance of opposing forces as it moves through free space. Speed, distance and force can be quantified and measured.

Similarly, economists floated the concept of an 'equilibrium' price maintained by the forces of supply and demand. Their argument is traditionally illustrated by appropriate graphs showing two intersecting lines, one rising from left to right labelled 'supply', the other falling from left to right labelled 'demand'. The higher the price¹³ of a commodity (guns, apples, anything) the greater number suppliers will bring on to the market. The lower the price, the greater the number consumers will be willing to buy. As price rises, supply rises and demand falls. The equilibrium price is reached when the forces of supply and demand are in balance at the point where the two lines intersect on the graph. Once this price is established it will persist, so that the market maintains its equilibrium.

Although Alfred Marshall is hailed in Britain as the high priest of neoclassical economics, Leon Walras was the pure theorist whose fascination with mechanical systems encapsulates the world view of the late industrial revolution. Walras' complex mathematical general equilibrium theory was published in the 1870s. The concept of two commodities (one of which may be money) exchanging at an equilibrium rate was extended to embrace all commodities and factor markets simultaneously. Walras' economic universe operated like a machine. As prices moved up and down, they functioned like levers and pulleys in a mechanical system.

Building upon the work of economists like Say, Walras regarded the economy as a closed system in which markets cleared at each stage of operations, resulting in multi-market stability. Hence if all markets except the wheat market and at least one other are in equilibrium, adjustment must automatically occur. If, at the present price of wheat, the amount of wheat demanded is greater than the amount supplied, the price of wheat must be raised to eliminate excess demand.

However, all markets are interdependent. Since all equilibria were defined with reference to the initial price of wheat, this price increase must upset the equilibria in other markets. To accommodate the change from the 'wrong' to the 'right' price, further adjustments in all other markets must be made, and then again in the wheat market, continuing until the whole system moves relentlessly towards multi-market equilibrium.

As within the Newtonian model, economists used the calculus to aid their interpretation of data presented by their observations. Whether applied to the natural world or to human economic agents, it proved possible to study the effect on a function of an infinitesimal change in an independent variable which tends to zero. 'Marginalist' theory has dominated economic theory ever since: more on this below.

As economists constructed their mechanical model universe, several practical problems arose. Ignorance of alternatives, for example, could hamper the smooth working of the system of pulleys and levers and act as an impediment to the blind forces of the market. Therefore such ignorance had to be eliminated as a possibility. If simultaneous equilibria were to be achieved, market agents needed to know about all quantities and all prices. In this way fine adjustments could be made smoothly. Walras conceptualised the 'auctioneer', a hypothetical mechanism which allowed buyers to reduce their price offers when there is excess supply and increase them when demand is in excess. In this way both buyers and sellers discover the true equilibrium price before any actual exchange takes place.

Hence price is *not* after all determined in actual markets through the working of supply and demand at disequilibrium prices over time. It pre-exists as an ethereal force. Prices of the factors of production, including wage rates, are determined within the mechanical system in such a way that there is no 'involuntary unemployment' or poverty. Excess of any type will register and be corrected by market forces. Perfect knowledge ensures that no unfair advantage exists. Hence the profit rate is always and everywhere equal, and no costs are involved in transferring factors of production across physical space. Monopoly cannot exist.

Marginalism

Economists needed data to feed into their models. While Smith and the early classicals focused upon output, the supply of wealth, the marginalists focused on demand, adopting Bentham's hedonistic view of human nature. The good of the community as a whole was determined by the interest of the individual in increasing

his total sum of pleasure and diminishing his total sum of pain. The marginalists' calculus of pleasure and pain sought to establish that perfect competition maximises pleasure while minimising pain.

The point of change in pleasure or pain is called the 'margin'. Hence 'marginal pleasure' is an extremely small increase in pleasure over some arbitrary unit of time, capable of expression in terms of Newton's calculus. In a world of perfect competition people acted, at the margin, as rational balancers of pleasure and pain, creating a mathematically elegant equilibrium. In this mystical world Rational Economic Man, the economic agent, was entirely rational, never acting on impulse. Marginalists focused upon the point of change between variables, extending the marginal principle to all economic decisions made by producers and consumers. Motives, inclinations and desires were conscious and consistent. There was no room for emotion.

Value, in marginalist theory, is based upon psychological satisfaction. A product is therefore defined as any object or service which can give pleasure or avoid pain. This subjective value system is illustrated by the 'law of diminishing marginal utility'. Taking a range of products, different levels of satisfaction will accrue from consuming more and more units of each good or service. It is possible to indicate the amount of extra satisfaction associated with each unit, or 'marginal' increase in quantity. The diminishing 'want-satisfying power' to an individual of consuming additional units of the same good or service can be represented in terms of declining numerical values. In pure theory, these subjective values would be represented in terms of other commodities. In practice, prices are quantified in terms of money, considered a more 'scientific' measuring device.

Marginalism and distribution

The mechanical economic universe of the marginalists consists of two types of agents, producers and consumers, operating in their different markets. Consumers register their demands, according to their diminishing marginal utilities and preference orderings, while producers supply goods and services on the commodity markets. Meanwhile, the factor markets combine the factors of production – that is, land, labour and capital (machines and plant) – to maximum advantage in the production of wealth. That wealth constitutes the income of society and is distributed according to a law which gives every agent of production the amount of wealth created by the agent. Factors are rewarded according to their 'productivity', which is itself determined by observable laws. According to the 'law of diminishing returns', a firm using constant amounts of capital and land but employing additional workers will find that the output of each additional worker will eventually and successively decline. The same is true for the other factors of production. Left to itself, the system assigns to all people the value of what they have specifically produced. The allocation of total income from production in the form of wages, interest and profits is fair and equitable because each individual is paid according to their worth. In this world of suspended animation, technology never changes and so cannot disrupt the fair and equitable distribution of wealth.

The theoretical flaws in the 'science' of economics

Early neoclassical economists and social Darwinists shared the view that people neither can nor should change society through collective action. In the late nineteenth

century, and ever since, powerful business leaders concurred with the view that survival of the fittest was a law of nature, so that human regulations constitute an unnecessary hindrance to the struggle for survival. As neoclassical theory asserted that economic progress could only be hampered by government regulation and interference, massive industrial combines concentrated monopolistic control over the production of coal, oil, iron, steel and cotton.

Although practice and theory have seen adaptation and modification over the past century, the basic paradigm of Newtonian general free market equilibrium (sometimes termed simultaneist) economics holds sway. In the world of equilibrium economics time is suspended and money has no role to play save that of a facilitating tool. In the real economy, goods exchange for money, at money prices. If price was inflexible, and determined before exchange took place, there would be nothing for economists to study. 'Any analysis of a real market economy has to explain trade at disequilibrium prices because they are the only prices anyone actually uses. To start by assuming they do not exist is like studying a centipede by nailing it to the floor'.¹⁴ Exchange at a point in time establishes price at a point in time. Nevertheless, generations of students have suspended their disbelief in order to study economic theory, learning to dismiss the economics of so-called alternatives economists like Douglas and Marx as unsound and heretical.

The fact that money plays a proactive role in the real economy demolishes the entire edifice of equilibrium economics. According to Freeman, 'if a simultaneist allows money into his or her system as anything other than a numeraire, s/he confronts an insuperable problem. If agents are allowed to accumulate money in exchange, then *any* set of price ratios are compatible with *any* required distribution of products. If I have a sweet and you have a biscuit and we want to strike a deal, then under barter we can only exchange at the rate of one sweet to one biscuit. But if money can change hands, you can sell me the biscuit for £2, buy the sweet for £1, and end up £1 the richer. That's all there is to it. The determinacy of a simultaneous system is wrecked by this simple calculation'.¹⁵

Conclusion

The Douglas analysis questioned certain basic assumptions of neoclassical theory. While Walras regarded the economy as a closed system in which markets cleared at each stage of operations, resulting in multi-market stability, Douglas challenged the ability of markets to clear. According to general equilibrium theory, prices are infinitely flexible. However, as Douglas pointed out, prices cannot fall below total costs. Orthodoxy holds that a depression, gluts and unsold goods and involuntary unemployment cannot happen where markets and prices are infinitely adjustable. Douglas pointed out that maybe these things should not happen, but they were occurring nonetheless. Douglas' analysis was bound up with a deep criticism of the nature of money: yet equilibrium theory is silent on this topic.

Douglas re-opened the debate about money, value and wealth. In most economic analysis, money is just assumed to 'be there'. Its origins, its methods of creation and its point of entry into the economy are not considered particularly relevant either to broad economic theory or specific economic problems. Yet, for Douglas, the matter of how money was being created, and the macro and micro economic effects this had, was pivotal. Douglas rejected the basic theoretical assumptions of orthodoxy in favour of an analysis which could be applied in the real world.

If prices are determined mechanically by the exchanges they are set to effect, money cannot perform as a store of value or in any other operational role. Neoclassical theory is an elegant belief system which enshrines money and money value as the hidden motive-power of a clockwork economy where flesh and blood, soil and sea, sun and sky, indeed life itself have neither relevance nor meaning. In the real economy money has more significance than as a mere facilitator of exchange, and cooperation is essential to the survival of all, even the fittest. It has been the purpose of this book to explore the role of money in relation to the real world of production, distribution and exchange.

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- ¹ Soros, George (1997) 'Capital Crimes' *The Guardian/The Week* January 18 pp1-4.
- ² Gaitskell, Hugh T.N. (1933) 'Four Monetary Heretics' in G.D.H.Cole (ed) *What Everybody Wants to Know About Money* London. Gallancz
- ³ Gee, J.M. Alec (1991) 'The Neoclassical School' in Douglas Mair and Anne G. Miller (eds) *A Modern Guide to Economic Thought: An Introduction to Comparative Schools of Thought in Economics* Aldershot and Brookfield, Edward Elgar. P71.
- ⁴ Gee, op. cit. p83.
- ⁵ Nelson, Julie (1993) 'Gender and Economic Ideologies' in *Review of Social Economy* Vol.LI, No.3.pp287-301
- ⁶ Veblen, Thorstein (1915) 'Why is Economics not an Evolutionary Science?' in *The Place of Science in Modern Civilisation and Other Essays* New York, Russell & Russell (1946 edn). P73-4
- ⁷ For example, if two people clean their own homes, as far as the economy is concerned they are not contributing wealth to the economy. However, if they each agree to clean the other's house in return for a money wage, they are now contributing to society's economic welfare. Their work registers as a rise in Gross Domestic Product (GDP). To orthodox economists this is merely an amusing aberration. However, it has profound implications, not only in terms of measuring wealth but also in the distribution of income.
- ⁸ Gee, op. cit.p83, emphasis original.
- ⁹ Gee, op. cit.p84, emphasis and parenthesis original.
- ¹⁰ Mill, John Stuart (1857) *Principles of Political Economy* Vol.II, New York. D. Appleton & Co. (1901 edn).p339-40
- ¹¹ Marx, Karl (1867/1887) *Capital* Vol. I. Moscow. Progress Publishers (1974 edn).pp 474-5
- ¹² See Lutz, Mark A. and Lux, Kenneth (1988) *Humanistic Economics* New York. Bootstrap Press
- ¹³ Note that the price of a commodity must be expressed in terms of some other commodity for which it is exchanged. That can be anything. Normally it is money, which economists regard as just another (but very useful) commodity.
- ¹⁴ Freeman, Alan (1995)'Marx without Equilibrium' in *Capital and Class* 56 (Spring) pp49-89.
- ¹⁵ Freeman, Alan and Carchedi, Guglielmo (eds) (1996) *Marx and Non-Equilibrium Economics* Cheltenham and Brookfield. Edward Elgar. P21.

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