

Why Does Flyvbjerg Matter?

1. For MES students, he matters at least because he raises much more fundamental questions about supradisciplinarity and recommends a path for you to consider.
2. For scholars (producers of knowledge) who want to have their work help make the world a better place, he argues that many of us need to revise the very foundations of our work.
3. For MES students, understanding Flyvbjerg and the associated thinkers encountered in his work will bring you into contemporary debates within environmental studies (many of which we will encounter again in *Political Ecology*).

I. Key terms:

episteme = analytical scientific knowledge that is invariable in time and space

techne = technical knowledge or know-how

phronesis = prudence or practical common sense; a sense of the ethically practical; based on value-rationality

(Flyvbjerg, p. 2)

In Flyvbjerg's terms, the use of *phronesis*, in combination with *episteme* and *techne*, results in a balance of instrumental rationality and value-rationality.

II. Continuation of my earlier lecture comments on the production of knowledge

Remember when I asked you, in my lecture on supradisciplinary ES, "what are the general processes that result in the production of new knowledge?" We agreed that science, as commonly understood, is an obvious answer. Some of you also suggested that philosophy and experience are other ways in which new knowledge is produced. Flyvbjerg agrees. He tells us that cognitivists and some others who study human learning have made the fundamental error of concluding that analytical problem solving (the essence of *episteme*) is the only way in which knowledge is advanced.

What is missing from the typical approach to the creation of knowledge through science, according to Flyvbjerg, are things like this:

- Speed, stemming from practice and experience
- Intuition (i.e., insight or practical wisdom, not irrationality or superstition)
- Interpretation
- Mature judgment
- Holism
- Intimate knowledge of context, in the form of concrete cases
- Bodily involvement
- Visual clues

He bases his argument on one of many schools of thought about human learning, the so-called Dreyfus Model, developed by Hubert and Stuart Dreyfus. This model describes 5 levels of human learning:

1. Novice
2. Advanced beginner
3. Competent performer
4. Proficient performer
5. Expert

For Flyvbjerg, “it seems that there is a fundamental and qualitative jump from analytical problem-solving to genuine, human expertise.” (14). This jump must be made to rise above level 3. Analytical rationality serves levels 1 – 3. This works well in social science when the social phenomena under study are most like machines. That is because analytical rationality proceeds through the examination of parts of the whole, i.e., reductionism.

Example: faculty comment after thesis presentation this Tuesday. The nature of the thesis research presented was pure *episteme*. It was an outstanding example of significant new knowledge. Experimental design. Careful analytical problem solving at its best. The comment was, “I have found, over the years, that the people who have engaged in this kind of rigorous testing and analysis have qualities that lead them to excel over others who have been educated in the same field but who have not done similar experimental work.” The faculty member is a biologist and an outstanding teacher. This statement was shared with a great depth of feeling and conviction. And this is the deep-seated belief of the vast majority of people who are biophysical scientists and many who are social scientists. Certainly this belief is shared by the public and policy makers.

Yesterday’s email correspondence about this:

>>> 10/15/2008 >>>

Tim,

After Charley's presentation yesterday you said something like this: "I have found, over the years, that the people who have engaged in this kind of rigorous testing and analysis have qualities that lead them to excel over others who have been educated in the same field but who have not done similar experimental work." Is this correct? Would you mind letting me know if I've gotten it right? I would like to accurately pass your observation along to the students.

Thanks.

Ted

Hey Ted: not sure I was quite that eloquent but that is my (and my staff's) common observation. I am sure there are a lot of reasons for it, but the one that resonates with me from my own experiences is that the process of doing the work, i.e., setting up and carrying out research, requires an different (deeper?) level of

mental and emotional engagement (maybe involving more of both brain hemispheres) against a backdrop of being humbled by everything that can go wrong. I think these type of experiences change the way people talk about what they know and how well they know it, can see contingencies and nuance where they may not have seen them before, and are likely to be better prepared to question what they see. To me this makes better scientists.

>>> TQ >>>

Discussion in class about the nuanced view of Flyvbjerg's argument, presented by this example.

IV. Implications for me as a teacher

The concept of *phronesis* is what I think of as "wisdom." For me, this book speaks to teaching as well as learning, as seen in this statement of my teaching philosophy:

Statement of Teaching Philosophy and Practice (small excerpt)

Edward A. Whitesell
November, 1997

The most worthy objective of higher education is wisdom. In other words, it is much more than the simple accumulation and recall of information. I am ashamed when I meet college graduates here, in what is commonly known as the world's only remaining superpower, who have a good deal of scientific information or business acumen but whose statements and actions belie an abysmal ignorance of the ways in which their careers as scientists or business leaders are negatively affecting the world around them. As a whole, we in the field of higher education are not living up to our full responsibilities to help make our society as wise as it is rich, as judicious as it is powerful, and as prudent as it is productive.

Notice the terminology that mirror's Flyvbjerg's: responsible, wise, judicious, and prudent. I had never heard of *phronesis* in 1997. That is essentially what I was talking about, but within the context of a learning community.

V. Implications for you as learners and budding producers of knowledge

When you understand what Flyvbjerg is recommending for the social sciences, what are the implications for your work in addressing environmental problems? Some important lessons:

1. Where social science is weak, natural science is strong and vice versa. This is yet another reason why both are critically needed to address problems arising from the interactions of society and the non-social environment.
2. "The principal objective for social science with a phronetic approach is to carry out analyses and interpretations of the status of values and interests in society

aimed as social commentary and social action, i.e., praxis. The point of departure for classical phronetic research can be summarized in the following three value-rational questions:

- (1) Where are we going?
 - (2) Is this desirable?
 - (3) What should be done?"
 - (4) Who gains and who loses? By which mechanisms of power?
- (p. 60)

3. Social science may produce *partial* answers for the use of society in ongoing, democratic dialogue and social praxis, rather than definitive, empirically verifiable knowledge. Ultimately, Flyvbjerg agrees with "Aristotle's maxim that in questions of social and political action, one ought to trust more in the public sphere than in science." (p. 139)
4. Going further than Flyvbjerg, what do you think about the argument of some of my students this summer, that we must develop a *phronetic natural science*, in response to the socio-environmental problems we face? Luminaries in the physical and natural sciences, such as Einstein and Kuhn understood the role of intuition, experience and context-dependent case studies (see p. 75).

VI. Workshop Activity

Analyzing his argument depends, of course, on understanding it. Understanding it will be your first job in seminar tonight. The following step will be the analysis of his argument, which should start with identifying the structure, logic, and authority of his argument. We will get a head start on our seminar discussions by putting our heads together in small groups to examine the structure of his argument but here's a general outline:

- First. He says there is a problem.
- Second. He explicates the fundamental nature of the problem, considering different positions that have been taken and demonstrating that one of them is most satisfactory. How does he go about this? What tools is he using?
- Third. He constructs a solution to the problem that flows from his explication of the problem. How does he do that? What tools is he using?
- Fourth. He illustrates his argument with a case study.
- Fifth. Finally, he concludes his main points.

This is a conventional pattern in scholarly works, both written and oral. Notice and copy patterns like this in your graduate work, to practice these tools as much as you can, eventually developing your own ways to effectively present your analyses and your knowledge. Notice and think about different conventions in the different branches of science that you are exposed to. Don't just look at the contents. Look at the ways in which arguments are developed and supported.