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Population: Time-Bomb or Smoke-Screen?

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ABSTRACT

'Overpopulation' is often implicated as a major causative factor of poverty and environmental degradation in the developing world. This review of the population-resource debate focusses on Red, Green and neo-Malthusian ideologies to demonstrate how they have ramified into current economic and development theory. A central hypothesis is that key elements of Marxist analysis, tempered by the best of Green thought, still have much to offer the subject. The contributions of capitalism to 'underdevelopment', and its associated environmental crises, are clarified and reasserted in a contemporary context.

The concept of *valuation vector* is also introduced, and a novel closure of Blaikie's 'Chain of Explanation' is proposed. The *Circuit of Capital* model thus created is applied to specific case-studies of resource-population conflict so as to overturn the simplistic conventional connection held between population growth and ecological devastation. The model highlights sequential causes of poverty arising from important capital-based factors which might otherwise be overlooked. It can accommodate a variety of Red-Green perspectives and its structural form is suited to the unravelling of complex population-resource pressures in the multi-dimensional space of the modern global political economy.

KEYWORDS

Population, environment, Marxism, Green, Circuit of Capital, valuation vector

INTRODUCTION. THE VALUATION VECTOR AND DIALECTICS

'Over-population' is a loaded phrase. It carries assumptions and half-truths concerning the nature of population and resources. Its radical reassessment therefore requires an analysis of the values which inform the wider cultural

debate on the subject. From the outset it is crucial to distinguish between *valuation vector* and *ideology*, concepts that are closely allied but hardly synonymous. An ideology in Marxist orthodoxy is the system of false consciousness which obscures the recognition of capital processes, class conflict and other related social dynamics.¹ The valuation vector, however, goes far beyond the class consciousness of a given group or the belief systems which inform its assessment of, say, population size: the vector incorporates their entire approach to a phenomenon – that is, the means through which perceptions, intentions, expectations and values are mediated, altered and expressed via concomitant ideological, institutional and pragmatic factors.² Together, the various valuation vectors of society make up the vehicle through which its problems are generated, appraised and tackled (Hilgartner and Bosk 1988). This ‘vector-field’ subsumes the concept of ideology, and modifies substantially Pearce’s simpler ‘vector’ term (Pearce et al. 1990).

With regard to ecological crises and population, Barbour (1973: 11) identifies major interest groups (the *Pre-affluent South*, the *Post-affluent Greens*) to which may be added: the *Controlling Elites*. Each is broadly associated with a valuation vector (Table I) which determines how the indicators of population-resource conflict will be perceived, judged and acted upon. The conflict between these groups has contributed much to the impression of an inherent opposition between the imperatives of resource use (the environment) and population (politics-economics-survival). Unfortunately, the true dialectic process is obscured whenever a single human factor – such as population – is isolated from amongst the interactive complex of relevant processes that occur in the international political economy. It is the intention of this paper to show that central dialectical elements (such as specific capital-based forces) are underestimated by the various valuation vectors which have brought this over-simplification into effect. The result has been a widespread misinterpretation and miscalculation of population-resource pressures. Some of this can be attributed to Mainstream/Post-affluent Green views.

The aim, however, is not to crush the diversity of Green or Red thought in favour of a hegemonic Marxism; nor is it to posit some neo-Marxist utopia where population is no longer a concern. Rather, a number of perspectives and combinative models will be offered to illuminate the population debate and highlight strengths and weaknesses of Green/Red positions. The recurrence of dialectical, Marxist ideas throughout the paper reflects an attempt to redress the thoroughgoing dismissal of Marxist thought which has become near-axiomatic in populist Northern political arenas. It is hoped the emphasis will also encourage a review of the theoretical underutilisation of Marxism which characterises all but a few academic journals.³

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Interest Group	Typical Valuation Vector Elements
'Pre-affluent' South + Urban Underclass (North)	Survival/subsistence the main issue. Awareness of disequity and privilege. Ecology movement low on agenda.
'Post-affluent' North (includes various types of Greens and their sympathisers)	Maintenance of Environmental quality. Limits to growth. Social justice and ecocentrism accommodated to varying degrees.
Affluent Controlling Elites <i>North: Governments, World Bank and IMF, Development Agencies, Multinationals.</i> <i>South: 'Externalised Elites', the Military, etc.</i>	Maintenance/extension of influence or power. Capital-expansionist ideology. Growth-oriented development.
THE GREENS: SUB-CATEGORIES AND THEIR VALUATION VECTORS	
(a) 'MAINSTREAM' GREEN [<i>Reformist</i>]	
'Natural' Limits to:	Global Carrying Capacity, Global Productivity, Global Absorbent Capacity (Pollution), Ability of Technology to solve Problems.
To be addressed through:	Partnership with Nature, Steady-state Economics, 'Soft' Technology, Human-Scale Institutions. Population restriction (planetary Carrying Capacity).
Concepts:	Drop distinction between Capitalism and Communism ('Convergence Thesis') and identify these with Industrialism/Economic Growth. Criticise scientific ideology and gratuitous consumerism. Deny or ignore class conflict between capital elites and labour ('End of Ideology Thesis'). Monitor capitalism so as to make expansion/profit secondary to environmental needs.
(b) ENVIRONMENTALISTS OR 'LIGHT' GREENS [<i>Liberal-Conservative</i>]	
Population Management.	Anthropocentrism and single-issue politics.
Sustainability and Growth.	Environmental Quality as a business issue.
High-technology.	Environment-friendly Industry.
Think globally; act locally.	Ecosphere Management; strong State.
Material satisfaction.	Regulatory Capitalism; Market-liberal politics.
(c) DEEP ECOLOGISTS OR 'DARK' GREENS [<i>Profound Individualism; Visionary-Radical</i>]	
Ecocentric. Gaian.	Biodemocracy and deep 'Bio-ethics'.
Post-industrial future.	Reversal of Growth and Technology.
Think locally; act globally.	Rejection of Capitalism. Anarchism.
Minimise Ecosphere interference.	Radically new human-nature relations.

TABLE 1. Population: Some Interest Groups and their Valuation Vectors.

Adapted and extended from Pepper 1993 and Dobson 1990.

THE NEO-MALTHUSIANS: LIMITS, SCARCITY, CARRYING CAPACITY

It is unwise to adopt a new approach to population analysis without first understanding existing population prejudice, and any formulation of an effective population-resource response (or 'policy') will require that the context and ramifications of the perceived conflict be well understood. A key hypothesis of this paper is that those who charge the industrialising/modernising world with 'overpopulation' are generally projecting onto the global scene a valuation vector not much different to that proposed by Malthus and Ricardo for 19th-century industrialising/modernising Britain. In order to reconstruct this valuation vector its origins, deficiencies and paradoxes must be mapped out: a thorough historical critique of Malthusianism therefore follows.

Originally, it was Malthus who justified a self-interested elite on the grounds that they translated wealth into consumption rather than increased numbers, thereby solving the problem of overproduction. The masses, he held, must not be fed: they breed uncontrollably. This set of assertions was termed the *Population Principle* (Malthus 1969). The 1970s saw an eruption of Malthusian concern from the North's population 'cassandras' (Warner et al. 1996), with the Club-of-Rome 'Limits' school believing that '... the basic behaviour mode of the world system is exponential growth of population and capital, followed by resource depletion and collapse' (Meadows et al. 1972: 142). Their forecasts of mounting environmental problems and, eventually, environmental calamity called for immediate remedial action to be taken (O'Riordan 1976). Neo-Malthusianism became linked, in some quarters, to repressive or neo-imperialist policies (Harvey 1974; Bramwell 1985; Dobson 1992: 96) and the *Population Watch* conference of the mid-1970s agreed that free migration and family size might have to be restricted to protect environmental limits.

Central to the Club-of-Rome's valuation vector was Malthus' notion of an inevitable, population-induced scarcity of global resources – more precisely, exponential population growth would overwhelm linear increases in food production. There were refinements: the famous 'I = PAT' formula (Ehrlich and Holdren 1971) quantified Human Ecological Impact (I) as a function of Population (P), 'Affluence' (A = per capita consumption) and a technological factor relating to impact per unit resource use (T). This neo-Malthusian algebra was hugely influential in casting environmental degradation entirely in terms of consumption and its associated parameters. According to Meyer (1996: 23) it continues to be 'widely used'.

The population Apocalypse did not materialise. However, many Mainstream Greens of the 1980s still held that environmental problems were of unprecedented scale, and that growth-induced anthropogenic changes were putting global regulation systems at risk. The neo-Malthusian slant of these views is

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evidenced by the following quotes taken from what may be broadly termed 'representative' Green literature:

In terms of reducing overall consumption, there's nothing more effective than reducing the number of people doing the consuming. (Porritt 1986: 190)

The explosion in human numbers is the greatest long-term threat to the future of human and non-human inhabitants of the Earth. (Irvine and Ponton 1988: 17)

To be fair, most Greens have seen population control as best negotiated, and the movement as a whole in the 1980s/90s hardly lacked an appreciation of distributive ethics. Porritt and Winner (1988: 237) for instance, were clearly wary of 'eco-fascism', in spite of their arguments' resemblance to 'I = PAT'. Nevertheless, intolerant Green positions did exist (eg on immigration control) and it has been observed as 'a specific aspect of the general Green position that even present population levels are unsustainable' (Dobson 1992: 94). This Green ideology of global scarcity was buttressed by concepts such as 'spaceship Earth' (Boulding 1966), symbolised by images of our fragile planet seen from space, and propagated through media which tended to depict environmental problems either as a failure of industrialism or in terms of crowded, disaster-ridden scenarios.

With recent attempts to quantify the environment, *Carrying Capacity* has added considerable weight to theoretical scarcity. This relative newcomer to the 'Limits' valuation vector is couched in eco-scientific terms and may be applied either to specific ecosystems or to the planetary biosphere (Rees 1990). Put simply, when extractive loads on an ecosystem exceed its Carrying Capacity it enters decline, usually with catastrophic results for dependent populations. Global Carrying Capacity is now the Plimsoll line against which many environmentalists judge human progress and development strategy. Quoting Porritt and Winner again (1988: 238): 'The ecological concept of "carrying capacity" is not one that can be dismissed by reference to the standard redistribution blarney'.

MALTHUS AND ENVIRONMENTALISM – MORE CONNECTIONS

The Malthusian view underpins neo-classical economics, whose valuation vector includes the following elements:

- *Values are solely assigned by subjective, individual preferences.*
- *Resources are scarce to the individual.*
- *Each individual seeks to maximise self-interest.*
- *Values are sacrificial and substitutionable.*

These principles form the foundation of free-market thinking, and thus exert a powerful influence over those Environmentalists ('Light' Greens) who promote a regulated market economy.⁴ Other Greens have veered towards a survivalist lifeboat ethic (Hardin 1974) similar to that developed in 'The Tragedy of the Commons' (Hardin 1968). 'Dark Greens', however, have tended to place human population firmly within the context of biodemocracy (Eckersley 1988). Although they are characterised by radical individuality of opinion, the Dark Greens share a common thread: anthropocentric concerns should lose absolute priority. Many argue that even a much-reduced human population poses a problem if it overly distorts the 'natural' ecosphere. Luke (1993) asserts that some Dark Green views lead to 'environmental totalitarianism' over global policy and population size; as a case in point, the Dark Green Catastrophists (Bradford 1989: 21) claim that the eradication of famine and the maintenance of a healthy biosphere are now mutually exclusive goals.

At this juncture, it is important to acknowledge that many contemporary Greens do stand for laudable principles such as justice, peace and social equality; their plural views encompass considerable compassion and insight. Even so, it may be argued that across much of the Green spectrum (perhaps more so in the early phases of the Green movement) poverty and over-consumption have been linked to 'natural' laws of scarcity and an assumed Malthusianism in human nature. The Greens are hardly a coherent group (Table I), but this fragmentary alignment between lighter-Green and Malthusian valuation vectors has contributed to the misunderstanding of population-capital dynamics. This allows 'overpopulation' to serve, as it did in Malthus' time, as a convenient means of recategorising people disenfranchised from their traditional modes of subsistence or deemed deficient (i.e. poor) by virtue of some externally-imposed economic criteria (e.g. per capita income). Global or regional populations (either increasing or migrating) have thereby gained a spurious centrality in the debate over resource distribution and ecological impact.

MALTHUS, THE GREENS AND THE OBFUSCATION OF CAPITAL

Malthus' model and its Carrying Capacity adaptations make neat arithmetic, but fail to detect how ecological outputs (not just loads) depend on a variety of cultural, economic, political and technical variables, including population itself (Hartmann 1987). What is more, prognoses of planetary overload surface *inevitably* from the internal assumptions of neo-Malthusian models, and an Aristotelian veneer of ethically-neutral scientific methodology permits the complex underlying dialectic to be recast as a simplistic cause-effect dogma (Harvey 1974). Furthermore, *all* terms such as *scarcity*, *resources*, *subsistence* and *needs* are socio-economic entities possessing associative meanings within society's valuation vector, and can thus be 'capitalised' into an ideology which

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legitimises, rationalises and optimises the extraction of surplus from certain portions of society (O’Riordan 1976: 47). The danger then, is that the neo-Malthusians (Green or otherwise) will misinterpret the effects of capital extraction, believing them to be manifestations of causal laws existing outside society. But where the neo-Malthusian Green sees a mass of hyper-progenitive consumers bound by natural limits, the Marxist perceives a proletariat of potential producers in conflict with class-generating capitalist processes. Young (1988) confirms that humans can alter the parameters of competition and development, and so are *not* subject, entirely, to ecological limits and laws.

Interestingly, the Greens’ broad acceptance of Malthus’ limits is in stark contrast to their patent division over the capitalist modes of exchange and production for which he showed such enthusiasm: reformist Greens regard resource conflicts as solvable from within (or by) capitalism; whereas Green anarchists and Eco-feminists reject capitalism altogether (Pepper 1993). However, the Dark Greens’ potentially radical attack on capital-based valuation vectors is dissipated by their lack of political cohesion. Meanwhile, Light Greens err by conflating capitalism with industrialism. They focus on urban industry as a definitive cause of environmental degradation, calling for cuts in emissions and demand: i.e. reduced populations and/or per capita consumption; controlled economic growth (Enzenberger 1974; Johnston 1989). At best, this is only part of the story, and it may confuse the issue: urbanisation can intensify oppression, and it is this capital effect – rather than gross industrial demand – which often drives resource problems. The Green critique of industrial growth must take on board that the global economy extracts surplus from the poor even in non-industrial and non-growing societies.

THE DEVELOPMENT OF OVERPOPULATION: A MARXIST OVERVIEW

Although global population continues to grow, it may be argued that the planet’s ‘ultimate limits’ have not yet been reached and so cannot be held responsible for poverty and environmental damage (Benton 1989: 60). Moreover, it is obvious that if populations were restricted by *local* limits (as is often implied for, say, the Sahel) then countries such as Japan and Germany would have much smaller numbers than they now do. Marx provides a cogent explanation for these observations: poverty is endemic to commodification, and would occur (to some degree) at *any* population size by virtue of capital’s transformation of society’s needs, organisation and means of production (Caldwell et al. 1972: 109; Harvey 1974).

Capitalism tends to alienate individuals and communities from their environment: it displaces the use of traditional skills for sustenance; sources of livelihood become diffuse; external dependency increases, as well as vulnerabil-

ity to environmental flux (O’Riordan 1976). Market access may be gained, but survival by non-capital means becomes more precarious. Capital stimulates cash exports, expands wage-labour and mobilises the peasantry into cities where per capita consumption rises, or onto fragile marginal lands. Marginalisation, emigration and dispossession often have immediate environmental effects, but also extinguish the local know-how which may be a prerequisite to genuine sustainability. Furthermore, although capitalist cores can invest in their dependent peripheries (Pepper 1993: 26) to sustain growth, the recipients have few equivalent options and must therefore extract greater value locally (Redclift 1986: 87).

Traditional autonomous development is thereby stamped in the rush for growth and modernisation (Illich 1973; Schumacher 1973). Land is opened up to exploitation, and the demands upon it are intensified. In effect, the most basic means of production – the environment itself – is cashed in by indigenous peoples pressed into ‘survival politics’ (Adams 1990) and ‘desperate Ecocide’ (Blaikie and Brookfield 1987).⁵ In capitalist systems then, poverty stems from a socio-political failure to resolve the opposition of forces generated by commodifying modes of production (Mabogunje 1980). Any attention to population size must therefore be balanced by thorough considerations of the ecological effects of social disequity and the associated means by which capital has been, and is, extracted and concentrated in global free-market systems.⁶

In summary then, a simplified Marxist deconstruction of conventional views on population and ecological limits might therefore run as follows. During the last century, global capitalisation continued apace; population-resource problems expanded and worsened. Meanwhile, in the wake of various partial ‘socialist’ experiments, a prevalent capitalist ideology came to dominate much of the developed world. This largely discredited Marxism and precluded a capital-based critique of resource problems from taking centre stage. By the end of the 1960s the abandonment of capitalist growth in the North seemed hardly an option, either in concept or practice. The resource crises and ecosphere perturbations of the 1970s/1980s thus caused population-resource conflicts to take on the Malthusian hue of being intractable, or inevitable, though in reality they merely reflected emerging stresses in Northern capitalism. These developments precipitated the Ecodoom ideology, whose anthropo-pessimism helped to stabilise an elitist capitalist system beginning to come under pressure from its growing material and socio-political contradictions (Harvey 1974). Worse still, overpopulation became a rallying cry supporting institutional racism, ‘Third-World’ elites, and unsavoury forms of eugenics; it was blamed for the ‘political instability’ of lower classes who were doing little more than simply trying to assert their rights (Hartmann 1987: 27).

This analysis outlines how the Green movement may have been catalysed by the exposure of the Northern middle class to globalised capitalist *externalities* (Rees 1990).⁷ It views the Greens, at least in part, as a ‘synthesis’ which helped

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to ease emerging social contradictions, defining a new class of worried post-affluents seeking fresh ways to legitimate their traditional exertion of power (Luke 1993; Enzenberger 1974; Pepper 1993: 151). Parallel to this, the environment was itself being transformed into a capital-*intensive* (as opposed to capital-*extensive*) growth-industry, with 'Environmental management' acting as a site of synthesis between overproduction [thesis] and pollution [antithesis]. Meanwhile, the Green's holistic notion of global community was co-opted to veil class distinctions ('End of Ideology', Enzenberger 1974), while attempts to converge global goals around environmental issues drew attention away from the long-standing debate between capitalism and communism (Dobson 1990). Today, overpopulation still provides an ideological ram against liberation movements in the developing world and is sometimes used to legitimise forms of sustainability whose real purpose is the preservation of the global business environment for its beneficiaries (Luke 1993).

CAPITALISM, GROWTH AND SUSTAINABILITY

Intellectual pressure must therefore be maintained on conventional growth economics, whose assumptions require constant challenge and scrutiny. The first point to be made is that although most economists would agree that growth and environmental integrity become mutually antagonistic at *some* level of growth, there is little consensus over what that level is, or how it can be determined (Kneese 1977). A second objection concerns evidence which suggests that population growth does not always have an immediate or marked effect on the overall consumption of physical resources (Wright 1974). A third point, to be discussed below, centres on the influential Brundtland report (1987), which blends near-term resource optimism with pessimism over the environment's long-term ability to sustain current patterns of population, consumption and industry in the developing world.

Brundtland's proposal involves greater food production and a fine-tuning of fertility to GNP, with GNP raised via a controlled capitalist growth which is made to deliver its benefits more equitably. For Brundtland, there must be sufficient growth to provide family security or else populations will continue to rise (Clay and Vander-Haar 1993), cancelling out the advances of modernisation and swallowing up welfare improvements. This is the 'low-level equilibrium trap' (O'Riordan 1976: 82), where rising consumption prevents the re-investment needed for Rostovian take-off and leads to ecological stress (Kneese 1977; Hardin 1968). Some Southern governments have themselves adopted the trap ideology, looking to family planning programmes to stabilise indigenous population and thence production requirements, especially of food. But what *type* of growth, exactly, does Brundtland envisage? Capitalism may release great transformative power; yet undirected capitalist growth can cause the very

disequities the report hopes to cure. In any case, economic growth is a plastic term which now includes all forms of market exchange, from the export of arms to the settling of insurance claims – hardly a panacea against poverty!

This focus on managed capitalist growth side-steps issues such as transnational debt and tied aid, factors which can erase any advantages of increased output or stable population. Brundtland's general proposition also fails to address such questions as why famine and food mountains co-exist in the global economy; and it is doubtful whether the report can redress the *root* causes of global injustice, since it describes the ends without a complete understanding of the means. In fact, Modernisation as invoked by Brundtland often alters cultural and economic activity so as to restrict autonomous traditional responses to (and gainful use of) natural 'problems'. For instance, tidal and seasonal flood-plain agriculture becomes difficult for people who have lost the skills of flood-crop management or whose migration is restricted by a modernised built environment and its site-specific patterns of life and work. The misfires of top-down growth-oriented projects such as the Green Revolution (Adams 1990: 7) and the construction of large dams abroad (Petrucci 1999) add to the mounting empirical evidence that Brundtland-like recommendations are usually counterproductive in the long term (Harrison 1993; Illich 1973 and 1974). The 'limits' to conventional development, then, arise not only from absolute numbers of people, but through development's own consumptive processes and its emphasis on growth as a purely economic parameter.

Reasoning such as this suggests that the notion of a growing economy as *the* means of achieving social welfare is deeply flawed, and begins to open up the growth paradigm to critiques running much deeper than any theorising over growth's optimal percentage size. Lummis (1996) points out how economic development (= growth) no longer serves social welfare; on the contrary, social change has been made largely subject to, and has itself become the means towards, economic growth. Lummis' line of attack is not an argument for a zero-growth strategy; it is a call to reassess the entire economic ideology which supports growth and of which growth is merely one facet. Lummis' own summing-up (1996: 61) is worth quoting directly on this:

... economic determinism was set in motion unconsciously by the capitalists, was discovered and analyzed by Marx, and then taken up consciously by capitalism again in the new form of economic-development theory. Now the message is: you control the economy, and you control all.

Growth has been recast as some kind of 'natural' state of human progress, so that political domination (which might be cured by a radical reinvention of democracy) is replaced by economic domination. In order to maintain the illusion that a free and expanding market is tantamount to (and enhances) personal freedom, all manner of red herrings have been bred in the ideological pool of public debate.

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POPULATION CONTROL – SOMETHING FISHY?

Many developing nations have faced mounting poverty in spite of improved per capita agricultural output (Adams 1990; Hartmann 1987: 16) and this has occurred in the context of global income *out-growing* population (Maddox 1972: 68; Thirlwall 1978). Clearly, this is less to do with birth-rates and resource limits, and more to do with a disequity in resource allocation.⁸ Which is not to say that cautions issued by Greens concerning resource limits are devoid of value; but their recommendations must be backed by valid social analysis if they are to make a positive contribution and avoid the pitfalls of co-option (Enzenberger 1974: 27). In particular, the Ecocentric view on population control is damaging if it merely reflects an *a priori* valuation vector biased arbitrarily against humans.

Having said this, not all analysts argue for population reduction in the South. As Hartmann (1987: 20) points out, 'Contraceptives do not increase yields'.⁹ Thirlwall (1978) correlates high population growth to high per capita output, and holds that a population increase can sometimes motivate socio-economic reform. Correlations, however, do not constitute a guarantee. Human reproduction is a complex socio-economic variable intractable to isolated efforts at reform, whether these are based on correlative data or not. The outcome of the Chinese one-child policy confirms how problematic such programmes can be, even in powerful States (Enzenberger 1974). Evidently, population-resource policies born of valuation vectors based on catch-phrase sustainabilities or on 'limits' models which baldly assume global scarcity and the material expectations of Northern lifestyles, are likely to be unjust and of dubious viability. New models are needed.

CHAINS OF EXPLANATION; CIRCUIT OF CAPITAL

The 'Single Basic Cause' position, typical of so much underdevelopment and Green thought (Hettne 1990), cites:

- (a) Crises in Development (a lack of it, expanding populations, etc.), and
- (b) Environmental Degradation (resource scarcity and loss)

and then maintains that (a) causes (b). There are few circumstances where an elementary cause-effect formulation of this type can link development, population and environmental damage in an adequate fashion (Blaikie and Brookfield 1987). The acknowledged role of lifestyle-dependent fertility in the self-regulation of population may seem to provide a more promising analytical trajectory, but the derived models have tended not to follow through with the ecological implications of background capitalist processes, an oversight which has only recently begun to gain redress (Hartmann 1987). Systems models made

some progress in attempting to predict an optimum way forward; but they are pre-programmed to give results in terms of their initial hypotheses, i.e. they are not *internally dynamic* (Harvey 1974: 270). They can also lack applicability: it is not possible, for example, to quantify soil erosion rates in terms of government ideology, even if the two are indisputably linked. In the stark light of these theoretical difficulties, the usual dualisms of popular political discourse seem somewhat simplistic (Pepper 1993).

Fortunately, more dynamic models for resource-use are now emerging, such as Blaikie's *Chain of Explanation* (Blaikie and Brookfield 1987). This sets human activity and its environmental effects within an extended socio-cultural, political and economic context (Harrison 1993). Blaikie traces catastrophic resource-population events back through the sequence of input decisions made at critical stages in the problem's development. For instance, an expansion of export agriculture may occur in Africa through foreign investment, debt and worsening Terms of Trade; this drives deforestation, intensifies land-use and mobilises subsistence farming into fragile ecologies; the resulting cocktail of specialist agriculture, falling prices and soil erosion eventually causes crop failure. Media coverage of the ensuing 'famine' taps into its human drama, but is stripped of its socio-historic connections, tending to underscore existing ideology (Petrucci 1997: 48). The picture painted is usually one of too many mouths to feed: international political economies are not easily filmed or made into sound-bites.

Blaikie's approach debunks the inevitability often attributed to 'Third World' crises. It shows that population size is mostly an aggravating factor to a problem already in its advanced stages and originally set in motion by other forces in the international political economy. In a sense, Blaikie's Chains isolate and describe local strands of historical materialism. Blaikie's model can be taken even further, then, by integrating it with a Marxist perspective and incorporating the fact that specific capital-induced events are intertwined within a *global* dialectic (Benton 1989: 84). Towards this end, the strands of the chains may be looped back onto themselves to yield a '*Circuit of Capital*' (Fig. 1). This *Circuit* not only reveals the frequently central role played by surplus extraction in population-resource conflicts, but also accommodates the dialectic tensions of Marxist theory and the tendency for capital processes to reinforce themselves: when, after one loop, we return to the 'starting point', the same agent may again be involved; yet the situation has been dialectically altered. The *Circuit of Capital* in any given circumstance is extremely useful to follow, but too complex to represent in detail here. However, for the case of famine discussed above, an elementary diagram delineating a typical pattern of flow might be as given in Fig. 1.

The comparative limitations of earlier models such as the 'I = PAT' formula should be self-evident.¹⁰ Undoubtedly, models such as Blaikie's Chain and the *Circuit of Capital* will be of greater efficacy in organising and understanding the network of factors which contribute to, or induce, certain 'natural disasters'. The

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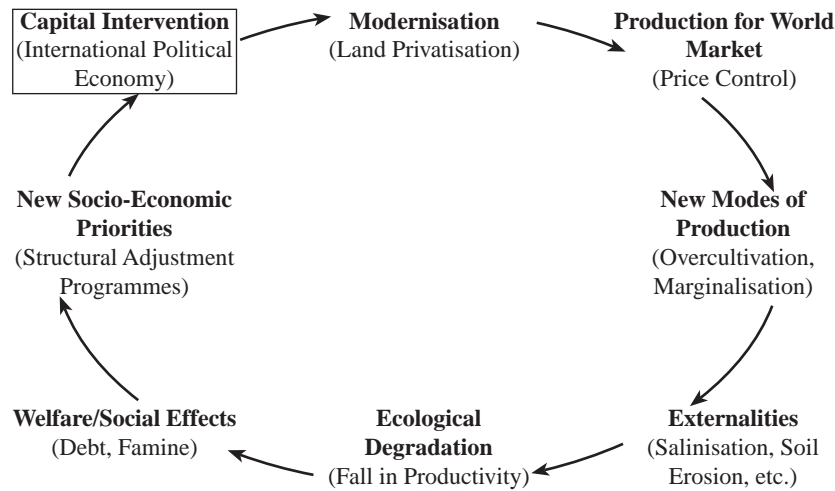


FIGURE 1. Circuit of Capital: General Famine Model

Circuit is particularly useful where capitalist intervention has sparked a population-resource crisis or caused a shift in valuation vector; it can also highlight nexus points where alternative decisions might have been made, a fact which recognises that the arrows of the *Circuit* need not imply a cast-iron causality or determinism. Having established the general advantages of the model, it would now seem appropriate to demonstrate its application in specific cases.

CASE STUDY: THE HIGHLAND CLEARANCES

Legitimation for the Highland Clearances in Scotland (Prebble 1969) was provided, at least in part, by an urban valuation vector which interpreted the Highlanders' rising population and subsistence lifestyle as contemptible, a 'vicious influence of the idleness in which their fathers have been brought up and have lived and starved' (Bruce, cited in Prebble 1969: 179). Referring to Fig. 1, the first cycle of relevance here ('Capital Intervention, I') began with the Jacobite rebellion of 1745 and the Scots' defeat at Culloden in 1746. This debacle spurred the sequestration of the Highland estates by the English, and was followed by a movement on the part of the Chiefs towards English culture, values and economy. The change in valuation vector was a crucial catalyst to the subsequent extraction of surplus and people from Highland areas. Capital exchange across

the border intensified as the Chiefs developed a consumer lifestyle, ran up debts, and purchased English property and goods. To raise cash, they assisted a process of 'Modernisation' which put long-standing structures of Highland authority and land-tenancy under stress, eventually overturning them altogether. Tenants and sub-tenants were evicted, and expired leases transferred from traditional 'tacks-men' to southern graziers. Small-holdings were merged and ridge-farming eliminated.

At the same time, the price of meat was rising due to British military demands in Europe. This incentive from British buyers ('Production for 'World' Market') induced new labour relations to be established via the Chiefs, involving the re-development of pasture for large numbers of cattle and sheep ('New Modes of Production'). Together, the above changes led to a variety of socio-cultural 'Externalities', such as the marginalisation of villagers and the generation of a new underclass of landless families. There were also profound shifts in the local ecology ('Ecological Change') resulting from depopulation, reduced cultivation, the burning of heathland to create pasture and the introduction of new breeds of sheep. Although there was a *rise* in productivity (in contradistinction to the famine *Circuit* of Fig. 1) the additional surplus continued to be extracted towards England via the landlords even while the villagers' means of self-reliance were being systematically demolished. In fact, these capital benefits probably legitimised further appropriation of land and deepened the desire to expel the clanspeople.

Communities were shattered; the remaining sub-tenants suffered increased rents and often had to work smaller packets of land; there was concomitant hardship, and even starvation ('Welfare/Social Effects'). This fuelled what Samuel Johnson called the 'fever of emigration' (cited in Prebble 1969: 18). The mass exodus, voluntary or otherwise, entailed a search for work and swelled the numbers of urban poor in the lowlands and coast, or provided cannon-fodder for British imperialism. Meanwhile, the Chiefs became largely a race of absentee landlords intent on maximising their income and quelling any resistance among the clans ('New Socio-Economic Priorities'). The clans' social disintegration facilitated further expulsions and seizures of lands, and paved the way for on-going investment and expansion of livestock – in short, for further development along capitalistic lines ('Capital Intervention, II').

HIGHLANDS CASE STUDY – DISCUSSION

Naturally, the *Circuit* model will be approximate to the degree in which it excludes the nuances of a particular historical process: for instance, in the Highlands case study, the complexities of collusion and dispute between the various agents of Scottish and English power (Prebble 1969) are not worked through. True, the *Circuit* summarises the movement of people and resources

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only in broad terms; but a more detailed description could have been made, and used to map out the individual cycles which were generated by, and which themselves galvanised, the recurrent 'Interventions' occurring during this period of Scottish history. These might include 'The Year of the Sheep' (1792); the 'Burnings' of 1814 (heaths fired to promote pasture, cottages burned to force migration); and the 'Massacre of the Rosses' (the violent removal of resisting tenants, 1854). Having said this, even the simplified *Circuit* avoids the pitfalls of a deterministic-ecological or 'limits'-based ideology and succeeds in emphasising and refining Blaikie's assertion that famine is as much a symptom of inappropriate resource decisions as it is of population size. Bare as it is, the Highlands study demonstrates that, with the required facts to hand, the *Circuit* can be adapted and used to order and link the factors which drive ecological change, poverty and, ultimately, the wholesale extinction of a way of life. It shows how a region which, in spite of its environmental precariousness, once supported a growing population was rendered uninhabitable through the processes of political economy, *not* those of ecology.

CIRCUIT OF CAPITAL – THE LAST WORD?

Of course, the point here is not to squeeze particular historical case studies into the mould of a preconceived *Circuit*. The generalised schematic of Fig. 1 will necessarily mask, to a certain extent, the mutative subtleties of capital and its capacity to transform valuation vectors. For example, 'Capital Intervention' in the first cycle may take such direct forms as colonialism or an overseas investor in pursuit of subsidies and favourable terms of exchange; however, the second cycle (following a structural adjustment programme, say) might involve the target nation in internal redistributions of capital, new fiscal priorities, or an influx of economic/lifestyle expectations derived from Northern ideology.

One accepts, therefore, that annotations, adaptations and extensions can, and should, be made to the general *Circuit* model (note, in the Highlands study some terms were modified). The ultimate aim is to account for *all* factors contributing to resource crisis, in accord with Sen's insight concerning 'outbursts of famines' (Sen 1981: 6) which demands that we examine patterns of ownership, cultural entitlements, modes of production, the structure of economic classes, and the forces which propel and link them. This 'circuitous' iteration is not always straightforward. As an illustration, a first *Circuit* for the 1972 Global Food Crisis is sketched in Fig. 2 (based on notes in Tudge 1977: 2 and Sen 1981: 42).

This *Circuit* is presented precisely because it does not display the same cyclic resilience, perhaps, as that suggested by the Highland Clearances or implied by the general famine model of Fig. 1; that is to say, the second loop may require new or modified terms to substitute those of the first.¹¹ To attempt to follow through with Fig. 2 into subsequent loops, if these meaningfully exist, would

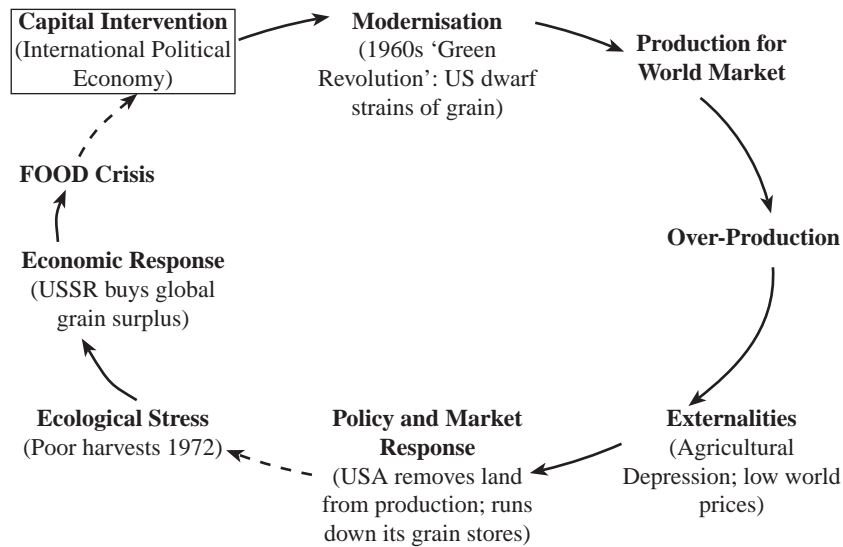


FIGURE 2. Circuit of Capital: 1972 Food Crisis

miss the point: the example has served as a caution against over-simplification, and reveals that the modelling process implied by the *Circuit* is itself a part of the dialectic it attempts to illuminate. Every situation will yield a different cyclic dynamic.

But even if the *Circuit* model is not universal, at least its *approach* is; it tends to signal its own limitations, forcing the researcher either to develop modified forms of the model which can accommodate the known data, or to probe for data which clarify the model. This process could reveal factors and ramifications one has overlooked, which are unverified, or which require further research. This is a strength, rather than a weakness, of the *Circuit* because it recognises its proper place as an initial stage – rather than the final word – in the investigation of linked causes in the multidimensional space of the global political economy. Each particular *Circuit of Capital* becomes, then, the prototypical incarnation of a *species* of methodology which allows us to constellate the chief factors driving a set of events (with due emphasis on those processes which relate to capital). It permits us to observe how the major formative processes mutate, consolidate and (perhaps) recur. More sophisticated *Circuits* can then be developed to correct the finer details of the analysis.

POPULATION ANALYSIS, DETERMINISM AND DIALECTICS

Behind the positive note just sounded, the discussion of Fig. 2 remains as a warning against using the *Circuit of Capital* to replace one set of assumptions with another. The *Circuit* may offer wider explanatory power than the neo-Malthusians, but an unquestioning reliance on its content and cyclic technique would be foolish. Where such a reliance draws on classical Marxism (or any of its Marxist-Leninist mutations) it becomes open to the traditional accusations against Marxist theory: inherent reductionism, materialism, anthropocentrism and an over-emphasis on cause-effect (Lummis 1996: 50; Pepper 1993: 245). Without doubt, Marx's expressed view of history as the enactment of socio-economic laws which win through with 'iron necessity', and which operate as part of a natural order of social evolution, carries a deterministic sting which might weaken Marx's standing in the essentially holistic context of global economic dynamics. Indeed, Truman's original reductionist neo-colonial approach to development may have owed a debt to Marxism-Leninism – a hypothesis which has considerable and generally unacknowledged weight (Lummis 1996: 61).

However, Marx intended his principles to be applied in a *teleological* manner. His historical materialism was to provide the framework, not the details, of knowledge which would enable humanity to steer a course of maximum probability towards a communalist society. In fact, Marx posited no inevitability in human free will, merely the strong tendencies inherent in capitalism once it is in operation. Marx also accepted that different geological/geographic endowments could influence the ways in which people transformed nature locally (Pepper 1993: 101). Adaptations of orthodox Marxism, therefore, may yet bring considerable flexibility to the analysis of population growth, and modern developments in Marxist theory such as Dunleavy's 'Theories of Legitimation Crisis' (1981: 200) can broaden the debate by stressing the relevance of political and ideological contradictions in the processes of contemporary decision-making. Neo-Marxism can also challenge the Greens' own determinism (universal 'natural' limits; the fixedness assumed in the reallocation of global resources), by recognising society's vast potential (subject to ultimate constraints) for redefining its means of production and needs, and thence the types of environmental impacts it generates (Pepper 1993: 233).

In any event, the purpose of the *Circuit of Capital* is not to promote a purely Marxist politics, or even to suggest that Marxist theory alone will suffice in extracting a more complete understanding of economic and developmental practices; it is offered as an inroad and antidote against the facile valuation vector of conventional development. So, the *Circuit* will not *automatically* exclude 'natural causes' in its analysis of starvation; it simply implicates, when properly applied, the possible cumulative effects on the environment of capitalist development. This realisation is far from novel. As Marx himself (1932: 547) wrote:

... every advance in capitalist agriculture is an advance in the art, not only of robbing the worker, but also of robbing the soil; every advance in the fertility of the soil for a given period of time, is simultaneously an advance towards the ruin of the permanent sources of this fertility.

The *Circuit* thus legitimises the detailed ‘narratives’ of poverty-creation given by authors such as Dreze and Sen (1990), providing an essentially open-ended process into which those narratives may be channelled, as well as a means of connecting them to other cycles of oppression and to generic decision-making tendencies which emerge from the global economic apparatus. As such, the *Circuit* implicitly acknowledges the interconnectedness characteristic of Green thought, and if its Marxist roots do create any bias towards a linear scientific determinism, there is always room for the inputs of broader holistic insight. In this way, and as a bonus, the *Circuit*’s structure may actually serve as a prototype for the development of dynamic-contextual approaches having theoretical applicability across a much wider range of socio-economic problems than those examined here.

A cautionary aside to this, however, is the degree to which such concepts as ‘class’, ‘labour’ and ‘capital’ – and even ‘dialectics’ itself – are neither static monolithic entities nor unproblematic in terms of their social meaningfulness and applicability. Indeed, the Marxist emphasis on dialectic polar binaries has not gone uncriticised, and neo-essentialist models of socio-economic evolution which rely on the on-going resolution of oppositional forces have come under a varied post-modern challenge (e.g., via contextual and ‘rhizomatic’ approaches: Jones 1999a) which negates any assumed meta-narrative. Further development of the *Circuit* model must take into account this attack on dialectics, as well as the fact that collective terms such as ‘class’, as used in this paper, are simplified and provisional. Fortunately, the *Circuit* does have a certain in-built immunity and adaptability to these theoretical upheavals, precisely because it focuses on networked situational forces and the mapping of observable influences rather than abstract social categories or assumed processes. In any case, the possibilities and potentials of dialectics – both on its own and as part of a multiple contextual approach – are far from exhausted (Hudis, 2000) and there is some mileage yet in post-Marxist/post-Modernist dialogue, as exemplified by a fascinating oppositional fracas in the recent literature (Jones 1999a; Harvey 1999; Jones 1999b).

POPULATION ANALYSIS AND ANTHROPOCENTRISM

A further objection, raised among Ecocentrists, against Marxist emphases of the kind implied by the *Circuit of Capital* is the degree to which Marxism requires (or condones) domination over nature. The Ecocentrists’ call for an environmentally-oriented face to Marxism, and the Marxists’ rejoinder requesting greater

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theoretical rigour in Ecocentrism, illuminate a fruitful area of concern in those camps.

Some Marxist scholars have, as a consequence, shifted their focus to issues of human survival and ecology ['Eco-Marxists'] or have found it necessary to reject the revolutionary potential of the working class and the liberating potential of large-scale technology ['post-Marxists']. 'Anti-Marxists' such as Eckersley (1988: 146) see Marxism as now providing no more than a few questionable insights. Eckersley notes that from Hobbes and Locke through to Marx the notion of human domination and transformation of nature was an unquestioned axiom of political inquiry, and adds that emancipatory theorists now generally agree that liberalism and orthodox Marxism may provide equally unsuitable bases for an ecologically-benign society (Eckersley 1992: 25). Kolakowski (1978: 529), too, argues that Marxism is unequal to modern political dynamics, through long immobilisation and distortion under totalitarian regimes which have caused it to lose touch with intellectual progression and current social reality.

This challenge defines a useful role for Green views, in spite of the earlier contention that Mainstream Greens unwittingly help to cement (or deflect criticism from) class and capital-based power relations which promote population-resource stress and human oppression. However, while the Greens do, in broad terms, provide a potential force for human emancipation and the extension of respect to the non-human world, the fact that much of the world is already 'humanised' can be taken two ways: as evidence that the domination approach is in reality at the root of current resource problems; or else that Marxist analysis is mostly accurate. What is more, even if one were to concede that Marxism fails to address its anthropocentric assumptions, the same criticism can be levelled at Ecocentrists with regard to their *eco*-centric assumptions. A clinching observation from modern Marxists is that most Ecocentrists fail to provide any cogent schema with which to determine, empirically, whether or not any of these assertions is correct. If models such as the *Circuit* are to gain general acceptance, these theoretical polarisations between Red and Green must be addressed and, if possible, compromises found.

RED VERSUS GREEN? – POLITICAL INSIGHT AND EVOLUTION

The Greens' overall (and essentially postmodern) insistence on plurality, individuality and relative values would seem at first sight to sit uncomfortably with the Marxist/Socialist's modernist tendency towards universalism, collectivism and centralism (Pepper 1993). As shown earlier, growth and industrialism are particular bones of contention between Red and Green (Bell 1987) and although darker-Greens and Marxists each have radical perspectives on social relations they differ on anthropocentrism, the involvement of the State, and centralisation.

Lighter-Greens may endorse community-based programmes, giving rise to Red-Green coalitions of the type seen in Germany and Sweden,¹² but the way these lean towards single-issue reformism offers little fundamental opposition to capitalism: NIMBYs and preservationists (Pepper 1993: 150) are mostly concerned with the protection of those environmental services having a direct impact on their quality of life.

Fortunately, many of these Red-Green divisions are open to interpretation (Pepper 1993: 245) and can therefore be seen either as sites of conflict or of potential hybridisation. For instance, the anthropocentric rift may be bridged by arguing that, in practice, 'social and redistributive justice has now become the *central* issue in achieving the kind of relationship with nature which ecocentrics want' (Pepper 1993: 247). Perhaps, then, the strengths of Left/Socialist and Green positions can be successfully combined to provide a *structuralist pragmatism* – a popular and workable political incarnation whose values and modes of production obviate inequality and dependency, whilst preserving ecological integrity. Such politics might take advantage of the Green-Red overlap in concern over welfare, productive work and community involvement, and would utilise elements of Marxist insight: its emphasis on capitalism's cycles, contradictions and exploitations; its view of social policy as much more than the management of the tensions between State and Market instruments; and its promotion of people (however numerous or geographically sited) as potential producers rather than passive consumers.¹³

At the same time, ecologists could help Marxism to compensate for its perceived lack of 'an analysis of the replacement of used-up means of production in an economy based on exhaustible resources' (Martinez-Alier 1987: 219). The Greens' rejection of output-profit as the dominant social imperative might also be brought alongside the Socialist vision of socio-economic equality (Barry 1998: 224): in fact, 'Eco-socialism' is one amalgam of Red and Green which provides a valuation vector of some promise to social reformers and, potentially, a more balanced view of resources and population (Pepper 1993).¹⁴ Such collaborations might establish an eclectic and accurate view of the factors pertaining to any given *Circuit*, and make possible an authentic political response. Although the dialectic methodology of a Marxist *Circuit* has no absolute predictive capacity, its unveiling of fundamental economic processes could be used to galvanise and inform the community empowerment which seems an absolute prerequisite to ethical forms of development.

RESOLVING OVERPOPULATION: FINAL COMMENTS

It is a truism that ecology and human population are, at least to a degree, linked variables; but this paper has shown that their perceived matrix of interaction is skewed towards models of neo-classical and Trumanesque economics. In devising new population-resource strategies, due weight must be given to the

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manner in which capitalism is now able to tap and modify socio-ecological processes across their entire spectrum, from the 'domestic alliance'¹⁵ to the hydrological cycle; and this correction must be allied to a deconstruction of the valuation vectors which sustain conventional perceptions of issues such as overpopulation. The challenge now is to reinterpret the concept of population in ways which permit a genuine analysis of the difficulties and opportunities facing an emerging global economic system and its rapidly-changing communities.¹⁶ Ultimately, this analysis will need to be 'democratised' (Lummis 1996) so as to involve (amongst others) academics, politicians, Greens, the media, the public and indigenous peoples. An inclusive forum of this kind is likely to extend the concept of 'Environment' to accommodate such issues as cash-cropping, land tenure, demography, family welfare, women's rights, housing and crime – in other words, all those cultural, social, local and global interfaces with capitalisation which supply the inputs required by dynamic models such as the *Circuit of Capital*.

An ominous backdrop to these suggestions, however, is provided by the degree to which human values have fallen subject to near-term capitalist economic values.¹⁷ This economic hegemony in society is essentially 'antidemocratic' (Lummis 1996) and often couples warped or out-dated analytical models to society's valuation vectors so as to address itself erroneously, or not at all. It is not surprising, in such a context, that most 'problems' involving population end up in the ideological whirlpool of economic development and aid. Neither is it clear what will emerge as the eventual synthesis between the global extraction of surplus and its necessary contradiction of population-resource conflict. Rio and GATT do not bode well. Northern governments have been slow to reject the old formulations of population (Pepper 1993: 247) or to perceive, or pay heed to, causal links of the type brought to light by Blaikie's *Chains* or a *Circuit of Capital*.

The role of neo-colonial agents such as banks, the IMF, transnational corporations, development agencies and growth-oriented governments in these conflicts is therefore underplayed, particularly in the popular arena. With a genuinely Left perspective virtually absent, the mediated impression of famine tends to be one of natural calamity, usually followed by the knee-jerk response of a need for charitable 'aid'. Commendable as this latter intention may be, it is diluted by the fact that even while the aid is being administered, the contributory factors revealed by the *Circuit* generally stay intact and opportunities for new patterns of appropriate investment or self-directed development are largely ignored.

In the meantime, most top-down population policies continue to be misguided and even counterproductive, especially while capitalist power structures and modes of production hold sway. They have tended to be Northern (particularly American) in origin, interventionist, and driven by corporate fears over political instability or mass immigration. Attempts at Southern population control have been legitimised by nightmarish evocations of the Malthusian trap

or by prejudiced models of fertility whose ethical, theoretical and pragmatic deficiencies are far from being resolved (Grimes 1998: 390). Although the Eco-doomsters may now have lost momentum, their assumption of global scarcity persists, hand-in-hand with a general omission of the central role of the capitalist political economy in controlling resource flows and constraints. These attitudes to population distort development agendas, and are unjust: they rightly draw flak from Southern governments, at least those who have not yet been co-opted.

However, as well as ethical and ideological barriers to better analysis, there are also technical and political problems to consider. For instance, much more (unbiased) empirical data is needed on resource degradation and its links to demography and political economy, both locally and on an international scale; impartial, up-to-date accounts are also needed of the precise routes of penetration by international finance into developing economies, showing how these intensify so as to increase capital extraction by investors and promote new power relations between State and labour. But who would collect this data, and how? Given that the data's political and logistic implications would ramify far beyond any considerations of population, could they be followed through with consensus and co-ordination? These are serious concerns, and it will help any would-be renovator of Marxism to make it clear that a return to 'Marxist' totalitarianism – in terms of concept or praxis – is unacceptable. Rather, what can be promoted (as in this paper) is the hypothesis that an authentic Marxist approach still has a strong informative role to play in the population debate, enabling common threads, patterns and priority factors to be extracted from the empirical complex of global interactions.

If the major criticisms of Marxism can be resolved – especially those which perceive a certain stagnancy, inhumanity and determinism in it – then population alarmists will find it difficult to wave away a Marxist critique of their standpoints merely by claiming it is invalid or defunct. Unfortunately, the neo-Malthusians are doing better than that. As their early models come under fire, they have retreated from the position that famine and ecological devastation are primary results of overpopulation and have found a new theoretical band-wagon within the economic valuation vector. Their simplification now rests on the *economic* drawbacks of fast-growing populations, such as unemployment, poor welfare and inadequate investment (Hartmann 1987: 24). This is the same Malthusian wolf in a different fleece. The population debate will thus remain ensnared, it seems, for some time yet in the ideological net supporting global privilege. Thankfully, voices calling for the consideration of linked factors in population-resource analysis have gained volume in recent years, and percipient dynamic theories such as Blaikie's continue to arise in the literature.¹⁸ Certainly, there is now no reason why those who spotlight the 'population bomb' cannot themselves be spotted more as heralds of a Northern valuation vector than of any short-fused Southern reality.

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NOTES

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¹ In popular usage, and for the purposes of this paper, 'ideology' is understood as an accepted belief system – false or otherwise – of a given identifiable political, class or intellectual group.

² The importance of the valuation vector in determining the outcome of any social policy is clear from the way in which those policies are enacted largely through existing ideology and power structures. For instance, the Greens' call for the provision of a basic citizen's wage/allowance might be intended as a radical move against the centralised cash economy, one which expands empowerment, self-sufficiency and alternative forms of work; but it may be expressed, in actuality, as a mere variant of social security. Enzenberger (1974) provided seminal support for the notion that all social and environmental problems are socio-culturally defined in this way: for example, social want is generated in an automatic fashion alongside social wealth, and generates the illusion that poverty and ecological damage are 'natural' social forces.

³ For notable exceptions, peruse *Capitalism, Nature, Socialism*.

⁴ This is not saying that Light Greens are to be equated with the free-market growth economy; simply that Green Consumerism, even with its desire for State-imposed regulations, is still only a (moderated) form of capitalist consumerism.

⁵ With regard to 'cashing in' the environment, Mexico City provides a strong case for non-ecological factors to be given due attention in the evolution of poverty and resource crisis. The colonisation of Mexico and its subsequent urbanisation dictated a series of changes in the patterns of resource generation and consumption, created by the need to establish and control economic surplus within the developing economy. An ancient, highly-productive rural environment based on sustainable agriculture involving *chinampas* and terraces, was replaced by *haciendas* and the use of plough and animal traction for increased and targeted productivity. The resulting marginalisation and urbanisation of the indigenous population led to deforestation (for subsistence agriculture and urban wood supply) and, eventually, food crises. After the revolution, modernisation accelerated: the city grew rapidly in terms of size and resource demands, placing the local ecology under greater stress and deepening social inequity. Mexico City's current resource problems may be thus configured as the outcome of a long-term process of capital accumulation which has little to do with ecological phenomena (Redclift 1986: 86).

⁶ Two points arise here. Firstly, the extent to which we 'consume' the environment may well be correlated to absolute numbers of people; but it often has more to do with other factors (O'Riordan 1976: 70), such as population density (which concentrates environmental stress), the rate and composition of economic consumption across a social order, and the types of externality generated by particular modes of production. The processes of capital exchange contribute critically to these: biogeographical constraints on productivity may operate in particular instances, but they are always set within the complex matrix of the applied development strategy.

The second point is to acknowledge that environmental and economic damage also occurred in historical 'communist' systems. A detailed debunk of this observation lies

beyond the scope of this paper; suffice it to say, these systems were mostly forms of militarised or oppressive State which either incorporated elements of capitalist ideology in their ruling classes or else suffered from boundary conditions defined by the global matrix of capitalist forces. The theoretical basis for Stalinism or Maoism, for example, should be seen as a *perverse* extension of the classical Marxist position.

⁷ *Externalities* are the social and environmental costs of capital processes which the causative agent transfers to society at large, such as air pollution, cancers from A-bomb tests and ozone depletion.

⁸ The inequity of global resource distribution may be demonstrated even within a reductionist neo-Malthusian context, using data supplied by Barbour (1973: 13) which suggests that an American consumes enough resources to sustain between 50 and 100 persons living in India. The table below employs the more conservative estimate, with an American consuming 50 resource units and an Indian citizen 1 unit.

Baseline Calculation:

(a) 100 Americans + 200 Indians = $(100 \times 50) + (200 \times 1) = 5200$ units of consumption.

Consumption rates due to various population changes:

(b) 100 Americans + 400 Indians = 5400 units.

(c) 100 Americans + 190 Indians + 10 Indians at USA levels = 5690 units.

(d) 100 Americans at 95% of former level + 400 Indians = 5150 units.

It follows that doubling the Indian population [Case (b)] involves less extra consumption than converting 5% of existing Indians to American lifestyles [Case (c)]. If Americans adopt a 5% drop in consumption rate [Case (d)] then overall consumption actually *falls* even if the Indian population doubles. Thus, vast increases in Southern populations are easily 'compensated for' by minor reductions in Northern consumption rates. Also, a small fraction of Southerners acquiring a Northern lifestyle has a huge impact on overall global consumption. The actual situation may be even more unbalanced than the above calculations suggest, since other estimates of relative consumption rates exist which exceed Barbour's considerably: Tokar (1987: 72) maintains that the energy consumption differential may be a factor of thousands.

Of course, the above analysis suffers from all the stated shortcomings of the Malthusian world-view, particularly in removing consumers from their socio-economic contexts of consumption. Despite this, it demonstrates that a neo-Malthusian bias against the South errs *even within its own terms*. It lays bare the prejudice of any valuation vector which would perceive global resource limits predominantly in terms of Southern populations and also offers some validation for the Green call to moderate Northern consumption levels.

⁹ One must be wary, though, of the New Right 'Cornucopians' who use liberal attitudes towards population growth as a means of promoting an unfettered global market economy whilst they 'dodge the real issues of power and inequality just as the Malthusians do' (Hartmann 1987: 29).

¹⁰ The *Circuit* would be able to show, for instance, how a high per capita consumption in an area of relatively low population might operate through the global political economy to degrade an area of modest population and low per capita consumption *elsewhere*. A version of the 'I = PAT' formula consisting of a sum of parts might attempt to quantify that impact, but could provide no clue as to its mechanism.

¹¹ Note, too, how the arrow in Fig. 2 connecting 'Policy and Market Response' with 'Ecological Stress' does not suggest direct causality (the poor harvests of 1972 were due

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primarily to bad weather); the arrow merely gestures towards the fact that the resource decision in question gave weight and criticality to the subsequent environmental input.

¹² In Sweden, between the Social Democrats and the Green Party (Jamison and Baark 1999).

¹³ The fact that Marxism is meant to be interpreted through the dialectics of specific cultures and geographies might also offer some common ground with Bioregionalism. Marxism's collectivist clarity and rigour may also be needed by Greens who lack coherence or the power for systemic change.

¹⁴ Pepper (1993: 234): 'The basic socialist principles – egalitarianism, eliminating capitalism and poverty, resource distribution according to need, and democratic control of our lives and communities – are also basic environmental principles'. For the details and problems of such an alliance, Pepper (1993: 232) provides a thoroughgoing review.

¹⁵ It is worthwhile considering further the views of Warner et al. (1996). They attribute human success (in terms of population levels) to a co-operation between humans and domesticated species, a 'domestic alliance' so effective that it will soon eliminate the entire 'natural' world. The concept is novel and may hold good as far back as Neolithic times; but as the authors themselves point out, other factors such as political economy, global/national class structure and global trade are also crucial to our understanding of the transformation of the environment. Clearly, the modern context of population dynamics (at least since the Industrial Revolution) has been one of primary capital forces which drive and modify ecological change. The building of cities, for example, may well have been catalysed by the domestic alliance; but the processes of urban expansion and replication, and the forces of urban-rural capital acquisition and human mobility, are by no means entirely explained by it.

¹⁶ In attempting such a reinterpretation, I have sought to include voices from the developing world, an effort which has not entirely succeeded. It is often difficult to access these views via journals, bibliographies and libraries, a problem which needs to be addressed by academic establishments. Another voice generally excluded from the literature is that of future generations, a strange omission given the supposedly long-term view of sustainability (Petrucci 1998).

¹⁷ An early case having direct relevance to population is provided by 'Ray' Ravenholt, the head of the Population Branch of the U.S. Agency for International Development in 1966, who summed up the reason for America's involvement in population control abroad: 'Without our trying to help these countries with their economic and social development, the world would rebel against the strong U.S. commercial presence' (cited in Hartmann 1987: 105). More recently, there is the switch in developing countries from natural breast-feeding to commercially-supplied and corporately-advertised bottle-feed formulas, an economic drive from the North which has had detrimental effects on fertility and infant mortality (Hartmann 1987: 10).

¹⁸ Another example is the 'recursive' model of Maxwell and Wiebe (1999: 838) applied to land tenure. Even where such arguments as these fall on deaf ears, it can at least be pressed home that any difficulties associated with equitable resource distribution can hardly be more stringent than those of enforced population control or the management of deepening global externalities. Meanwhile, a positive sign regarding the international political climate is the recent cancellation of some overseas debts by the British Government – a step, it would seem, in the right direction.

REFERENCES

- Adams, W.M. 1990. *Green Development*. London: Routledge.
- Barbour, I.G. 1973. *Western Man and Environmental Ethics*. London: Addison-Wesley.
- Barry, J. 1998. 'Social Policy and Social Movements: Ecology and Social Policy'. In N. Ellison and C. Pierson (eds) *Developments in British Social Policy*. London: MacMillan.
- Bell, S. 1987. 'Socialism and Ecology: Will Ever the Twain Meet?', *Social Alternatives* **6**(3): 5-12.
- Benton, T. 1989. 'Marxism and Natural Limits: an Ecological Critique and Reconstruction', *New Left Review* **178**: 51-86.
- Blaikie, P. and Brookfield, H. 1987. *Land Degradation and Society*. London: Methuen.
- Boulding, K. 1966. 'The Economics of the Coming Spaceship Earth'. In H. Jarrett (ed), *Environmental Quality in a Growing Economy*. Baltimore: John Hopkins.
- Bradford, G. 1989. 'Return of the Son of Deep Ecology; the Ethics of Permanent Crisis and the Permanent Crisis in Ethics', *Fifth Estate* **24**(1): 5-32.
- Bramwell, A. 1985. *Blood and Soil: R.W. Darre and Hitler's Green Party*. London: Kensal.
- Brundtland, G.H. 1987. *Our Common Future*. The World Commission on Environment and Development. London: OUP.
- Caldwell, M., Coates, K., Jungt, R., Kapp, K. and Stoneman, C. 1972. *Socialism and the Environment*. Nottingham: Spokesman.
- Clay, D.C. and Vander-Haar, J.E. 1993. 'Patterns of Intergenerational Support and Childbearing in the Third World', *Population Studies* **47**(1): 67-83.
- Dobson, A. 1990. *Green Political Thought*. London: Harper Collins Academic.
- Dobson, A. 1992. *Green Political Thought* (reprint). London: Routledge.
- Dreze, J. and Sen, A. 1990. *The Political Economy of Hunger* (three volumes). Oxford: Clarendon Press.
- Dunleavy, P. 1981. 'Alternative Theories of Liberal Democratic Politics: the Pluralist-Marxist Debate in the 1980s'. In D. Potter (ed.) *Society and the Social Sciences*. London: Routledge.
- Eckersley, R. 1988. 'The Road to Ecotopia? Socialism vs Environmentalism', *The Ecologist* **18**(4/5): 142-7.
- Eckersley, R. 1992. *Environmentalism and Political Theory*. London: UCL Press.
- Ehrlich, P.R. and Holdren, J.P. 1971. 'Impact of Population Growth', *Science* **171**: 1212-17.
- Enzenberger, H.M. 1974. 'A Critique of Political Ecology', *New Left Review* **84**: 3-31.
- Grimes, S. 1998. 'From Population Control to 'Reproductive Rights': Ideological Influences in Population Policy', *Third World Quarterly* **19**: 375-393.
- Hardin, G. 1968. 'The Tragedy of the Commons', *Science* **162**: 1243-8.
- Hardin, G. 1974. 'The Ethics of a Lifeboat', *BioScience* **24**: 10.
- Harrison, P. 1993. *The Third Revolution*. London: Penguin.
- Hartmann, B. 1987. *Reproductive Rights and Wrongs – The Global Politics of Population Control and Contraceptive Choice*. London: Harper and Row.
- Harvey, D. 1974. 'Population, Resources, and the Ideology of Science', *Economic Geography* **50**: 256-77.
- Harvey, D. 1999. 'On Fatal Flaws and Fatal Distractions', *Progress in Human Geography* **23**(4): 557-63.

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- Hettne, B. 1990. *Development Theory and the Three Worlds*. New York: Longman Scientific, Wiley.
- Hilgartner, S. and Bosk, C. 1988. 'The Rise and Fall of Social Problems: a Public Arenas Model', *American Journal of Sociology* **94**: 53-78.
- Hudis, P. 2000. 'The Dialectical Structure of Marx's Concept of "Revolution in Permanence"', *Capital and Class* **70**: 127-43.
- Illich, I. 1973. *Celebration of Awareness*. Berkeley: Heyday.
- Illich, I. 1974. *Tools for Conviviality*. New York: Harper and Row.
- Irvine, S. and Ponton, A. 1988. *A Green Manifesto: Policies for a Green Future*. London: Macdonald Optima.
- Jamison, A. and Baark, E. 1999. 'National Shades of Green: Comparing the Swedish and Danish Styles in Ecological Modernisation', *Environmental Values* **8**: 199-218.
- Johnston, R.J. 1989. *Environmental Problems: Nature, Economy and State*. London: Belhaven.
- Jones, A. 1999a. 'Dialectics and Difference: Against Harvey's Dialectical "Post-Marxism"', *Progress in Human Geography* **23**(4): 529-55.
- Jones, A. 1999b. 'Notes from the Deck of the Postmodern Titanic: a Response to David Harvey', *Progress in Human Geography* **23**(4): 563-66.
- Kolakowski, L. 1978. *Main Currents of Marxism: its Origin, Growth and Dissolution*. Oxford: Clarendon Press.
- Kneese, A.V. 1977. *Economics and the Environment*. London: Penguin.
- Luke, T. 1993. Reviews Section. *Telos* **97**: 141-54. [Refer also to Luke, T. 1991. 'Community and Ecology', *Telos* **88**: 69-79.]
- Lummis, C. D. 1996. *Radical Democracy*. Ithaca and London: Cornell University Press.
- Mabogunje, A. 1980. *The Development Process*. London: Hutchinson.
- Maddox, J. 1972. *The Doomsday Syndrome*. London: MacMillan.
- Malthus, R.T. 1969. 'An Essay on the Principle of Population'. In G. Hardin (ed.), *Population, Evolution and Birth Control*, pp.4-17. San Francisco: Freeman.
- Martinez-Alier, J. (with K. Schlüppmann). 1987. *Ecological Economics: Energy, Environment and Society*. Oxford: Blackwell.
- Marx, K. 1932. *Capital*, vol.1. (Everyman's Library, no. 848). London: Dent. Also: Marx, K. 1959. *Capital*. Moscow: Foreign Languages Publishing House.
- Maxwell, D. and Wiebe, K. 1999. 'Land Tenure and Food Security: Exploring Dynamic Linkages', *Development and Change* **30**(4): 825-849.
- Meadows, D.H., Meadows, D.L., Randers, J. and Behrens III, W.W. 1972. *The Limits to Growth*. London: Pan.
- Meyer, W.B. 1996. *Human Impact on the Earth*. Cambridge University Press.
- O'Riordan, T. 1976. *Environmentalism*. London: Pion.
- Pearce, D., Barbier, E. and Markandya, A. 1990. *Sustainable Development*. London: Earthscan.
- Pepper, D. 1993. *Eco-socialism: from Deep Ecology to Social Justice*. London: Routledge.
- Petrucci, M. 1997. 'Television Environments and the Fourth Scopic Epoch', *Social Alternatives* **16**(1): 47-51.
- Petrucci, M. 1998. 'Future Generations: A Right Way Forward?', *Soundings* **9**: 42-56.
- Petrucci, M. 1999. 'Engineering Trick or Treat? The Impact of Large-Scale Dams on Developing Countries', *Engineering Science and Education Journal* **8**(2): 73-80.
- Porritt, J. 1986. *Seeing Green*. Oxford: Blackwell.
- Porritt, J. and Winner, D. 1988. *The Coming of the Greens*. London: Fontana.

- Prebble, J. 1969. *The Highland Clearances*. Middlesex: Penguin.
- Redclift M. 1986. 'Redefining the Environment Crisis in the South'. In J. Weston (ed.) *Red and Green*, pp.81-101. London: Pluto.
- Rees, J. 1990. *Natural Resources: Allocation, Economics and Policy*. London: Routledge.
- Schumacher, E.F. 1973. *Small is Beautiful*. London: Abacus.
- Sen, A. 1981. *Poverty and Famines*. Oxford: Clarendon.
- Thirlwall, A.P. 1978. 'The Population Problem'. In *Growth and Development*, chapter 6. New York: Macmillan.
- Tokar, B. 1987. *The Green Alternative*. San Pedro, R. and E. Miles.
- Tudge, C. 1977. *The Famine Business*. London: Faber and Faber.
- Warner, S., Feinstein, M., Coppinger, R. and Clemence, E. 1996. 'Global Population Growth and the Demise of Nature', *Environmental Values* 5: 285-301.
- Wright, J.B. (ed). 1974. *Block 6. Implications: Limits to Growth?* Milton Keynes: The Open University Press.
- Young, R.C. 1988. 'Is Population Ecology a Useful Paradigm for the Study of Organizations?', *American Journal of Sociology* 94(1): 1-24.