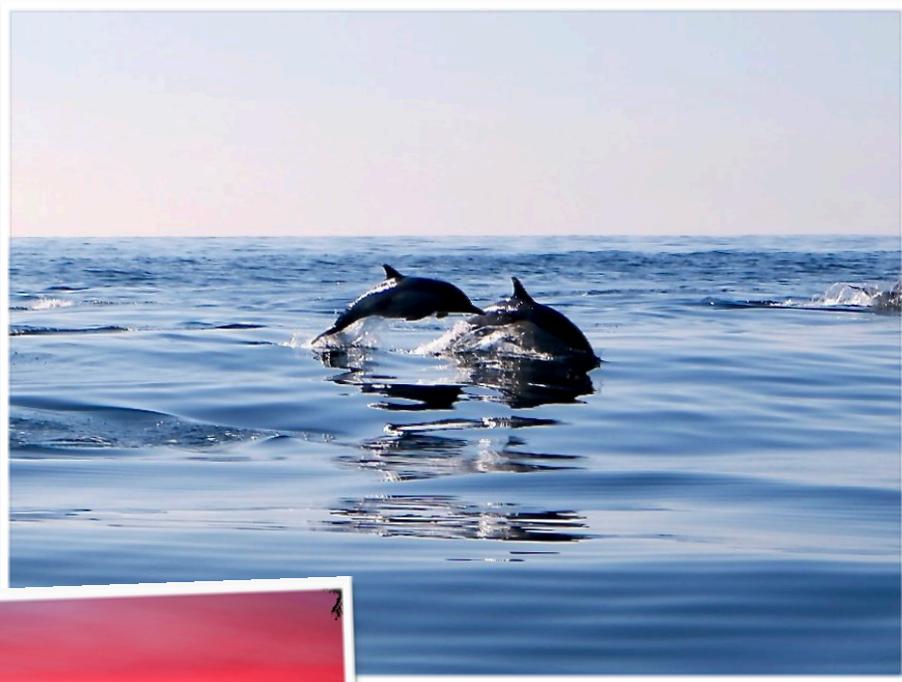


Science, Values & the Environment

PHIL 245



Winter 2020
Fridays 1-3:50
HSS 7077

Course Description

Science is often considered a value-free enterprise. Scientists work in labs, churning out facts. Policymakers then decide, based on their values, how to act on these facts. Rarely is life so clean, however.

Are values involved in accepting a scientific hypothesis? In deciding what counts as science? In choosing objects of study? Are scientific categories such as health and biodiversity partly normative? How should the pursuit of science be structured in a democracy? How should risks be apportioned? Should the courtroom allow junk science? In these questions and others values and science get entangled in deeply important ways.

UC San Diego is in a sense founded on such questions. Our founder, Roger Revelle, discovered climate change but later returned as a professor of science policy. Our first Chancellor, Herb York, was a part of the Manhattan Project who later worked in government on nuclear deterrence. Our history is filled with tough challenges, e.g., Ed Munk's controversial acoustic tomography tests. Today is no different. With leaders in stem cell therapy, gene drives, and more, scientists here still must navigate the tricky waters of advancing science in a socially responsible way.

This course is about the interplay between science and values. First we'll tackle the issue theoretically, focusing on the so-called inductive risk argument: are values inevitably involved in accepting any scientific hypothesis? Then we'll tackle case studies, especially those issues in which UC San Diego and the Institute for Practical Ethics have been focused. We'll draw our examples from those that connect to the environment. A theme will be a tension in conservation. As Ronald Sandler points out, whereas traditional conservation was about restraining us so as to protect nature, e.g., national parks, wilderness areas, prohibitions on moving animals, pollution, now we are confronted – thanks to climate change and other nonlocal causal factors – with opportunities to change nature so it can live with us, e.g., assisted migration, genetic rescue, rewilding, climate geoengineering. These questions raise philosophical questions about the goals of conservation.

A detailed syllabus is under construction, but students can expect to tackle questions such as

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- Rudner’s argument that “the scientist qua scientist makes value judgments.”
- Should gene drives be employed for conservation (e.g., to wipe out invasive rats who destroy indigenous birds in NZ)? Should chestnut trees engineered to resist fungal blight be released? Should we perform a “genetic rescue” of the black-footed ferret? Many world scientific and policy organizations are weighing a moratorium on gene drive research – is that justified?
- What is biodiversity and why should we value it? Recently “biodiversity eliminativists” have argued that biodiversity is not a suitable goal for conservation biology. is it?
- Most rhino species and sub-species are on the brink of extinction. The Northern White Rhino is now functionally extinct, but the San Diego Zoo’s Institute for Conservation Research aims to bring it back, using the most advanced genetic engineering and assisted reproduction technology imaginable. What ethical questions arise?
- Are values inevitably invoked in climate science when it makes severe weather event attribution?
- Economic modeling of climate impacts always includes a temporal discount factor, a factor that discounts the value of satisfying future preferences. What justifies this, if anything?
- In battling climate change, some feel that political and social inaction regarding mitigation means that we are forced to develop technology that will enable a negative emissions regime. Proposals for climate geoengineering exist. Would such geoengineering ever be ethically defensible?

In sum, after the inductive risk argument, the seminar will divide roughly between the two major environmental threats we face, biodiversity loss and climate change.

The seminar will also benefit from visiting professors Megan Blomfield (Sheffield), Elliott Sober (Wisconsin-Madison), and Eric Winsberg (South Florida). Blomfield has a new book out on climate justice, Sober recently gave a Turner Lecturer on science and values, and Winsberg has a new book on philosophy of climate science and work on science, values, and climate change. On March 12-13 there will be a workshop on the Ethics of Climate technology.