

ARTICLES

Towards a Re-evaluation of the Role of Finance in the Causation of Environmental Degradation

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ABSTRACT This paper relates the long-neglected Douglas/New Age texts to contemporary concerns at the relationship between economic activity and environmental degradation. Although completed by the early 1920s, these texts anticipated the adverse social and environmental impacts of an increase of centralisation and globalisation of finance upon local policy formation.

Recognition of the adverse impact of the industrial era upon the human and natural resource base on which our lives depend has, in the mid-1990s, given rise to acceptance that the system is not going to be corrected by minor tinkering at the margins (Korten, 1995). Models which incorporate the destruction of non-renewable resources and environmental pollution within the paradigm of neoclassical economics are fraught with inconsistencies (see e.g. Pearce *et al.*, 1989, 1991). An alternative theoretical framework based on local autonomy may therefore prove constructive. Many attempts have been made in recent years to create an economic analysis which could incorporate ecological issues within the basic precepts of general equilibrium theory. The present authors consider that this search could usefully be complemented by an analysis of the now largely neglected Douglas/New Age texts.

In 1922 the Douglas/New Age analysis of the capitalist process of production and distribution was deemed sufficiently important to be reviewed, and then rejected, by a special Labour Party working group (Labour Party, 1922; Burkitt & Hutchinson, 1994). These texts informed the social credit movement and were widely studied throughout Canada, the USA, Australia, New Zealand, Japan, Norway and France in the interwar years (Hutchinson, 1995). Their core analysis of economic activity as a dynamic process accords well with Freeman's (1995) liberation of Marx from the static general equilibrium straitjacket. Furthermore, some aspects of the texts offer the potential for the development of an ecological economics compatible with sustainable development based on the devolution of finance to local industry. The contemporary relevance of the Douglas/New Age texts is explored in this paper.

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Ecology and Economics

Although the uneasy relationship between the economy and the environment has been minutely scrutinised over recent decades, informed communication between economists and ecologists remains problematic. As Orr (1994) demonstrates, it is possible for an economist like Nordhaus of the US Adaptation Panel of the National Academy of Sciences to maintain that a hotter climate will "mostly affect those sectors [of the economy] that interact with unmanaged ecosystems such as agriculture, forestry and coastal activities". The rest of the economy, including that which operates in what Nordhaus has called a "carefully controlled environment", will be relatively unaffected. According to Orr, Nordhaus assumes that "shopping malls and presumably the activities of economists, will barely notice that things are considerably hotter" (Orr, 1994, p. 80). In Nordhaus's view, "The main factor to recognise is that the climate has little economic impact upon advanced industrial societies" (quoted in Orr, 1994, p. 80). Orr comments:

Given what is at stake, errors of fact and logic committed by Nordhaus and the Adaptation Panel deserve close attention. For example, the belief that the decline in agriculture and forestry would be of little consequence because they are only 3% of the US economy is equivalent to believing that since the heart is only 1 % to 2% of bodyweight it can be removed or damaged without consequences for one's health. (Orr, 1994, p. 83)

Orr draws a parallel between experts reading different dials and applying their readings to the same problem. If they were two pilots in danger of crashing a plane, their minds would be concentrated on overcoming misapprehensions. Ecologists and economists need to learn how to take the same measurements into account. At present, biologists concerned with conservation note "the dials and gauges reporting on the state of the world" (Orr, 1994, pp. 74-75) as indicating potentially catastrophic degradation of the natural environment and a collision between economic growth and the carrying capacity of the earth. In contrast, the dials and gauges that are being read by economists give reason for optimism. "Gross world product has increased throughout the twentieth century by some 1300% and continues to rise" (Orr, 1994, pp.74-75). As per capita wealth continues to grow it is possible for economists to argue that technological innovation will combine with higher prices to produce substitutes for scarce resources. If the price is right the market and technology will do the rest. Orr observes that biologists are paying attention to the wider economy of the biosphere, while economists observe the "subeconomy humans have built by exploiting nature". While both sets of indicators may be 'correct', Orr likens the process to a wager as to the extent to which technology is capable of rendering human society able to survive independently of healthy ecosystems and a stable climate (Orr, 1994, pp. 74-75). The dials or indicators of value which have served the economy throughout the industrial revolution may no longer be proving to be reliable.

Environmental Evaluation

As Mulberg demonstrates, "values for our *homo economicus* are identified with opportunity costs and are measured in money. The higher the cost, the higher the value" (Mulberg, 1992, p. 4). Hence an increase of pollution-generating activity aggregates with defensive expenditures (the cost of cleaning up the environment) to increase GNP and by implication welfare. Cost-benefit analysis is an equally flawed means to evaluate the effects of economic activity which fails to register in the process of market activity. Costings of planning proposals, e.g. for nuclear installations and road construction, incorporate estimated values for human lives judged statistically likely to be lost as a direct result of the operation of the new project. Each life is given a value (e.g. £9000 in 1970 [Ball, 1979]). Logically, therefore, a life can be traded and "anyone with £9,000 can purchase a life" (Mulberg, 1992, p. 4). The evaluation of environmental resources in this way is similarly problematic. 'Let the polluter pay' implies the right to pollute. Equally, resources can take forms which are not commodities, e.g. clean air, and therefore cannot be priced using market mechanisms of valuation. In short, attempts to accommodate an emerging consciousness that resource depletion may constrain unlimited growth in economic activity (Hirsch, 1977) within orthodox economic theory appear to be flawed. Such theory imputes to financial mechanisms a non-existent neutrality *vis-a-vis* economic decision-making processes and policy formation.

The perception that money may not be a neutral facilitator of economic activity emerged in the 19th century, originating with the Ricardian labour theory of value and culminating in Marx. The economic problems of the interwar years of this century generated a further wave of economic theories, including those of Douglas, Eisler, Soddy and Gesell (Gesell, 1920; Gaitskell, 1933; Kennedy, 1995). Of these latter analyses, 'Douglasism' provided the most coherent and complete critique of finance as the motive-power of industrial growth and capitalist production.

'The Delusion of Super-production' was the first in an extensive series of articles, pamphlets and books published by Douglas and circulated worldwide throughout the interwar years. From 1919 to 1922 most of Douglas's work was first published in *The New Age*. We contend that its editor, A. R. Orage, provided more than editorial guidance in the development of the Douglas/New Age texts (Hutchinson, 1995; Hutchinson & Burkitt, 1996). When he met Orage in 1918 Douglas had little more than a hazy notion that finance distorted policy formation in manufacturing industry (Douglas, 1934). In contrast, Orage had collaborated with S. G. Hobson, A. J. Penty, G. D. H. Cole and other leading socialists in exploring the economics of guild socialism, and had condensed the basic themes in his *An Alphabet of Economics* (Orage, 1917; Hobson, 1919). He concluded that continued dependence upon a capitalist financial system would render guild socialist [decentralist] proposals inoperable. Douglas's observations of cost accounting at Farnborough Aircraft Factory in 1916-18 provided the key missing element for an alternative approach to finance. Thus Douglas became the vehicle for the expression of the newly synthesised economics of guild socialism. The close collaboration between Douglas and Orage continued until the

rejection of the 'Douglas New/Age Scheme' by the Labour party and Orage's subsequent departure from *The New Age* and England in 1922 (Douglas, 1922a).

The Delusion of Super-production

In December 1918 *The New English Weekly* published 'The Delusion of Super-production', in which Douglas examined the argument that production would have to be increased in order to meet the financial costs of the destruction of the 1914-18 war. The article neatly encapsulates the substance of 'Douglasism'. In view of the subsequent misapprehensions as to the purport of the Douglas/New Age texts, which gave rise to the social credit movement, 'Delusions' is here paraphrased in full with extensive quotations. The five following paragraphs are a resume of 'The Delusion of Super-production' (words enclosed in quotation marks are quotes from the original Douglas texts). The original purpose of the texts emerges as a case for a sustainable economy based on a concept of sufficiency similar to that constructed by Gorz (Gorz, 1989, p. 112).

In 1918 it was being argued that the 'Great War' could only be paid for from the taxation of earnings predicted to result from increased output. Douglas observed, however, that before the war "the world was over-manufacturing in nearly every direction" (Douglas, 1918). The cost of selling a sewing machine (in terms of advertising and retail costs) had already overtaken manufacturing costs. Additionally, it was customary to produce a new model of motor-car each year "not novel in any real essential [but] automatically depreciating the value of the previous year's fashion". Efforts to stimulate absorption of surplus production at home were combined with a struggle for overseas markets in the 'less developed' regions of the world. War was the logical outcome.

Allowing for the difficulty of accurate comparison, on a "gold-standard basis" manufacturing plant in the British Empire had expanded "to the value of not less than £750,000,000". Industrial America, Japan, France, Italy and no doubt Germany and Austria had expanded on a similar scale. Most significantly, "repetition-production by modern methods" increased output per head "several hundreds per cent". This extension of capacity offered great potential for peacetime use. Assuming the existence of an extensive but by no means infinite supply of natural resources, markets could potentially be flooded with any article "on which a profit in manufacture can apparently be made".

In the immediate aftermath of war, replacement and repair of damaged housing and infrastructure would extend the potential of absorption, as would provision of a higher material standard of life. Within capitalist economics the capacity for absorption is represented by the total money and credit available in payment for goods. The assumption is that "super-production would mean high wages and the high wages would mean high absorption-power and so on".

However, new technology and extended production methods increase "overhead charges" (the costs attributable to tools and methods) in relation to direct labour costs. They also increase total costs of depreciation, obsolescence, scrapped materials, spent fuels, advertising, past labour, profits and so on. All costs increase the 'value' of the product. Under the capitalist financial system this 'value' must be recouped from the selling price of the

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product. "In consequence of this the book value of the world's production is continuously growing more and more in excess of the capacity to absorb and liquidate it." Therefore "a continuous rise in the cost of living absolutely must take place" (irrespective of any inflationary pressures). Hence the banker and manufacturer hold a mortgage on the "effective effort of the world's population". Even public works can only be provided through loans or taxation.

In this situation, neither high wages nor cheap consumer products will create a stable economic framework. The most dangerous delusion is to consider production *per se* as wealth. It is "about as sensible as a statement that because food is necessary to man he should continually eat everything". Production is a means to human ends, not an end in itself, and "the first need is for a revision of material necessities". What is required is a means to determine demand coupled with mechanisms to meet it, without the necessity for artificial stimulation of demand. So long as there is a sufficiency of resources to meet a realistic level of needs, wants are not, as the neoclassical economist assumes, infinite and insatiable. Fiat money comes into existence when banks create credit for the purpose of investment (see Galbraith, 1975 for a later explanation of this phenomenon). In deciding investment priorities, finance effectively determines what will be produced. Once money is reduced to its proper function as a medium of exchange, supply and demand will be free to follow textbook theory to determine price. Choices will cease to [be] constrained by the artificial question, 'where is the money to come from?'. In a future era "it may be found that the chief crime of the capitalist was that he was such a very bad capitalist, in that he neither recognised his assets, nor met his liabilities". In short, the Douglas/New Age texts provide an example of the anticipation by over six decades of the debate on sufficiency, sustainability and the shortcomings of the capitalist global economy.

The 'A + B Theorem' and the Just Price

The concepts employed in 'The Delusion of Super-production' crystallised into an analysis and a series of proposals which were (and are) incomprehensible in terms of neoclassical economic theory. Later, in a debate with Hawtry (Hawtry & Douglas, 1933) Douglas explained his standpoint: "I do not regard it as being a sane system that before you can buy a cabbage it is absolutely necessary to make a machine gun". In the same vein, the justification for aid tied to the export of armaments to Third World countries dominated by corrupt and repressive regimes on grounds of generating employment in the UK can be questioned. For example, the environmentally damaging Pergau Dam Project in Malaysia was funded by a British aid and trade deal on grounds that it would generate 29,000 man-hours of employment for 110 British firms (HMSO, 1994). The Scott Enquiry of 1995-96 flowed from a similarly misconceived quest to generate trade and industry.

The food manufacturing industry offers further examples of an economic system designed to generate work and distribute income regardless of the social or ecological costs and benefits. In 1971 reliable estimates by the food industry established that, allowing for a varied menu, total UK expenditure on food "*need*

only have been £1,800m". Actual expenditure amounted to £6,363million. "The population of this country could have been just as well nourished, just as healthy – *and spent four and a half thousand million pounds less than it actually did*" (King & Bullmore, 1971) (emphasis in the original). Since the processing, preservation and packaging of food provides employment and adds financial value, it is accounted as a positive activity by capitalist economics.

Examples of this type are logical extensions of the trends observed in 1918. The escalation to epidemic proportions of the production, consumption and reproduction of goods and services to which a monetary value can be attached has created environmental problems in terms of resource depletion and degradation. The benefits in terms of greater welfare remain unproven save in strictly financial terms.

In an attempt to explain the role of finance as the motive-power behind economic growth, Douglas devised the 'A + B Theorem'. In essence, this was a statement that the productive process was dynamic (see Freeman, 1995 for a critique of post-Bortkiewicz attempts to solve Marx's so-called 'transformation problem' from within a static framework). In an industrialised economy price is not settled by the free play of supply and demand as goods come onto the market. The goods are offered at a price which includes a series of past payments (costs) accumulated as they moved from raw materials through the stages of manufacture. This price must be recouped in all but exceptional circumstances if the system is to remain operational. The extension of production processes necessitates rigid control through market research, R&D and advertising to forestall the free play of supply and demand at the point of sale. As costs are incurred in a past period, even the product of a vertically integrated firm must be priced according to past costs.

At anyone time, therefore, the money in the hands of consumers will only be sufficient to cover total past costs if new money is constantly being created at an accelerating rate in respect of future production (for amplification see Douglas, 1922b, p. 141; Foster & Catchings, 1925, pp. 308-311). Hence the constant drive to expand the economy (Douglas, 1920; Mehta, 1983). State socialism, the nationalisation of industry, would provide no solution in itself, since socialist owners of a profit-accumulating economy could only maintain that economy through capitalist mechanisms, i.e. maintenance of the link between employment and personal income to ensure the existence of a working class.

Alternatively, a 'just price' mechanism could be introduced. The proposal was to control prices to the consumer through an index based on the ratio of potential production to actual consumption. The 'Draft Mining Scheme' was central to this proposal. It provided a model for local control of production and distribution based on a system of common ownership. The decentralised worker-controlled producer firms would be compensated for the difference between their costs and the selling price by provision of money through a central clearing house (Douglas, 1920, Appendix). Capitalist financial institutions would supply the skills necessary to implement such a system, but those skills would be provided at cost. The element of profit from the trade in money would gradually be eliminated. Although, in common with any proposal for change, the scheme

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appeared alien and complicated, Douglas and Orage were merely putting a new interpretation onto a familiar scene.

Douglas was familiar both with the potential of 'early tabulating machines' and with the complexities of the existing system of finance in industry. Money was constantly being created in the form of loans. A myriad of financial transactions was recorded daily in a host of different enterprises. In Douglas's view the system was 'man-made'. It was therefore not beyond the bounds of possibility that it could be replaced by a similar method, at once less complex but more efficient, of registering the wishes of citizens as producers and consumers. Supply and demand would operate in a free market unhindered by the artificial element of financial cost. It would no longer be necessary to count as wealth what was in fact waste (Douglas, 1919, p. 68), i.e. to pay (and therefore count as positive value) in the form of present 'costs' for past depreciation in the form of depleted energy, depreciated capital, consumed past labour, waste and pollution.

National Dividend and the Cultural Inheritance

Through historical accident the social and ecological consciousness of a Morrisonian guild socialism combined with theories of monetary reform to produce the potential to adapt the institution of finance to serve social and ecological ends. The Douglas/New Age texts provide a crucial exploration of the relationship between work, the desire for an income and economic policy formation. Then, as now, employment was sought in factories in order to secure an income with which to purchase basic necessities. According to Douglas, the production of armaments was a force in world politics "because millions of men and women get their living, as the saying goes, by working in armaments factories.... If those millions of human beings were not dependent for the means of consumption on a particular form of production, it is highly probable that the armaments business would languish" (Douglas, 1920, p. 83). In Douglas's view, factory work was not sought through a desire to produce and consume military hardware, nor were the mass of luxury items coming onto the market desired primarily for their intrinsic value. The 'material requirements' of the individual at anyone time were limited. The financial system thrived on scarcity, artificially induced if necessary by ploughing surplus products into the ground and dumping food at sea (Douglas, 1920). (Documentation of the same phenomenon in the 1980s and 1990s is offered in Lang & Hines, 1993.) Given a free choice, the option to produce and consume *less* and to enjoy more 'leisure' would become a realistic option. Unemployment was only unacceptable in so far as it entailed income insecurity and/or poverty (Douglas, 1919, 1920).

The payment of a national dividend as an inalienable, non-means-tested, non-work-related right to each citizen formed part of the package of proposals for reform of the financial system (Burkitt & Hutchinson, 1994). It removed the second incentive to participate in capitalist growth economics, that of the necessity to secure a livelihood. Enclosure and its denial of the right to provide for basic needs from village fields and common lands fails to emerge as a significant factor in neoclassical economic theory. The option to exploit labour

and the environment occurs in the absence of a common right to subsistence which would enable labour to negotiate its terms and conditions of employment without impediment. In 1992 *The Ecologist* devoted an entire issue to the history and implications of the privatisation of the commons. In a developed economy, wages, like profits, have come to be deemed essential to the maintenance of economic activity (Meade, 1938, 1993; Cole, 1944), because the latter is assumed to generate finance. If it ceases, where is the money to come from?

When a project is deemed essential, how exactly are the finances arranged? By way of example, Douglas answered this question by analysing the finances of the 1914-18 war. On the outbreak of war the money required to purchase supplies for the conduct of hostilities did not exist. Douglas detailed the steps whereby the government generated loans to cover wartime expenditure which could not immediately be recovered from taxation. Over the course of the war the national debt rose from £660 million to £7,700 million. This money was created out of nothing, mainly through Ways and Means Accounts, as described by the Committee on Currency and Foreign Exchanges, 1918 (Douglas, 1924, pp. 156-157). (The relationship between the government, the Bank of England and the commercial banks in the creation of this credit is described by Douglas with uncharacteristic clarity: Douglas, 1924, Ch. 5.) The loans (i.e. debt so created) represented neither labour expended nor consumption foregone, yet a section of the population was entitled on the basis of the wasteful, destructive activity of war to claim an unearned income drawn upon future production. The state, Douglas concluded, should lend not borrow, and should use the dividends so derived to pay an unearned income for all. The principle was already established.

The concept of a national dividend differs from proposals to pay a basic income drawn upon taxation of earned incomes under the present system (see Parker, 1989; Jordan, 1992). Douglas argued that individual effort as worker or capitalist played an infinitesimally small role in the creation of wealth in a developed economy. However strenuously applied, dedicated or concentrated the effort, the contribution of individuals paled into insignificance when considered alongside that of the collectively inherited knowledge of skills, tools and processes. The 'Common Inheritance' was collective and could not justly be appropriated to the exclusive use of powerful individuals or institutions, regardless of whether those institutions were under private or state control (Douglas, 1919, 1920, 1924). Payment of a national dividend to each citizen would enable individuals to call onto the market those goods and services they required, freed from the necessity to 'earn a living' by participating in finance-generating activity. For artists, writers and innovators in science and philosophy the scheme offered the financial freedom to pursue their calling. For local economies in general, and agriculture in particular, the scheme would offer a practical alternative to escalating environmental degradation arising from financial pressures.

Towards Local Economic Autonomy

The guild socialists' texts which pre-date the Douglas/Orage collaboration

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recognised the necessity to disentangle industrial policy formation from national and international finance. As early as 1913 the guild socialist S. G. Hobson noted that finance operated on an international scale and was subject to fads and fashions. "Today it may be rubber, yesterday it was nitrates or cycles, tomorrow it may be oil" (Hobson, 1919, p. 176). The guild socialists observed that decisions affecting productive and commercial activity at local level were determined by financial factors relating to the financial fashion of the moment and bearing little relationship to local needs. The Douglas/New Age proposals which arose out of these observations sought to transform the relationship between finance and policy formation.

In the 1990s, as in the 1920s, the physical effects of financial decisions occur at local level, in specific locations. Although financiers are, like the users of mobile phones, everywhere and nowhere at any one time, the availability of finance remains the determining factor for local economic activity. At local level, people are dependent upon the availability of finance to settle questions of employment, productive methods (e.g. organic farming or agribusiness) or whether a local woodland can be protected or be destroyed for a motorway. Issues of social need or environmental protection are accommodated uneasily as 'externalities', acceptable to the extent that they cause relatively minor 'distortion' of the market. The Douglas/New Age texts took the unusual step of reviewing the origins of money and observing the financial mechanisms involved in its circulation. Others have since elaborated the subject, most notably Galbraith (1975) but also Freeman (1995) in respect of Marx, and Niggle (1990) from an evolutionary economics perspective.

Like Niggle (1990), the Douglas/New Age texts suggested that the ways in which money enters the economy are crucial to the entire process of production, distribution and exchange. In a pre-industrial economy, with low division of labour and single-stage production, a commodity money could function purely to facilitate exchange. In such an economy, exchange was one step from barter: money came close to being a pure numeraire and markets cleared at each stage of production. In an advanced industrial economy, however, money was constantly being created in respect of *future* production. The process, undertaken by banks and monitored by economists, was conducted as if the rules of the pre-industrial barter economy held good under conditions of industrial production. According to the texts, nationalisation of the banking system would merely provoke a shift of private bankers to the nationalised banks which would be operated on the same presuppositions. The proposal, as outlined in the Draft Mining Scheme (Douglas 1920, pp. 147-212), was to adapt the present system to take account of present reality. Essentially, the proposal was to devolve responsibility for finance to the most local level on an industry basis. The idea followed from guild socialist theories of industry-based trade unions where manual, clerical and managerial workers combined to run an industry as a cooperative venture. In these guild socialist proposals the term 'industry' was very loosely interpreted to include not only mining, as in the Draft Mining Scheme, but also the medical 'industry', teaching, transport workers and so forth (see, e.g. Hobson, 1919, pp. 152-169). The common factor was a locally based,

vertically integrated guild, overseeing all stages of production through control over its financing, supported by a central clearing house.

The Douglas/New Age Texts in the 1990s

Although the detail of the Draft Mining Scheme is no longer relevant, the principle of local finance for local industry as a mechanism to check environmental degradation appears to merit further study. Finance administered locally for local purposes, overseen by a central clearing house, is a novel alternative to the debt-driven growth economics of global finance. Although theoretically compatible with both Local Exchange and Trading Schemes (LETs) and ethical investment (Sparkes, 1995), local 'industry' based finance extends these initiatives into a broader context in which ecological sustainability can become economically feasible.

Changing the relationship between financial mechanisms and policy formation may appear as economically and politically infeasible in the 1990s as when they were first discussed in the 1920s. However, a range of initiatives are tending towards economic change, not inconsistent with the proposals examined here. The potential for the small and medium enterprise (SME) to incorporate local environmental factors within business strategy on a bioregional basis is being examined (Hutchinson & Hutchinson, 1995). Additionally, a range of schemes offer[s] participants the opportunity of an alternative relationship with the financial mechanisms of the formal economy. Credit Unions, LETs (Dauncey, 1988) the New Road Map Foundation Board (Dominguez & Robin, 1992) and similar ventures are questioning the value of escalating economic growth and environmental degradation. They offer a means to remove the domination of finance over industrial decision-making and economic policy formation. For this type of initiative the Douglas/New Age proposals provide a theoretical framework. They also contain the potential to inspire broader institutional reform through essentially minor adjustments to tried and tested financial mechanisms.

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