From John Protevi, ed., *The Edinburgh Dictionary of Continental Philosophy* (Edinburgh University Press, 2005) / North American edition = *A Dictionary of Continental Philosophy* (Yale University Press, 2006).

KELLER, EVELYN FOX (1936 - ): American historian and philosopher of science, known for her early work on gender and science and her later work on philosophy of biology. Keller trained as a scientist, earning a doctorate in theoretical physics and molecular biology from Harvard in 1963. She then worked for several years as a mathematical biologist but became disenchanted with scientific practice in the American academy and began anew as a historian and philosopher of science in the mid-1970s.

Keller's work is marked not only by a scrupulous attention to the details of scientific knowledge production – what has been discovered – but also by an equally scrupulous reconstruction of the social, political, economic and gendered contexts of scientific work – how things are discovered . Keller's critique of scientific practice does not champion a distinctive 'feminine' way of doing science, but tries to unlock the potentials for scientific practice shackled by unexamined commitments to patriarchal and hierarchical social systems.

Among the most binding of those shackles is the search for the 'master molecule', an isolated and transcendent command centre whose unidirectional commands account for the order of an otherwise chaotic or passive material. Against all such hylomorphism – which has been consistently gendered in Western culture and science (the active command centre figured as masculine and the passive or chaotic matter figured as feminine) – Keller points us to the study of the morphogenetic patterns of complex

interactive systems, that is, to processes of immanent self-organisation across multiple levels. The critique of hylomorphism, then, in the context of molecular biology, is also the critique of reductionism, the idea that biological form can be fully accounted for by the 'information' contained in a genetic blueprint.

After several important articles on 'gender and science' in the late 1970s and early 1980s, Keller's first book was a biographical study of the biologist Barbara McClintock and her 'feeling for the organism', published in 1983. In addition to the criticism of masculinised science, we can also see the critique of reductionism, as Keller details McClintock's attention to the level of the organism as well as to the genetic level.

In *Reflections on Gender and Science* (1984), Keller produces a decisive interpretation of Bacon's desire to subjugate nature, in which is visible the deep-seated masculinist orientation of modern science. Hugely controversial, *Reflections* was often misread as supporting a feminine science, but this misreading only reinforces the gender binary which is Keller's object of critique.

By the time of *Secrets of Life / Secrets of Death* (1992) Keller had begun to re-examine her positions with regard to much contemporaneous feminist work in philosophy of science. Her mature position results in a two-fold warning against both naïve positivism and naïve social constructivism: (1) instead of looking for the 'laws' of nature we should look to the 'capacities' of nature and (2) instead of dissolving nature into culture we should look to the 'constraints and opportunities' nature provides for our engagement with it.

Keller's last three books, *Refiguring Life: Metaphors of Twentieth-Century Biology* (1995), *Century of the Gene* (2000) and *Making Sense of Life* (2002) focus on

three intersections in twentieth-century science: (1) genetics and embryology; (2) physics and biology; (3) cybernetics and molecular biology. Keller's thick reconstructions bring into play social, economic and political contexts as she tracks the multiple 'models, metaphors, and machines' by means of which scientists have sought to explain biological development. What comes to the fore in all these works, but particularly in the last one, is the question of knowledge production in biology, especially with regard to the different roles played by mathematics and experiment.

J. Protevi