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Economic Growth Vs. The Environment?

The Need for New Paradigms in Economics, Business Ethics, and Evangelical Theology

John Jefferson Davis

'Animosity has traditionally existed between environmental advocates and those whom they perceive as the enemy—business,' noted Gregory Adamian, president of Bentley College, on the occasion of a conference hosted by his institution on the theme of 'The Corporation, Ethics, and the Environment.'[1] This tension between environmentalists and the business community can be observed in global, regional and local settings—as, for example, in the controversies surrounding the deforestation of the Amazon rainforests, and battles between the logging interests in the Pacific Northwest and animal rights activists seeking to protect the habitats of the spotted owl.[2]

It is not the purpose of this paper[3] to address the issue of 'economic growth vs. the environment' in general, but rather to argue more specifically that the current paradigms in economics, business ethics, and evangelical theology are inadequate and in need of substantial revision.[4] After a brief review

1 In W. Michael Hoffman, Robert Frederick, and Edward S. Petry, Jr., eds., *The Corporation, Ethics, and the Environment* (New York: Quorum, 1990), xii.

2 See, for example, Robert Bonnie, et al, 'Counting the Cost of Deforestation', Science 288 (9 June 2000), 1763–4; Lisa Newton and Catherine Dillingham, 'Forests of the North Coast: the Owls, the Trees, and the Conflicts', in Laura Pincus Hartman, *Perspectives in Business Ethics* (Chicago: Irwin/McGraw-Hill, 1998), 704–11.

3 The author wishes to thank Rev. William Messenger of the Mockler Center for Faith and Ethics in the Workplace for the generous support provided for this research project.

4 The standpoint assumed by the author in this paper is that known as 'sustainable development', as defined in note 7 below.

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of the historical development of the current discussion, it will be argued that neo-classical economists, business ethicists, and evangelical theologians have not generally in the past taken *creation* or the *environment* seriously enough as a crucial element in the frameworks and paradigms of their disciplines. The paper will conclude with a proposal that these disciplines need a new paradigm of 'theocentric, creation-connectedness' to deal more adequately with the environmental challenges of our time.

I Historical Context of the Debate

Since the 1970s two powerful trends around the globe have been in conflict: the movement toward free market economies, and the growth of the environmental movement.[5] Environmental concern and activism has accelerated since the first Earth Day in 1970, and the movement toward free market economies has accelerated since 1989 with the fall of communism in the former Soviet Union. The influential 1972 publication by D.H. Meadows and others, *The Limits to Growth*, argued that present trends in economic growth begun with the Industrial Revolution could not be sustained indefinitely without producing environmental catastrophe.[6]

The concept of 'sustainable development' was popularized by the 1987 report of the Brundtland Commission, a panel of experts assembled under the leadership of the then prime minister of Norway.[7] This report evoked various responses defending continuing economic growth and questioning the seriousness of environmental problems, notably works by Julian Simon and Herman Kahn.[8] This debate between the so-called 'cornucopian', pro-growth and 'sustainable development,' limits-to-growth points of view has been reflected in evangelical circles as well.[9] The standpoint assumed by this author is that of 'sustainable development,'

5 Denis Collings and John Barkdull, 'Capitalism, Environmentalism, and Mediating Structures: From Adam Smith to Stakeholder Panels', *Environmental Ethics* 17 (1995), 227–44 at 227.

6 D.H. Meadows, et al, *The Limits to Growth* (New York: Universe, 1972).

7 The report of the Brundtland Commission was published under the title *Our Common Future* (London: Oxford UP, 1987). 'Sustainable development' has been defined as 'development that does not destroy or undermine the ecological, economic or social basis on which continued development depends'. In Rudi M. Verburg and Vincent Wiegel, 'On the Compatibility of Sustainability and Economic Growth', *Environmental Ethics* 19 (1997), 247–65 at 250.

8 Julian L. Simon, *The Ultimate Resource* (Princeton, NJ: Princeton UP, 1981), arguing for the long-term economic benefits of population growth, and Julian L. Simon and Herman Kahn, eds., *The Resourceful Earth* (New York: Basil Blackwell, 1984), questioning the environmental pessimism of the *Global 2000 Report to the President* of 1980.

9 See, for example, Richard T. Wright, 'Tearing Down the Green: Environmental Backlash in the Evangelical Sub-Culture', *Perspectives on Science and Christian Faith* 47:2 (June 1995), 80–91, responding to the 'cornucopian' point of view in Larry Burkett, *Whatever Happened to the American Dream* (Chicago: Moody, 1993); E. Calvin Beisner, *Prospects for Growth* (Westchester, IL: Crossway, 1990), and *Where the Garden Meets the Wilderness: Evangelical Entry into the Environmental Debate* (Grand Rapids: Eerdmans, 1997).

and from this perspective the paper will proceed with an examination of existing paradigms in neo-classical economics, business ethics, and evangelical theology.

II Neo-Classical Economics

Since the 1970s a growing number of environmentalists and ethicists have argued that the traditional categories of neo-classical economics that have prevailed in the discipline since 1870 are conceptually inadequate to deal with current ecological problems. Traditional categories of cost-accounting such as Gross Domestic Product and depreciation have not reflected the true environmental and social costs of industrial activity. The cost of cleaning up the oil spillage of the *Exxon Valdez* disaster, for example, is counted as a gain to the Gross Domestic Product rather than as an environmental loss. Keynesian economics counts the cost of depreciation of a factory, but tends to ignore the depreciation of natural resources such as soil fertility and clean water, treating the environment as a 'free' good.[10]

Neo-classical economics' model of the modern economy as an 'auction' where prices are determined by consumer preferences tends to undervalue and under-represent the interests of future generations who have no direct voice in the 'auction.' The assumption that those in the auction have 'perfect information' to inform their preferences overlooks the fact that in the real world consumers may lack scientific knowledge about the possible damage that certain chemicals and technologies, e.g. mercury and DDT, can inflict on human health and the ecosystem.[11] The damage may already be done before the information is available, and the damages may be irreversible, at least within the limits of a human lifetime.

The economic category of commodity price is inadequate to deal with the full range of aesthetic, historical, religious, and scientific values that are important to humane societies.[12] Would it make any sense to place the Statue of Liberty on the auction block and sell it to Walmart on the basis of market forces alone? Should the market alone determine the allocation of monies for fundamental scientific research in areas such as high-energy physics, that may have no immediate payoff in economic terms? Critics of neo-classical economics think that the answers to such questions are an obvious 'no'.

Academic economists are not unaware, of course, of these problems. The term 'externalities' is used to describe cases of market failure where economic transactions impose costs on non-consenting secondary parties.[13] A chemical plant that dumps mercury wastes into a river imposes external costs on the surrounding residents

10 A.J. McMichael, *Planetary Overload: Global Environmental Change and the Health of the Human Species* (Cambridge: Cambridge UP, 1993), 298–301; see also Al Gore, *Earth in the Balance: Ecology and the Human Spirit* (Boston: Houghton Mifflin, 1992), 183–91.

11 John M. Gowdy and Peg R. Olsen, 'Further Problems with Neo-classical Economics', *Environmental Ethics* 16 (1994), 161–171 at 169–70.

12 Holmes Rolston, III, 'Valuing Wildlands', *Environmental Ethics* 7 (1985), 23–48.

13 James D. Gwartney and Richard Stroup, *Economics: Private and Public Choices*, 3rd ed. (New York: Academic Press, 1982), 610.

who prefer clean water. The market price of the chemical does not in such a case reflect the true social cost, since the manufacturer is not assuming the full responsibility for his actions.

One attempt to remedy these limitations of traditional economic theory is known as 'contingent evaluation' or 'shadow pricing'.[14] Consumers are polled and asked how much they might be willing to pay to preserve an old-growth forest, for example, from logging or real estate development. The problem with such a methodology, however, is that it assumes that consumer preferences are well informed as to the scientific and other intangible values of the property in question. Consumers who are polled as to their preferences regarding the preservation of the Amazonian rainforest may not be aware of the role that such ecosystems play in the stabilization of regional and global climates.[15]

The sub-discipline known as 'free market environmentalism' has also tried to address these problems.[16] Proponents of this point of view believe that many environmental problems can be handled more efficiently by the private sector rather than government through a more thorough assignment of property rights. Tradeable pollution permits, for example, rather than top-down emission controls are said to be more effective in controlling water and air pollution. The property-rights approach is not adequate, however, in such cases as migratory animals or preserving the integrity of the ozone layer. Government must still establish acceptable levels of air or water pollution in a given region based on scientific—not merely market—considerations of acceptable health risks.

'Shadow pricing' and 'free market environmentalism' represent 'tinkering' with the existing paradigm in tradition neo-classical economics. More radical critics such as Herman Daly have argued that the paradigm itself is inadequate and are calling for a new 'ecological economics'.[17] According to Daly, traditional economic theory

14 See, for example, Steven Edwards, 'In Defense of Environmental Economics', *Environmental Ethics* 9 (1987), 73–…, and Bernard J. Nebel and Richard T. Wright, *Environmental Science: The Way the World Works*, 4th ed. (Englewood Cliffs, NJ: Prentice Hall, 1993), 387–88.

15 Mohammed H. I. Dore, 'The Problem of Valuation in Neo-classical Environmental Economics', *Environmental Ethics* 18 (1996), 65–70 at 69. On the crucial role and valuation of 'ecosystem services,' see Gretchen C. Daly, ed., *Nature's Services: Societal Dependence on Natural Ecosystems* (Washington, D.C.: Island Press, 1997).

16 Terry L. Anderson and Donald R. Leal, *Free Market Environmentalism* (San Francisco: Pacific Research Institute for Public Policy, 1991); Peter J. Hill, 'Can Markets or Government Do More for the Environment?' in Michael Cromartie, ed., *Creation at Risk? Religion, Science, and Environmentalism* (Grand Rapids: Eerdmans, 1995), 121–136; PERC Reports and various publications of the Political Economy Research Center, Bozeman, MT, {www.perc.org}.

17 Herman E. Daly and John B. Cobb, Jr., *For the Common Good: Redirecting the Economy Toward Community, the Environment, and a Sustainable Future* (Boston: Beacon, 1989); Herman E. Daly, *Beyond Growth: The Economics of Sustainable Development* (Boston: Beacon, 1996); Rajaram Krishnan, Jonathan M. Harris, and Neva R. Goodwin, eds., *A Survey of Ecological Economics* (Washington, D.C.: Island Press, 1995); Juan Martinez-Alier, *Ecological Economics: Energy, Environment and Society* (Oxford: Basil Blackwell, 1987).

is based on a 'pre-analytic vision'[18] of the world in which creation or nature is largely absent or simply assumed as a 'given'. In the traditional model the economy is an isolated system in which firms produce goods and services and households supply factors of production in a never-ending circular flow. A new paradigm is needed in which the global economy is seen as a *subset* of the global ecosystem, and dependent upon it. The new paradigm recognizes that in this period of history it is *natural* capital, not man-made capital, that is emerging as a fundamental constraint on economic growth.[19]

Traditional neo-classical economics, emerging in the 1870s, tended to assume the environment as a given 'background' to human economic activity, an unlimited set of 'sources' of raw materials and 'sinks' for waste products. Economic growth was assumed as a self-evident good.[20] Since the 1870s, world population has more than quadrupled. Humans in the twentieth century used *ten times* more energy than humanity used in the entire thousand year period before 1900.[21]

Traditional neo-classical economics with its categories of markets and prices is a very efficient means of resolving the issues of *allocation* ('What goods and services shall we produce?') and *distribution* ('Who shall enjoy the goods and services that are produced?'), but has ignored the issue of the *absolute scale* of the global economy relative to the global ecosystem that supports it.[22] 'If there was ever a time', observe Gowdy and Olsen, 'when economic theory could ignore the natural world, that time has past.'[23] If one billion Indians and 1.2 billion Chinese were to demand the number of automobiles, refrigerators, and washing machines consistent with western patterns of consumption, and were to burn fossil fuels at western rates, it could not be assumed that the impacts on global warming and on the ozone layer would be benign. It is high time for economists to recognize the global ecosystem and to make it a fundamental part of the governing paradigm of their discipline.

III Emerging Trends in Business Ethics

In recent years there has been an emerging awareness in the business community that perspectives in business ethics must be more comprehensive than considerations of the 'bottom line'. As W. Michael Hofman has

18 On the concept of 'pre-analytic vision', cf. the discussion of 'vision' in Thomas Sowell, *A Conflict of Visions: Ideological Origins of Political Struggles* (New York: William Morrow, 1987), 14: 'A vision has been described as a 'pre-analytic cognitive act.' It is what we sense or feel *before* we have constructed any systematic reasoning that could be called a theory … A vision is our sense of how the world works.'

19 See figures 2 and 3 in Daly, *Beyond Growth*, 47, 49.

20 According to McMichael, *Planetary Overload*, 302, neo-classical economics '… has not only discounted impacts upon the environment; it has explicitly encouraged excessive extraction, harvesting, consumption and waste—all in the exalted cause of expanding the GNP'.

21 J.R. McNeill, *Something New Under the Sun: An Environmental History of the Twentieth-Century World* (New York: Norton, 2000), xvi.

22 Daly, *Beyond Growth*, 56.

23 Gowdy and Olsen, 'Further Problems with Neo-classical Economics', 171.

observed, the new 'business ethics' movement rejects the mistaken belief that '… business only has responsibilities to a narrow set of its stakeholders, namely its stockholders'.[24] At least since the 1980s there has been a growing recognition that business has ethical obligations that include the environment as well as the local human communities that provide the infrastructures within which business activity takes place.[25] Ethics in business is not a matter of 'mere compliance', operating within the letter of the law, but should involve a more active posture of 'doing no harm' to human communities and the environment, and 'doing good' wherever possible.[26]

Mainstream publications in business ethics and management have tended to ignore faith perspectives. As Laura Nash has noted, these discussions have marginalized religious concerns as they may relate to decision making, and have focused instead on 'proper values' for business as theorized by economists such as Milton Friedman or sociologists such as Amitai Etzioni, on issues of corporate ethics codes and training programmes, and on ethical dilemmas presented as case studies in the business schools.[27] This paper would call for a conception of business ethics that incorporates both environmental concerns and faith perspectives.

Evangelicals writing in the area of business ethics have brought biblical perspectives to the issues, but by and large have not integrated environmental concerns into their discussions. Richard Chewning, professor of Christian Ethics in Business at Baylor University, has edited a series of books on biblical principles in business and economics. In the first volume on 'Foundations,' one contributor, Kenneth Kantzer, notes that the biblical doctrine of creation implies that humans are to exercise dominion over nature in such a way as '… to guard those resources … seeing to it that they make their greatest possible contribution for the good of all humanity'.[28] This environmental concern is largely lacking, however, in the volume where biblical principles are applied to specific areas of business such as planning, marketing, advertising, accounting, and investing.[29]

In a text intended primarily for students at Christian colleges, *Business Through the Eyes of Faith*, Chewning, Eby, and Roels devote three pages to

24 Hofman, 'Business and Environmental Ethics', 697–703 at 703, in Hartman, *Perspectives in Business Ethics*; also reprinted in Tom L. Beauchamp and Norman E. Bowie, eds., *Ethical Theory and Business*, 4th ed. (Englewood Cliffs, NJ: Prentice-Hall, 1993), 217–23; originally published in *Journal of Business Ethics* 9 (1990), 579–89.

25 The volume *The Corporation, Ethics, and the Environment*, Hofman, ed, cited above, is an example of the attempt to integrate business ethics and environmental concerns.

26 Kirk Davidson comments on the willingness of corporations such as Chevron to 'accept … [environmental] responsibilities and go beyond mere compliance [to environmental regulations] in his article 'Straws in the Wind: The Nature of Corporate Commitment to Environmental Issues', 57–66 at 61, in Hofman, *The Corporation, Ethics, and the Environment*.

27 Laura L. Nash, *Believers in Business* (Nashville: Thomas Nelson, 1994), ix, x.

28 In Richard C. Chewning, ed., *Biblical Principles and Business: The Foundations* (Colorado Springs: NavPress, 1989), 25.

29 Richard Chewning, ed., *Biblical Principles and Business: The Practice* (Colorado Springs: NavPress, 1990).

a section titled 'Responsibility for the Environment'. They note that Christians '… should be concerned for the environment as a matter of good stewardship', and in a study question challenge the student to think of ways that such stewardship could be exercised so as to benefit future generations and those living in other parts of the world.[30]

William Diehl's *The Monday Connection* is one of the more helpful contributions to the growing literature relating Christian faith to the workplace. Diehl discusses specific ways that Christians can be effective witnesses on the job, through competency, caring presence, lifestyle choices, and ethical integrity, but environmental issues in business are not addressed in any substantial way. 'Stewardship' is developed in terms of personal giving, use of time, and lifestyle choices, but not in relation to larger environmental concerns.[31]

The *Complete Book of Everyday Christianity* is presented as 'An *A-to-Z* Guide to Following Christ in Every Aspect of Life'. Strangely, however, the index of 'Ethical Issues' contains no entry on 'Ecology' or 'Environment', and the article on 'Business Ethics' is silent on these topics as well.[32] Alexander Hill's *Just Business: Christian Ethics for the Marketplace* is notable for its environmental awareness, devoting a complete chapter to such concerns. Hill argues that a biblical understanding of stewardship '… leads us to care for nature as one aspect of our vocational calling to love God and neighbor'.[33]

IV Evangelical Ethics and Theology

If evangelical authors working in the area of business ethics have had a mixed record concerning the incorporation of environmental issues into their fields of vision, this may only be a reflection of the state of evangelical ethics generally. This writer's own *Evangelical Ethics: Issues Facing the Church Today*, now in its second edition (4th edition was published 2015—ed.) , deals with issues of human relationships and sexuality such as marriage, divorce, abortion, homosexuality, and euthanasia, but does not address global environmental problems.[34]

Carl F.H. Henry, the editor of *Baker's Dictionary of Christian Ethics*, did include an article on 'Environmental Pollution' in this reference work. V. Elving Anderson, the author of the article, observed that the concept of 'dominion' in the first chapter of Genesis does not mean exploitation. The command to subdue and to exercise dominion is balanced in Genesis 2 by the instruction to dress and to keep the land. 'Stewardship' should not be limited to money and personal talents; environmental

30 Richard C. Chewning, John W. Eby, and Shirley J. Roels, *Business Through the Eyes of Faith* (San Francisco: HarperCollins, 1990), 219, 220.

31 William E. Diehl, *The Monday Connection: On Being an Authentic Christian in a Weekday World* (San Francisco: HarperCollins, 1991), 145–161.

32 Robert Banks and R. Paul Stevens, eds., *The Complete Book of Everyday Christianity* (Downers Grove, IL: IVP, 1997), 1158; 90–96.

33 Alexander Hill, *Just Business: Christian Ethics for the Marketplace* (Downers Grove, IL: IVP, 1997), 196.

34 John Jefferson Davis, *Evangelical Ethics: Issues Facing the Church Today*, 2nd ed. (Phillipsburg, NJ: Presbyterian and Reformed, 1993).

concerns should be included in stewardship programmes in churches.[35]

John and Paul Feinberg's text, *Ethics For a Brave New World*, like Davis's, tends to focus issues of sexual and medical ethics. There are chapters on abortion, euthanasia, capital punishment, birth control, homosexuality, divorce, remarriage, genetic engineering, and war, but the index contains no entries for 'ecology' or 'environment' or 'environmentalism'.[36]

Robertson McQuilkin's *An Introduction to Biblical Ethics* does include the environment in his field of concern. In a brief (3 pages out of 535) but insightful section, he notes that at the root of much of the current environmental problem is a '… consumer economy aimed at material affluence, which deliberately sacrifices long-range benefit for short-range economic profit'. Love for the 'neighbour' includes love for and care of creation, and love for God requires the stewardship of creation for the glory of God and the welfare of humanity.

The uneven record of evangelical ethicists in matters of environmental concern reflects the state of evangelical theology generally. A recent examination of the content of twenty representative evangelical systematic theology textbooks published since 1970 found that in the chapters on the doctrine of creation, the median figure for the amount of space devoted to matters of environmental stewardship was about 1%. The median figure for the amount of space devoted to matters such as evolution, the age of the earth, and the days of Genesis one was about 31%. It was apparent that evangelical theologians have tended to devote disproportionate amounts of attention to matters of *origins* and too little to matters of humanity's proper *relationship* to creation.[37]

As Paul Santmire has pointed out, the history of Christian theology in general has shown a very mixed record in its sensitivity to and concern for nature. Some theologians such as Irenaeus, Augustine, and St. Francis have been very affirming of nature, while Origen and others have been very 'otherworldly' in their spirituality and have not fostered appreciation of the material order.[38] Luther and Calvin are very appreciative of the wonders of nature and look forward to a new creation, but the centre of their theological interest is soteriological, focused on grace and the God-human relationship. In the twentieth-century neo-orthodox theology of Barth, Brunner, and Bultmann, this soteriological concentration is accentuated, 'redemptive *history*' is brought to the forefront, and nature be-

35 Carl F. H. Henry, ed., *Baker's Dictionary of Christian Ethics* (Grand Rapids: Baker, 1973), 209–12.

36 John S. Feinberg and Paul D. Feinberg, *Ethics For a Brave New World* (Wheaton, IL: Crossway, 1993).

37 John Jefferson Davis, 'Ecological 'Blind Spots' in 'The Structure and Content of Recent Evangelical Systematic Theologies', *Journal of the Evangelical Theological Society* 43:2 (June 2000), 273–286. On this point see also Jonathan R. Wilson, 'Evangelicals and the Environment: A Theological Concern', *Christian Scholar's Review* 28/2 (1998), 298–307, and R.J. Berry, 'Creation and the Environment', *Science and Christian Belief* 7/1 (1995), 21–43.

38 H. Paul Santmire, *The Travail of Nature: The Ambiguous Ecological Promise of Christian Theology* (Minneapolis: Fortress, 1985).

comes a marginal concern.[39]

The formulation of the church's doctrine of creation has always been influenced by the conditions of the time. The early church asserted the goodness of the material world (Gen 1) against the Gnostics, and developed the understanding of creation *ex nihilo* in the face of Greek notions of the eternity of matter.[40] Today, the Christian doctrine of creation needs to address the challenges of the global environmental crisis. The need is not merely to repeat earlier affirmations of the metaphysical goodness of creation, but to emphasize the intrinsic value of the created order and humanity's moral obligation to preserve and care for it.

V A New Paradigm

The need for new conceptual frameworks that connect the concerns of environment, economy, business ethics, and theology has been recognized by various writers.[41] This paper concludes with an appeal for Christians working in economics, business ethics, and evangelical theology to consider the merits of a new paradigm that could be termed 'theocentric, creation-connectedness'.

In the proposed paradigm, the natural world is not just a 'background' for human activity, but has *intrinsic value* as the creation of God (Gen 1:31), and is recognized as itself being included in the redemptive purposes of God (Rom 8:31, 32; Col 1:15–20). Human beings are understood theologically not only terms of the God-human and human-human relationships, but also as being integrally related to the natural environment that makes human life possible[42] and for which humans bear ethical responsibility. Because creation has intrinsic value, and because economic activity is integrally connected to the ecosystems which sustain such activity, business leaders have a moral responsibility not merely to *appear* to be environmentally responsible, but to be actually so.

Theologically, taking such a new

39 Harold Oliver, 'The Neglect and Recovery of Nature in Twentieth-Century Protestant Thought', *Journal of the American Academy of Religion* 60:3 (1992), 379–404 at 381–3.

40 On the history of the development of the Christian doctrine of creation, see Denis Carroll, 'Creation', *The New Dictionary of Theology*, ed. Joseph A. Komonchak, Mary Collins, and Dermot A. Lane (Wilmington, DE: Michael Glazier, 1987), 249–258; Emil Brunner, 'On the History of the Doctrine of Creation', in Emil Brunner, *The Christian Doctrine of Creation and Redemption* (London: Lutterworth, 1964), 36–39.

41 In addition to the work of Herman Daly noted above, see also Frederick Ferre, 'Persons in Nature: Toward an Applicable and Unified Environmental Ethics,' *Zygon* 28:4 (1993), 441–53 at 442, calling for a revised worldview of 'personalistic organicism' in which persons are in '… continuity with—but not on all fours with—the rest of the natural order'; Sandra Rosenthal and Rogene A. Buchholz, 'Bridging Environmental and Business Ethics: A Pragmatic Approach', *Environmental Ethics* 20 (1998), 393–408 at 408, proposing a neo-pragmatic conceptual framework in which there is a recognition that '… the corporation has its being through its relation to a wider environment and this environment extends to the natural world'.

42 In this paradigm humans are understood both in terms of 'dust' (Gen 2:3) and 'dominion' (Gen 1:26); i.e., as both dependent on the natural order and integrally related to it, and at the same time having responsibility to exercise wise stewardship over the natural order.

paradigm seriously would involve rethinking basic Christian doctrines from the perspective of 'creation-connectedness'. Discussions of the doctrine of creation would not be preoccupied with questions of origins and evolution, but would articulate humanity's obligation to be rightly related to creation and to care for it. Christian *anthropology* would take seriously the biblical insight that man is 'dust', connected with the earth and with the larger terrestrial and cosmic processes that sustain human life and make it possible. The doctrine of *original sin* would be seen as a reminder that man's fall affected not only humanity but creation itself (Gen 3:17). *Personal sin* involves not only sins against God, the neighbour, and the self, but sinful abuses of the earth as well.

In the area of Christology, the *Incarnation* would be seen as God's own affirmation of the intrinsic value of creation, and the manifestation of God's enduring intent to enter into a redemptive relationship with it. The *atonement* provided the basis not only for humanity's reconciliation with God, but also for the ultimate reconciliation of creation as well (Col 1:19, 20). In the area of *ecclesiology*, the mission of the church would be seen to incorporate not only the Great Commission (Mt 28:19–20), but the cultural mandate (Gen 1:26–28) as well, including all those activities that bring redemptive influences to bear on culture and creation.

The *sacraments* of baptism and the Lord's Supper remind the church that the grace of God is mediated through the structures of creation and the elements of the material world, and not apart from them. A Christian and biblical eschatology would not be limited to an individualistic hope for a 'heaven' disconnected from the world, but to a New Heaven and a *new earth* (Rev 21:1), in which a redeemed humanity enjoys communion with God in the context of a *new creation*.

Christians should welcome the efforts of those working in the area of 'ecological economics,' and encourage efforts to enlarge the categories of traditional economic theory so as to recognize that *natural* capital, not just buildings and machines, need to be depreciated and reckoned in schemes of cost accounting. Business ethicists need to be encouraged to enlarge their paradigms beyond shareholder and letter-of-the-law interests to incorporate the real connections with the human communities and physical environments that provide the infrastructures that ultimately make the creation of wealth possible.

The interconnected nature of the environment, the global economy, and human activity is becoming increasingly evident in the contemporary world. It is time for Christians working in the areas of economics, business ethics, environmentalism, and theology to explicitly recognize the new realities in the basic conceptual frameworks of their respective disciplines.