The principle of precaution in environmental ethics

The awesome power of modern science and technology, applied in the context of a global capitalist economy, has given rise to planetary scale environmental problems. These threaten the integrity of ecosystems upon which human society depends, and scientific experts are now documenting numerous aspects of nature which human society is irreversibly changing. Some of these changes are relatively innocuous, but many appear to have ominous implications for the diversity of life and the future of human society.

Some scientists and ethicists now argue that humanity is in a new ethical moment, that the scientific, technological and economic revolutions of the past two centuries have raised new challenges for human society and its ability to grapple with the consequences of these revolutions. As German environmental policymakers grappled with the effects of air pollution on aquatic and forest ecosystems, commonly known as acid rain, in the 1970s, they articulated a new principle in their planning for environmental protection. The term is vorsorgeprinzip, which can be translated as foresight principle, or responsibility principle. It was originally used as a principle to guide deliberate planning.

During the 1980s, the German philosopher Hans Jonas further developed the ethical implications of vorsorgeprinzip, and it subsequently entered the English language as the precautionary principle. Jonas argued that formerly, humans were a part of nature, and could not act so as to seriously disrupt the environment. The Enlightenment revolutions in science, technology and economics changed that, and we humans are now able to intervene in nature in ways not previously possible. Jonas proposed that humans now suffer from an ethical gap, and that traditional understandings of ethics do not provide sufficient guidance. He argued that decision-making in relation to potentially catastrophic environmental risks carries with it a special moral responsibility that only an ethical principle, not a pragmatic balancing, is appropriate.

Around the world the precautionary principle is now incorporated into environmental decision making, regulations, and treaties. It is a frequently discussed principle among European governments and within their regulatory agencies. It first found its way into a European treaty managing the North Sea in 1987, and subsequently the Treaty on the European Union (also known as the Maastricht Treaty), the 1993 charter for the European Union. The 1992 UN Rio Declaration on Environment and Development provides a commonly used definition: “where there are threats of serious or irreversible damage, the lack of full scientific certainty shall now be used as a reason or the postponing cost-effective measures to prevent environmental degradation.” Over the past three decades, the United States government has generally favored cost-benefit analysis over precautionary thinking in regulation. Note Rio Declaration does not reject cost-benefit analysis, but rather provides an ethical context in which to conduct and interpret such
an analysis. US and EU approaches to environmental governance and regulation have diverged about the philosophical basis of precaution versus rational risk management, guided by cost-benefit analyses. This divergence underlies many of the trans-Atlantic tensions over trade, global climate change and transgenic organism regulations.

Jonas and the precautionary principle offer a major contribution from the field of applied environmental ethics, and address a fundamental challenge of environmental ethics: most ethical principles were created to arbitrate problems within the human community. Yet from a historical perspective, we can trace the essence of precaution back to Aquinas’ concept of prudence and Aristotle’s proposition of the Greek term *phronesis*, which can be translated as prudence, practical wisdom. This could be understood as intelligence as a precursor to precaution. In Aristotle’s Nicomachean Ethics, *phronesis* is “the science of what is just, fine and good for a human being.” It requires skill in gathering knowledge and making judgments about it. Prudent actions have to be calibrated intelligently to the circumstances, avoiding both cringing fear and brash heroics.

The ethic of precaution provides a moral principle that can inform our efforts to make good public policy decisions about the environment. Jonas wrote: “never must the existence or the essence of man as a whole be made a stake in the hazards of an action...this is an unqualified command.” If something has apocalyptic potential, then we must give that possibility greater weight in our reasoning. The wholesale collapse of ecosystems, the long term disruption of global climate, and the irreversibility of biodiversity loss should give us pause, and challenge us to consider which principles by which we want to live.