A Short Introduction to Herbert Simon's "Bounded Rationality"

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Rational choice theory, also known as **choice theory** or **rational action theory**, is a framework for understanding and often formally modeling social and economic behavior.

The "rationality" described by rational choice theory is different from the colloquial and most philosophical use of the word. For most people, "rationality" means "sane," "in a thoughtful clear-headed manner," or knowing and doing what's healthy in the long term.

Rational choice theory uses a specific and narrower definition of "rationality" simply to mean that an individual acts as if balancing costs against benefits to arrive at action that maximizes personal advantage (utility maximization).

The practitioners of strict rational choice theory never investigate the origins, nature, or validity of human motivations (why we want what we want) but instead restrict themselves to examining the expression of given and inexplicable wants in specific social or economic environments. That is, they do not examine the biological, psychological, and sociological roots that make people see the benefits encouraging them to cheat on a test, use cocaine, or murder someone. Instead, all that is relevant are the costs of doing so—which for crimes, reflects the chance of being caught.

In rational choice theory, these costs are only extrinsic or external to the individual rather than being intrinsic or internal. That is, strict rational choice theory would not see a criminal's self-punishment by inner feelings of remorse, guilt, or shame as relevant to determining the costs of committing a crime. In general, rational choice theory does not address the role of an individual's sense of morals or ethics in decision-making. Thus, economics Nobelist Amartya Sen sees the model of people who follow rational choice model as "**rational fools**”.

The basic idea of rational choice theory is that patterns of behavior in societies reflect the choices made by individuals as they try to maximize their benefits and minimize their costs. In other words, people make decisions about how they should act by comparing the costs and benefits of different courses of action. As a result, patterns of behavior will develop within the society that result from those choices.

Rational choice theory makes these assumptions about individuals' preferences for actions:

- Completeness
- Transitivity
- Independence of irrelevant alternatives
- Strict preference
- Indifference
- An individual has the cognitive ability and time to weigh every choice against every other choice
- An individual has full or perfect information about exactly what will occur due to any choice made

In recent years the theoretical vision of rational choice theory has been subject to more and more doubt by the experimental results of behavioral economics. This criticism has encouraged many social scientists to utilize concepts of **bounded rationality** to replace the "absolute" rationality of rational choice theory: this points to the difficulties of data-processing and decision-making associated with many choices in economics, political science, and sociology. More economists these days are learning from other fields, such as psychology, in order to get a more accurate view of human decision-making than offered by rational choice theory.

Bounded rationality is the idea that in decision-making rationality of individuals is limited in three ways:

1) Information they have
2) Cognitive limitations of their mind
3) Finite amount of time they have to make a decision

It was proposed by Herbert A. Simon as an alternative for *rationality as optimization* which views decision-making as a fully rational process of finding an optimal choice given the information available.

Another way to look at bounded rationality is that, because decision-makers lack the ability and resources to arrive at the optimal solution, they instead apply their rationality only after having greatly simplified the choices available.

Thus the decision-maker is a **satisficer**, one seeking a satisfactory solution rather than the optimal one.

Satisficing, a portmanteau of satisfy and suffice, is a decision-making strategy that attempts to meet an acceptability threshold. This is contrasted with optimal decision-making, an approach that specifically attempts to find the best option available.

Simon pointed out that human beings lack the cognitive resources to optimize: we usually do not know the relevant probabilities of outcomes, we can rarely evaluate all outcomes with sufficient precision, and our memories are weak and unreliable. A more realistic approach to rationality takes into account these limitations: This is called bounded rationality.

Simon used the analogy of a pair of scissors, where one blade is the "cognitive limitations" of actual humans and the other the "structures of the environment"; minds with limited cognitive resources can thus be successful by exploiting pre-existing structure and regularity in the environment.

Does this mean that people are irrational?

Not at all.

Bounded rationality asserts that decision makers are intendedly rational; that is, they are goal-oriented, but because of human cognitive and emotional architecture, they fail in practice.