

# Greens and Two Cultures

## *Is there a fault line between science/technology and environmentalists?*

by Otis L. Graham Jr.

C. P. Snow complained in 1959 that throughout the West a gulf of miscomprehension separated “the culture of science” from the other half of the world of intellect, which he called “the culture of letters.” He appealed for a narrowing of that gulf, to “produce creative chances” by interaction. But it was clear that his real intention was to somehow instruct the latter culture in the superiority of the former, so that the world could be saved by science and technology. The culture of letters was to him hopelessly reactionary, lacking not only the optimism but also the superb transnational reform moral vision of science, allied to the Industrial Revolution.

Snow had not changed his mind on any part of “this assembly of topics” when he looked back on the essay and the attendant controversy four years later (see Snow, “The Two Cultures, A Second Look,” in C. P. Snow, *The Two Cultures* (Cambridge University Press, 1993, rev.; Introduction by Stefan Collini), but after forty years one is astonished at the changes in outlook that have taken place. Probably the chief of these is how far we have come from Snow’s view of science, as other writers in this symposium make clear. Science, the heart of the Enlightenment and the Western idea, is not only invaluable. It is also, in varying ways depending upon who makes the point, socially constructed and thus fallible, in need of intelligent critique and supplementation in ways that are not and will surely never be settled matters. The program that he derived out of science — the transformation of the impoverished Third World into societies as advanced and affluent as the West, and all this in one or two generations — did not of course arise out of science, but from Snow’s own moral compass.

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Science and technology were only the tools and enablers. When asked by a campus audience in 1971 what was “the cause,” Snow responded: “Peace. Food. No more people than the earth can take.” (lxxi) He had not reached into a box labeled “science” and pulled out that compelling summary. A life in science had presumably supplied a vision of large possibilities, but the moral choices arose out of family, church, school, the playing fields of Eton. Snow wrote at the peak of the prestige of both science and technology, and invited a wider conversation with the other, rival culture, anticipating capitulation. Whatever has happened on the literary, non-science side, science and technology have over the rest of this century been negotiating claims in the territory he thought rightfully theirs alone — what should we do? After science speaks, then we get down to moral choices.

If this much is obvious, perhaps not everyone interested in these issues has followed their evolution in the enterprise that might be called the greening of modern consciousness. It is no secret that environmentalism as a social movement and assemblage of ideas has had some contentious relations with science (and technology) of late. Indeed, were Snow to return and write that essay again today, he might well lump the Greens in with the literary reactionaries as hopelessly anti-science. Others do so in his absence. Paul Gross and Norman Levitt, in their *Higher Superstition: The Academic Left and Its Quarrels With Science*, quote ecofeminist Carolyn Merchant arguing (in their view) that the emergence of the scientific worldview “desacralized nature,” identified it as female, and led both nature and women to become the objects of rapacious exploitation. Thus “radical environmentalism” must reject the authority of science and use other tools.<sup>(1)</sup> This somewhat misstates Merchant’s quarrel with science, which is serious enough. “Mechanism is her word for C. P. Snow’s science/technology, and it should be replaced by “a spectrum of new sciences” such as James Lovelock’s

Gaia hypothesis and Chaos theory, “infused with an ecological perspective ... rooted in biospecies equality, appropriate technologies” and a rejection of both market economies and male domination.(2)

This one example of a skirmish line of combat between (parts of) science and (parts of) environmentalism could easily be multiplied, undoubtedly to the vexation of C. P. Snow’s spirit. Sierra club Executive Director Carl Pope stirred up commentary with a piece in *Sierra* in 1998 arguing that the scientific community had become the stronghold of the “Promethean ethos” that rejected the idea of limits and saw environmentalists as Luddites.(3) Snow’s reaction to that might well have been to bunch such Sierra Club Greens with the misguided literary intellectuals he had tilted against. Recent writers do this for him. Take as an example Virginia Postrel’s *The Futuro And Its Enemies* (1998), a categorization of Americans into two camps, Dynamists and Stasists, with all environmentalists firmly consigned to the encampment of those “reactionary” (Snow’s most powerful adjective) Stasists who would fight change, limit human freedom, their yearning for the past blocking a better future.(4) Duke geographer (and environmentalist) Martin Lewis, at a conference on “The Flight From Science and Reason” in 1995 conceded that “hostility toward science, coupled with misgivings about reason, is the norm among a sizeable and influential group of academics devoted to the study of ... environmental philosophy.”(5)

The accuracy of this sort of polarizing depiction of a culture war between some forms of radical environmentalism, such as Deep Ecology and Ecofeminism, and some spokespersons for science, is too large a topic for this occasion. I wish to report briefly on another front in the “Science and Its Opponents” debate Snow energized with his 1959 lecture. The science of ecology, mentor and ally to the entire environmentalist project, has in recent years presented a radically different version of natural history that has sent environmentalists scrambling for firm ground.

The science of ecology took form in the 1920s, and toward mid-century gifted writer-ecologists like Aldo Leopold and Paul Sears were conveying to the public its message that everything is connected to everything else and humans had best change course from Environmental destruction to conservation. The early ecologists worked within the pioneering theoretical framework established

by Frederic L. Clements, which portrayed Nature as a series of vegetational successions aiming at a “climax stage” of harmony and balance. Seen in this way, Nature’s “mature ecosystems” took on a sort of primal moral authority, and the task of environmentalists was to align humanity to respect the natural world and protect it. This is the conception arising from ecology that animated and gave resolve to the environmentalist movement of the 1960s and after.

Unkiwn to the movement or to the journalists who reported on it, scientific ecology was veering off in another direction. As traced in the lucid history of ecology by Donald Worster, *Nature’s Economy* (1994 revised), younger scientists were abandoning the Clernentian paradigm. An influential 1973 article in the *Journal of the Arnold Arboretum* by William Drury and Ian Nisbet offered a radically new view that ecological succession does not aim at equilibrium, nor at anything in particular. Other ecologists quickly fleshed out an entirely new vision of Nature as a place of flux and impermanence. The words “disturbance” — by fire, or ice, or drought — became prominent, with Nature now depicted, in Worster’s words, as “a landscape of patches ... a patchwork quilt of living things ... responding to an unceasing barrage of perturbations. The stitches in that quilt never hold for long.”(6)

If this is the state of the art of science — ecology, in this case — C. P. Snow and his many allies would have us all accept it as the last word (for now). But what does this shift in ecological science mean for the environmental protection project? If Mother Nature is not aiming at some climax wilderness, the cathedral that John Muir gave us many reasons so preserve, then what do we preserve or restore, to what state, and why? The teleology of the Green project has been profoundly undermined — or so it seems at this stage, Ruminations on the meaning of this apparent loss of an ideal and anchor for environmentalism, along with the realization that humanity is now irrevocably in charge of what the universe is and what it will become, can be found in Bill McKibben, *The End of Nature* (1996), and William Cronon, ed., *Uncommon Ground* (1996).

But these authors do not challenge the science that presents us with a new Nature, aimless and fluctuating. Donald Worster, however, is not in a science-accommodating mood. “Ecology should never be taken as an all-wise, always trustworthy guide. We must be

willing to challenge this authority, and indeed challenge the authority of science in general, not be quick to scorn or vilify or behead, but simply, now and then, to question.”(7)

To question science? Once upon a time the Yes answer came only from religion, and for the most part that has seemed an unpromising brawl with no agreed upon rules. Then a sort of Yes came also from the literary intellectuals who were ignorant of science and happy to ignore it. Though Snow’s “optimistic technologism,” in Stefan Collini’s phrase, was obviously open to question, he seemed to be winning every argument about science because his opponents were anti-science. But something rather different has happened in this discussion, which he did not live to hear and Worster’s comment marks the change on the terrain of ecological science. Across the range of science a new “chaos theory” from physics spreads, to biology, astronomy, elsewhere. The world is made up of random events beyond human comprehension, is fundamentally disorderly. It is thus beyond collective control. Nature has no infinitely wise plan that we are bound to respect, nor can humans successfully plan for ecological restoration. “What, after all, does the phrase “environmental damage” mean in a world of so much natural chaos?”, Worster asks.(8) We will have to formulate an answer out of our values.

Snow might apprehend this as an attack upon science, but it is instead a challenge to the perceived political implications (“Preserving Nature makes no scientific sense, and thus makes no sense”) of one view of the state of science. If science is socially constructed, that part of it is socially debatable. Human planning which includes restoration and conservation, based on human values, are back on the table.

Is this anti-science? Worster’s objection to chaos theory and the patch chaos of much contemporary ecology is based on the proposition that these schools growing up within science dethrone — “de-center” is the going term — the Enlightenment, and Sir Isaac Newton. A vision of such a disorderly world is the end of science, and must be resisted. Thus what sounds like scientific insubordination can be seen as defense from the outside.

We cannot have Snow’s response to all this, but I find it easy to imagine him heartened that the conversation he wished to provoke has flourished. And that the environmentalist community, with which he had considerable sympathies, contains a mainstream reform

branch with much invested in the scientific project and a feminist/Deep Ecology wing in its own way strongly interested in science (“a spectrum of new sciences,” in Merchant’s words) and technology (“appropriate”). Outright anti-science sentiments can here and there be found in green coloration, but Snow’s education surely told him that this was a permanent condition in all sectors of society. If he described the state of affairs in 1959 accurately, a scientific culture facing an uncomprehending anti-science culture across a great gulf, then it seems that we close the century in a healthier condition than in the 1950s, which suggests progress. Can we score another one for the Enlightenment Team?

#### NOTES

(1) Paul R. Gross and Norman Leavitt, *Higher Superstition: The Academic Left and Its Quarrels with Science* (Johns Hopkins University Press, 1994), p.153. See also Carolyn Merchant, *The Death of Nature: Women, Ecology, and the Scientific Revolution* (Harper and Row, 1980).

(2) Carolyn Merchant, *Ecological Revolutions: Nature, Gender, and Science in New England* (Chapel Hill, 1989), pp.263-70.

(3) Carl Pope, “Science At War With Itself,” *Sierra*, (March/April, 1998), and see also the exchange of letters in *Sierra*, (July/August, 1998), p. 10.

(4) Virginia Postrel, *The Future and Its Enemies* (Free Press, 1998), pp.69-70.

(5) Lewis quoted in Christina Hoff Sommers, “The Flight From Science and Reason,” *The Wall Street Journal* (July 10, 1995), p.A-12.

(6) Donald Worster, “The Ecology of Order and Chaos,” in Char Miller and Hal Rothman, eds., *Out Of The Woods: Essays in Environmental History* (University of Pittsburgh Press, 1997), p.10. See also Worster, *Nature’s Economy* (Cambridge University Press, 1974,1994 revised).

(7) Worster, “The Ecology of Order and Chaos,” p.4.

(8) Ibid., p.16.The