

DEVIANT INTERDISCIPLINARITIES

Steve Fuller

This chapter is concerned with historic attempts to integrate disciplines in ways that have gone against the grain of the development of organized inquiry in the modern era. Many of these attempts are now seen as outright scientific failures, sometimes even politically pernicious, though aspects of these attempts often bore fruit in unexpected domains. A key purpose of this chapter will be to analyse, classify and diagnose dimensions of deviance. Some illustrative cases follow:

(1) Dialectical materialism: A very ambitious project to unify the natural and social sciences under a set of dynamic principles ('laws of dialectics') on the basis of which a specific form of political economy, Communism, is justified as the basis for governing society. Many forms of deviance were at play here, not least the open denial of the distinction between science and politics.

(2) Thomism: Although Thomism remains very much alive and well, especially in Catholic philosophy departments, its ambitions have been quite similar to dialectical materialism's in reaching beyond philosophy to reorganize the sciences - and the university -- for purposes of promoting a certain vision of humanity, in this case one wedded to both the Bible and a broadly Aristotelian essentialist view of nature.

(3) General semantics movement: The brainchild of dispossessed Polish Count Alfred Korzybsky, it is not unfairly likened to what logical positivism might have become had it begun as a relatively populist movement, aimed mainly at the US self-improvement market. Thus, the best seller of the field, S.I. Hayakawa's *Language, Thought and Action* is interestingly compared with A.J. Ayer's *Language, Truth and Logic* in terms of similarity of content but difference in impact.

(4) Operations research: This was the core discipline of 'systems science', which aimed to unify the natural and social sciences under a broadly thermodynamic paradigm that redefined science as the management of energy/information flows. This vision of science, largely influenced by early advances in computer science and technology, was incubated in the RAND Corporation in the 1950s, including the work of such luminaries as Hans Reichenbach, Norbert Weiner and Herbert Simon.

(5) Biophysics: Although this field still exists in name, in the early 20th century, before the quantum mechanics appeared to deeply defy conventional accounts of causation, it was used for the prospect that biological laws might be discovered of roughly the same mechanistic kind that characterised physics. This vision, most influentially articulated in Erwin Schrödinger's Dublin lectures, *What is Life?*, inspired physicists to move into the emerging field of molecular biology in the 1940s, resulting in the breakthroughs associated with DNA, though not an overall reduction of biology to physics.

(6) Lamarckianism: This label stands for the extension of Jean-Baptiste Lamarck's original vision that life should be studied as the self-realization of intelligence on earth, culminating in the human domination of the Earth. This vision, a secular variant on humanity's Biblical entitlement, was influential on many different levels, not least in fostering a unified study of life (Lamarck coined the word 'biology'), which used the most advanced forms of the human condition as the standard against which study, evaluate and transform other life-forms.

(7) Race science/Racial Hygiene: This interdisciplinary field, very popular in German medical schools from German unification to the rise of Hitler, was probably the science that most self-consciously drew on Darwin's theory of natural selection prior to the Neo-Darwinian synthesis. Although nowadays coloured by the directions it took under Nazism, in the early 20th century, race science espoused a broad ecological orientation that stressed the impact of human population growth and migration on planetary equilibrium.

Other candidates for deviant interdisciplinarity include theosophy, homoeopathy, psychoanalysis, perhaps intelligent design theory.