

NATURAL & SOCIAL SCIENCE DIFFERENCE: HOW SOCIAL SCIENCE CAN REGAIN ITS VALUE

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ABSTRACT:

Main objective of this paper is to critically review the Bent Flyvbjerg book (Making social science matter: Why social inquiry fails How it can succeed again. 2007, 2nd edition. Cambridge, U.K: Cambridge university press) in order to answer the two main philosophical questions:

- *What is the difference between natural and social science and why social science has failed as a science?*
- *How social science can regain its value and matters again?*

In order to critically analyze the answers of these questions, First – book's main arguments will be briefly summarized so that reader may come to know about Flyvbjerg's work and second- discussion and critical analysis will be presented which will be based upon the work of other social scientists and my own point of view.

KEY WORDS: *Social science, Social inquiry, Social and natural science difference, Social science failure, Regaining social science.*

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INTRODUCTION:

Wars and conflicts between the natural science and social science are perhaps not yet over. This boiling down is the result of the foundational misunderstanding in two ways; First, What role natural and social science can play in the society and second, what role each science should play in the society. The natural science is mainly based upon exploratory and predictive theories or what Aristotle calls episteme. However, social science can still not be still considered as epistemic science because social scientists' attempts failed to introduce it as epistemic science. According to Flyvberg (2007), Social scientists should change their purpose and rather than trying this, they should practice Aristotle's thought calls "Phronesis" because it is more prudent, applicable and capable. It can make difference in the world. Flyvberg' master piece "*Making Social Science Matter: Why Social Inquiry Fails and How It Can Succeed Again*" is a very good attempt for social scientists' to face its demons and awaken from 300 years of Cartesian sleep. (Falk, Rocha, and Warnick, 2009)

Flyvbjerg (2007) explains that natural science dominates the western society right from the beginning. This is the reason that western society focused upon instrumental rationality and ignored the value rationality. Value rationality is also very important for society because it gives reasons about right or wrong for human being in our society. The result of continuous focus on instrumental rationality and ignoring instrumental rationality is the science without head on it. This type of epistemic science which focus upon prediction, rule bound and context-independent theory is useful for natural science but not for social science because here context reigns supreme. As opposed to context independent theory, social science must be treated as phenomenological and intuitive. This gives particular importance to the case study which is treated as unreliable in epistemic criteria. Flyvbjerg tries to put theory into practice through his own case study "Public policy in Denmark" where he explains if phronetic social science can answer three important questions of a wealthy society: "1-Where are we going? 2- Is this desirable? 3- What should be done?" (Flyvbjerg, p. 60)

BRIEF SUMMARY OF BOOK:

Book consists of two main parts. First part of the book explains why social science has never been and perhaps never will be in a position to develop explanatory and predictive theory. "Rationality, body, and intuition in human learning" is the second chapter of this book and vital to understand the remaining chapters of the book. Author defines "Dreyfus scale" and how this scale articulates different levels of learning. Flyvbjerg defines these levels of learning as *Novice*, *Advanced Beginner*, *Competent Performer*, *Proficient Performer*, and *Expert* (p. 10). He argues that early stages of learning depend upon prescribed, context independent rules. For this purpose, he uses the example of nurses in training. Based upon the standard set procedure to inspect infants in a hospital, Trainee nurses follow the step by step procedure for each baby and avoid skipping any step even if it is unnecessary. However, experienced nurses can easily make a decision to avoid any step which is unnecessary during rush hours in order to inspect more babies (p. 12). Experienced nurses learn this through their relevant experience and intuition. Same is the case of chess playing. Although Flyvbjerg like to play chess and he is playing for many years but still he consider himself as a *competent performer*. He argues that only few chess players can become *proficient performer* or *expert*. He also observes that those players who were playing

speed chess (one move/second) have better tendency to become *proficient performer or expert*. This is because player has only one second to make a move and due to limited time player can not fully analyse the move and players feel something in their mind about the right move (p.15).

In case of experts like surgeons, guitarists, actors and players, they do not separate solutions from the problems. Rather than based upon set of formal rules and procedures, decisions of experts are mainly based upon intuition and recollection of several previous experiences. Flyvbjerg and Dreyfus Scale explain that epistemic natural science can describe the lower-level human learning behavior but not higher level learning behavior like *Proficient Performer or Expert*. Context independent/ predictive theories cannot describe those situations of human behavior where context is more important. Flyvbjerg effectively refutes cognitive model which describes that people behave/act rationally or irrationally. Instead of cognitive model, he describes this type of situational behavior through his term "*arational*" (p. 22).

Chapter three of the book explains that due to better prediction and control of nature, natural science has better place in our society. What if universal laws can not explain human behavior. Under this situation *can we scientifically study human behavior as we do in natural science? Or in other words, Is this possible to develop a theory in social science?* Positivists, Structuralists, and Cognitivists attempted to introduce epistemic social science but their efforts have failed and possibly will never succeed. Those who treat social science as *Kuhnian pre-paradigm stage* are perhaps wrong. Perhaps it is useless to wait that social science will become a normal science or systematic puzzle solving. He suggests that social science researchers should not rely upon *Platonic/Kantian model* of rational decision-making and their skills should be more situational and contextual while dealing with social inquiry.

In the second part of the book, Flyvbjerg introduces a model of potent social science. Aristotle's explains three intellectual virtues as *episteme, techne* and *phronesis*. *Episteme* is concerned with universal and invariable knowledge or know why. *Techne* is the art related to the instrumental application of technical knowledge or know how and *phronesis* is concerned with prudence or practical common sense (p.57). *Phronesis* is based upon experience and it provides knowledge about behavior in particular situation. This cannot be based upon generalized set rules. *phronetic* social science is more valuable and stronger where natural science is weak because it is based upon reflexive analysis of goals, values and interests for society.

Part two of the book focuses upon the reorientation of social science which is based upon *phronesis*. Flyvbjerg describes relevant original thoughts of Aristotle and defines deep relationship between social science and *phronesis*. Chapter six is about more contemporary interpretation, Flyvbjerg further develops three main fronts which are based upon the concept of *phronesis*. He argues that better knowledge about the case is very important for practicing *phronesis*. He also explains the status and uses of case study in social sciences. Chapters seven and eight are based upon the research work of Foucault, Habermas and Nietzsche. Here author explains classical conception of *phronesis* by including considerations on power and expands the classical concept from one of the values to one of values and power (p.127-129). Chapter nine further develops the approach through development of methodological guidelines for *phronetic* social science. Chapter ten "*Examples and illustrations, narratives of value and power*", gives example of author's approach through the analysis of the Aalborg Project. Flyvbjerg was involved in this project for

fifteen years. This project can be considered as prototype of the *phronetic* social science. Final chapter summarizes everything and gives conclusion of his approach by suggesting *phronetic* social science as the answer.

DISCUSSION AND CRITICAL ANALYSIS:

Natural and social science difference:

Flyvbjerg's work is a nice attempt to overcome physics envy of social inquiry. He highlights genuine problem of modernity and his arguments are strong that natural science without value rationality is like body without head. However some questions are still not resolved or unclear in his book.

While defining the difference between social and natural science, he argues that social science should not be treated as natural science in its explanatory aspirations and his arguments can be defined through following steps (p.42).

- I. Social actors work like experts and their actions depend upon context.
- II. Experts do not follow rules and their actions cannot be defined as set rules and procedures.
- III. Due to the above mentioned reason, social actions of experts cannot become rules to follow.
- IV. Predictive social science theory is based upon social actions in term of following the rules.
- V. Hence, there is no predictive social science theory.

Some questions may arise from this Flyvbjerg's argument. Step I and II of argument are empirical claims of the author and both can be right or wrong. He quotes the work of Dreyfus and Dreyfus (1986) who are also of the view that experts actions cannot be converted into set rules and their actions are holistic and intuitive (p19-21). However, Dreyfus and Dreyfus own research is based upon empirical work i.e. novice, expert CPR performance etc. Here problem is not that step II of empirical argument is wrong but problem exists if this predictive argument is right. For example; If A is expert then A will not follow the rules. In order to make this argument strong, Flyvbjerg needs to prove that all or most of the experts do not follow the rules which is predictive and generalized and is not possible in social science. If step II is right, it means that social science is predictive which is against his argument that this type of social science fails. On the other hand, if step II of his argument is wrong then it is based upon an untrue premise. Hence his argument also fails and he should explain why his claim about experts is not the claim of proactive social science or if it is from proactive social science then he should further explain this incoherence for better understanding.

Premise I of Flyvbjerg's argument seems a limiting condition so it is different from traditional predictive social science. Same problem also occurs in this case. Flyvbjerg should assume that all or majority of social actors are experts. This is also an empirical claim which could be right or wrong. Like in his example of chess, he admits that most of the chess players cannot go beyond the level of *competent performer* and this lower type of competency can be defined in terms of rules. However, some social actors cannot go even beyond the *basic level*. Flyvbjerg is of the view that all social actors are experts in their domain and use prediction and generalization. This seems

impossible because not all expert nurses bypass set rules and procedures. What if we come to know that nurses are not following rules? Do society allow all or majority of the nurses to bypass rules. If answer is YES then it is a fairly robust predictive claim. If answer is NO then their actions can be defined in term of rules and predictive social science is possible which is against Flyvbjerg's argument.

Flyvbjerg's approach is pessimistic about predictive social science and he further needs necessary distinction. If social actor is playing chess, there are different rules they can follow and it is relatively easy for them to discover chess rules. They can easily describe what is involved in the game. However, it is difficult for them to describe how to play better chess. There is a difference between rules of chess and rules to play better chess or chess competency. Rules of practice are not mysterious and can be learned, taught and defined. On the other hand rules of chess competency are mysterious in nature and cannot be learned, taught and defined. If social scientist is interested in rules governance then predictive social science is possible but if social scientist is interested in the governance of rules followed by experts, it is not possible. This is an important distinction (Falk, Rocha, and Warnick, 2009)

Flyvbjerg should also strengthen his arguments about loose rules of social action. People follow specific rules during conversation even if they are not aware about those rules. Social scientist such as linguistics and anthropologists are able to discover general rules about social action like communication. *"Conversational Maxims are able to predict how far apart persons will stand when speaking to each other, how long one person may speak at a time, and how long a conversation may pause between speakers"* (Bonvillain, p. 110). Conversational maxims are also context-dependent, but still they are considerably generalizable. *"The social world contains spectrums of context where, although we cannot find definitive rules, we nevertheless benefit by simplifying and categorizing in order to make situations more cognitively manageable"* (Falk, Rocha, and Warnick, p.8-10).

Finally, Flyvbjerg's work mainly depends upon Dreyfus scale which is based upon artificial intelligence (AI). AI is concerned about the skills of experts and their decision making. AI is rule bound and experts' decisions are context dependent. Therefore AI is cannot see the capability beyond *competent performer*. Flyvbjerg uses the example of chess to prove Dreyfus scale. New rule bound computers like "Deep Blue" can easily defeat world's best chess players. In case of Deep Blue example, Flyvbjerg's litmus test is failed because how it is possible that rule bound computer is defeating an expert chess player.

Limitations of the Flyvbjerg's phronetic alternative:

Flyvbjerg suggests alternative in the shape of *phronetic* social science which rejects the disinterested spectator model of social inquiry. His particular case study of Alborg project appears highly valuable. *"One must not overzealously embrace an engaged phronesis to the exclusion of a more disinterested verstehen. Making Social Science Matter implies that the social scientist ought not to stop at simply understanding social reality; he or she ought to do something to improve it. We applaud bringing phronesis out from the shadows, but emphasize that it must stand next to and not in front of, episteme. There is still much value in social science simply aimed at understanding"* (Falk, Rocha, and Warnick, p.10).

Flyvbjerg is also not giving importance to the remarkable contribution of traditional social science. For example, rather than changing social science, some anthropologists comprehend it by using value-rational deliberation of society. This is a great contribution which is not possible through *phronetic* social science (See work of McCracken, 1990 and 2005; Sahlins, 1988; Taussig, 1980). Sahlins and McCracken's research is a classical contribution where they use culture through the lens of consumption. Taussig's (1980) research enhances the understanding of capitalistic economic system and its relationship to the society. These social scientists are not changing social science but still enhancing the knowledge about cultures. Their research is useful in a sense that it can answer the important questions of Flyvbjerg like "Where are we going" or "Is this desirable".

Flyvbjerg's work is solid but still cannot be considered as a useful tool to use in every type of social inquiry. According to Schrag's review, "Flyvbjerg's analysis of the accident data had supported the allegations of the powerful chamber. Would he have been obliged to report it (or to suppress it for the sake of advancing his political aims)?" (Schrag, p.92). *Phronetic* social science relies upon ethics and value-rationality. Mixing the social researcher with the social activist could easily result in marrying the will to knowledge to the will to power (Diggins, 1994). Therefore still deep ethical exploration is required to completely accept *phronetic* social science as a solution.

Flyvbjerg's Philosophical Grounding:

Flyvbjerg's theoretical foundation is based upon connection between Aristotle and Foucault's thoughts through Nietzsche. However, MacIntyre (1984) deeply analyses Aristotle and Nietzsche's thoughts with respect to social inquiry and finds clear difference of opinion between them. Based upon this, Flyvbjerg's comparison of those philosophers seems weaker. MacIntyre also analyses Aristotle's point of view on *Phronesis* which is somewhat different from the one defined by Flyvbjerg. In the first chapter, he cites Aristotle's definition of *phronesis* (*a true state, reasoned, and capable of action with regard to things that are good or bad for man*) (p.2) but from chapter five, he is going to challenge other intellectual virtues of Aristotle's *Ethics*, *episteme* and *techne*. MacIntyre (1984) says that Aristotle's view on *phronesis* is isolated and it has interaction with *techne* and *episteme* under the umbrella of *eudaimonia*. This interconnection is very important for Aristotle but Flyvbjerg completely ignores it in his book.

Flyvbjerg's view on *phronesis* also seems not clear. He is of the view that Aristotle and Foucault have the same *phronetic* thought with respect to *praxis* (p. 128). However, his *praxis*-oriented interpretation is different from the acquisition of intellectual virtues defined by Aristotle. While analyzing Aristotle's philosophy on this matter, MacIntyre is of the view that the main difference between intellectual virtues and virtues of character is that they are mainly based upon how they are acquired (MacIntyre, 1984). Hence, Flyvbjerg's interpretation of *phronesis* with respect to *praxis* needs further clarification. Flyvbjerg's interpretation of *Phronesis* is more close to Aristotle's account of its *acquisition*. In that case, its association with Foucault's view of *practice* is in danger. In spite of some issues in philosophical grounding, Flyvbjerg's work is solid and valid and as he personally admits that this is just one attempt to resolve this issue but there is no single answer to this issue.

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