Themes in U.S. Civil Society Responses to Nanotechnology

Kevin Elliott and Pat Gehrke

Department of Philosophy and

Department of English Language and Literature

University of South Carolina

Overview

- This work is based on data from an NSF-funded study of 11 U.S. civil society groups and their reflections on nanotechnology

- In this paper, we explore the extent to which the citizens in these groups employed the same five narratives identified by the DEEPEN project among EU citizens

- Our conclusion is that the same narratives do seem to be present, although there was much more emphasis on some themes than others

Background

- The development of nanotechnology has provided social scientists with an opportunity to explore a range of deliberative formats for informing citizens, eliciting their perspectives, and (hopefully!) influencing the future direction of nano research and development

- Many of these formats are somewhat artificial, which has strengths and weaknesses

- Our aim was to broaden previous research by exploring the responses of already existing civil-society groups

Our Methodology

- Between 2009 and 2011 we contacted dozens of civic associations; some were highly structured while others were much looser affiliations

- Our final list of 11 associations was geographically spread out throughout the U.S. (northwest, northeast, southeast, southwest, and midwest)

- Political views, age, and gender were diverse, but education and income were above average

- We encouraged each association to plan its own event related to nano, with the goal of observing their process of education and deliberation from the ground up

Our Methodology

- Ten of the 11 groups brought in outside speakers, followed by time for questions and/or discussion

- The events were recorded and then analyzed qualitatively

- Four of us viewed all eleven events and developed a list of prominent topics discussed; these 29 topics (e.g., attitudes to government, human health impacts, moral and ethical appeals, metaphors and similes) were then subdivided into further categories

- The recordings were divided into units that were usually less than a minute in length, and the units were coded according to the categories

Background

- This qualitative research methodology provides a good opportunity to look at the processes by which publics arrive at their conclusions and attitudes

- By observing already existing civil-society groups, we get more realistic insights into how publics are likely to develop responses to new technologies like nano

- However, a weakness of this approach is that most groups (10 out of 11) brought in outside lecturers, typically followed by Q&A and/or discussion, which limited the amount of time available for broad-ranging deliberation among the participants
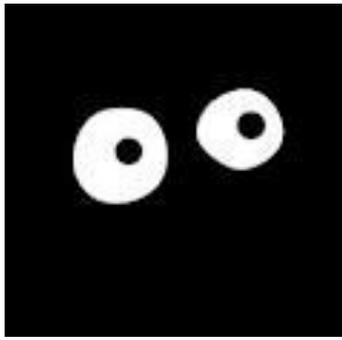
DEEPEN

- DEEPEN was an EU-funded project based at the University of Durham in the UK, along with investigators from Germany, Portugal, and the Netherlands

- Among other goals, the project experimented with a range of deliberative approaches designed to elicit citizens' ethical reflections about nanotechnology

- The investigators argued that the perspectives expressed in the deliberative settings were structured in terms of five deep-rooted cultural narratives

DEEPEN

- The rich get richer and the poor get poorer
  - Globally, this reflects concerns about developed countries reaping most of the benefits from nanotechnology while developing countries receive little benefit and are possibly harmed
  - Locally, it expresses concerns about the potential for big business and other powerful players to control the direction of the technology for their benefit

DEEPEN

- # Kept in the dark
  - Expresses the public's lack of knowledge about the technology as well as lack of power to influence its direction

- # Opening Pandora's box
  - Expresses the worry that new technologies have unforeseen risks, dangers, and uncertainties and that there is hubris involved in meddling with what we don't understand

DEEPEN

- # Messing with nature
  - Expresses concerns about disrupting natural order and boundaries or "playing God"

- # Be careful what you wish for
  - Reflects the view that technologies may serve as temptations that reflect consumer desires but that may not ultimately be best for us (such as in quests for human perfection)

DEEPEN

- Of course, there can be considerable diversity within the narratives, as well as counter-narratives, and the five narratives themselves intertwine:

  - "Anxiety about inequalities of consumption is developed into concern about the business drivers of technology, which points to inevitable development and disaster, which is read as a profane hubris when applied to the manipulation of natural orders, which leads on to an emphasis on the value of fragile human experience and the danger of 'perfection'" (Davies and Macnaghten 2010, 147)

Our Results

- We found evidence that each of these narratives influenced discussions in our groups

- Rich get richer
    - "What is the purpose of this, and is it necessary? No, it's not necessary…. But then it brings in the whole profit motive of certain corporations, and maybe they're pushing us…. I always think about the profit motive for this technology and, yes, is science there to help us? Well, potentially, but who has it and who controls that science, so that kind of drives it." (MW-FD 43-47)

- Rich get richer (cont.)

  - "Here's one more way to pull away from the community…control of the basis of feeding yourself…. Who's got control now? The community and the farm and the eater … or does the profit motive…. It's about money." (43-47 MW-FD)

  - "The decision making is kind of broken on known things…. We're not governing ourselves well and directing public policy in ways that benefit the greatest breadth of population…. The idea that we're going to enter something that we understand so little…. We've got these big problems like energy that are in the hands of very few entities, and I really don't trust that, and it really scares the dickens out of me…. How do you mobilize and do things that benefit everybody?" (MW-FD 1:35-1:38)

Our Results

- ## Kept in the dark

  - This theme was commonly intertwined with "the rich get richer," focusing on corporations putting products on the market and not collecting safety information or being forthcoming about it

  - "[Regarding long-term studies] right now the regulations don't really say you have to [do them] so nobody really does really long-term things, it's more like everybody being used as guinea pigs as soon as they put a product on the market." (SE-ENV 1:11-1:12)

  - "[With GMOs] you can't put it on the box…you can't make a choice as a consumer to purchase this or this, and then why is that, it's those same corporations that control that technology." (MW-FD 43-47)

Our Results

- Opening Pandora's box

  - This theme was commonly discussed along with the "Kept in the dark" theme when participants lamented the lack of information about potential long-term and synergistic problems

  - Speaker: "You don't want to fix one problem and create a major problem" (MW-COE 54:10-54:57)

  - "…[companies have] very much a live-for-today philosophy…. These things work within a very specific context, and then when they filter down…, you know that thing out of place, is man, oh man…. We don't know how that impacts. There's just no way that you can do the testing required, and you don't have the time" (MW-FD: 1:01-1:03)

Our Results

- ## Messing with nature

  - This theme was invoked several times as a matter of "playing God"

  - "For many years I taught high school English *Frankenstein*…and we always talked about the ramifications of the philosophy and spiritual aspects of playing God, and had I known about this [i.e., possibilities with nano-medicine], I would have thrown that into the discussion" (MW-COE: 59-1:00)

  - "It's kind of a moral issue isn't it, we're putting these things into the environment for the sake of convenience and money, not knowing what effect they're going to have on our fellow species or our fellow human beings." (SE-REL: 1:26)

Our Results

- Be careful what you wish for
  - This theme was perhaps most commonly invoked in combination with the theme of "Opening Pandora's Box," noting worries about a lack of long-term safety testing

  - There was not much discussion about the dangers of seeking perfection, as the DEEPEN project emphasized

Our Results

- Summary
  - "Rich get richer" was the most prominent theme across all the groups, and it influenced discussions of the other themes; the focus was primarily on corporations and their impacts in the US, however, with very little focus on developing countries

  - Concerns about being "Kept in the dark" and "Opening Pandora's box" were also prominent and typically expressed in terms of worries about a lack of long-term safety information, exacerbated by corporate pressure to push forward anyway

Conclusions

- In a U.S. study of 11 civil society groups, we identified the same five narratives found by the European DEEPEN project

- Some themes, such as the "Rich get richer" (especially focusing on corporate power) were very dominant, while other themes, such as "Be careful what you wish for," were much less so

- While the "realistic" nature of our deliberative scenarios was valuable, it hampered our ability to collect extensive data about people's attitudes and responses