Outline of my mini-lecture:

Distinguishing and Relating : Public Attitudes about Science (and Scientists)

from How Public Policy is Established and

from Scientistinvolvement in Policy

The Larger Question:

Science and Ethics, and Science and Politics

vs. the Scientist’s Conundrum: Objectivity vs. Advocacy or Involvement

Prologue: What do I mean by Public (Science) Policy? (get definition from Partridge? or from text? or US Dept of Science and Technology Policy?) : Decisions made by (elected or appointed) governmental entities (not by bureaucrats) that involve science or technology, either limiting or encouraging the development of technology or policy (solar energy subsidies, science research funding, clean air and water regulation, natural resource management, endangered species, etc.)

1. Personal impressions – the early (rational) “me”. Plato and “the Good Life”. The *Good* aka, Truth/Reality can be known, and once you know it you will (naturally) be good. Happiness is a natural byproduct of living *the Good Life*. Only a few could reach this exalted state, and all others would be ruled by the “philosopher kings”. So, I believed that public policy regarding scientific issues (a) had a right answer, that it could be studied and known, and that any enlightened person would carry that out. End of Story. And you?
2. A more studied impression – extrapolating from my own experience. my most important life decisions have not typically NOT been rational decisions: who and when I marry, what car I buy, where I work, what I study, the house I buy… . I struggle to justify them rationally, but in the end…. And you? So, why should Public Decisions be different? What goes into making Policy (and political) decisions?
3. A yet more studied impression – extrapolating from my studies of philosophy, science, and Worster…. Not only have I (and most philosophers and philosophers of science) come to believe that it is not possible to know (anything) with certainty, but that there is often no ONE right answer to complex problems, and policy is no exception. further, making a policy (or law) that is wildly unpopular is futile – even if it is “right”. Why? it will be unenforceable. So, one must get most everyone at the table. What has been the history in ecology? It’s *Kuhnian*!

NeoPlatonists-> rationalists->empiricists->kant->utiltarianists-> taylorism -> logical positivists (reductionists) -> systems and chaos…. Goedel, Heisenberg, Odum, Bertalanffy, Lorenz

* 1. Linnaeus, Malthus, Darwin – ecology as a science, moral ambivalence…. ego centric, but with a moral thread….
  2. Thoreau, and the Gilbert White Cult and “neoArcadians” – natural history, but puritan ethic
  3. Clements, Cowles -> logical positivism? Still, moral ambivalence….
  4. The Dust Bowl (1930s) : scientists’ involvement in policy, informing resource management, utilitarian homo-centric…. Progressive
  5. The New Ecology? Aldo Leopold, Barry Commoner: the value of a varmint… eco-centrism.
  6. Current dilemma: How do we choose between pragmatic utilitarianism and the organic communal ideal of a community of man with man and man with nature….

1. the scientist IS left with a conundrum: To what extent should (ethical decision) he or she be involved in policy? The continuum for the “Good Scientist”…. (below)….
   1. Abide by ethical practices of your discipline in your own work, i.e., honest experiments, seek truth, help younger scientists, no plagiarism, etc.
   2. Take action in your own life according to what you believe the science says, in your own and other disciplines.
   3. Advise policy makers on the current state of the art in science.
   4. Educate others (students, public) on the current state of the art in science.
   5. Advocate for certain public actions (ala (b)) …
   6. advocate for policies – by your professional societies, (and –further!) in your own actions….
2. A Case Study – Climate Change Attitudes: The Six Americas
   1. The Alarmed:
      1. the most convinced that global warming is happening. believe that there is scientific consensus about climate change, and that it is caused by human activities
      2. view it as a threat to them personally, spurred on to action
      3. follow news on GCC closely and seek it. highly attentive. Higher than average media users. Most trusted sources: scientists, environmental organizations and Al Gore. 60% say they don’t need more info to make up mind. Most trusted sources of info are scientists : 61% strongly trust scientists, and another 35% strongly trust hem. Env. Organizations trusted by 95%. Watch network news, and Sunday morning news, CNN and NPR.
   2. The Concerned
      1. Convinced GCC is happening, though are less certain. believe that there is scientific consensus about climate change, and that it is probably caused by human activities
      2. Issue is less important, but will start harming in next 10 years
      3. Average media use. Say they need more info on GCC before fully deciding or acting, but don’t pay much attention to info or seek it. scientists are the most trusted 36% strongly trust scientists, another 57% strongly trust them. environmental organizations trusted by 84%, as are family and friends….
   3. The Cautious
      1. Somewhat convinced, but could change their minds. About half think it is caused by human activity, believe there is disagreement among scientists
      2. Thought a little about it, but it is not important, nor a threat, might harm in 35 yrs
      3. Say they need more info on GCC to decide, but do not pay much attention to the info they encounter. Do not trust any sources of info on GCC much, but trust scientists more than any (29% strongly trust scientists). Trust environmental organizations less than average.. less likely than average to read a newspaper, listen to radio 11 hrs/week, and watch TV 27 hrs per week. :
   4. The Disengaged
      1. Not at all sure GCC is happening, most likely say they could change their minds. 1/3 say humans cause; majority don’t know if scientists agree or disagree
      2. Have not thought about GCC at all, know a little. Don’t know if it is harmful, but if it is – it’ll be 30 yrs
      3. Information: average use of media, 1/3 say they need more info about GCC, but unlikely to pay attention to info about it. less likely to trust scientists. trust family and friends 63%, scientists 61% but only 5% strongly. John McCain is next most trusted source (86%). lower than average trust in all sources of info on GCC. 12% strongly trust scientists (compared to 29% nationally). 61% somewhat trust them, but 26% says they do NOT. trust family and friends as much as scientists. Read newspapers 4 days/week, likely to watch and rely on TV.
   5. The doubtful
      1. don’t know whether GCCC is happening, and the issue is not important to them
      2. know only a little about GCC, but are unlikely to change their minds, believe there is disagreement among scientists, and that if it is happening, the reasons are natural causes, and won’t start harming people for 100 years
      3. average media use, but less than average internet usage. average attention to all news, but more than average to sports. divided among those who feel they need more info and those who don’t; likely to trust family and friends, scientists (but only 5% strongly trust them)
   6. The dismissive
      1. Sure GCC is NOT happening. Issue is not important to them, not worried. If it is happening, it’s caused by natural environmental changes. Believe scientists disagree vehemently on whether it is happening
      2. Have thought about it, and say GCC will never harm anyone in the US
      3. Are well informed, are likely to give information to others, specialized media diet: prefer sources that reflect their pov. Large consumers of political news, but distrust most sources of info on GCC, incl mainstream news media, so turn to conservative news commentators and internet. Distrust most info sources on GCC – mostly trust family and friends, but scientists next (at only 8%, but 16% say they distrust scientists.
      4. Only negative things will happen with GCC policy! highest % of voters!

Here’s a table I started ….

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| --- | --- | --- | --- | --- | --- |
| Which | Belief | Why | Trust Scientists? | Trust Env.Org? | Trusted Information Sources |
| Alarmed | Extremely sure | Human caused | 61% |  |  |
| Concerned | Very sure |  |  |  |  |
| Cautious | Somewhat sure |  |  |  |  |
| Disengaged | Not at all sure |  |  |  |  |
| Doubtful | Don’t know |  |  |  |  |
| Dismissive | Somewhat sure NOT |  |  |  |  |

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| --- | --- |
| 1625 ff | Age of Reason - rationalism |
|  | Galileo, Descartes |
|  | Newton |
| 1520 ff | Protestant Reformation |
| 1570 ff | Puritan ethic |
|  | The Ascent of Man |
| 1710 ff | empiricism (Aristotle (!), Locke, Berkeley) |
| 1750 ff | Romanticism, Transcendentalism (Goethe, Emerson….) |
| 1781 ff | Kant…. |
| 1865 ff | utilitarianism (Bentham, Mill) |
| 1880-1910 | Taylorism - applications of rationality and utilitarianism |
| 1911 | Russel, Whitehead |
| 1930 | Goedel |
| 1940 | Heisenberg |
| 1955 | odum - ecologyical analog o ohm's law (thermodynamics |
| 1968 | Bertalanffy - general system theory |
| 1972 | chaos theory - lorenz? |