Rational Choice

Itzhak Gilboa

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1 Feasibility and Desirability

1.1 Examples

Aesop's Fox One afternoon a fox was walking through the forest and spotted a bunch of grapes hanging from a high branch.

"Just the thing to quench my thirst," said he.

Taking a few steps back, the fox jumped and just missed the hanging grapes. Again the fox took a few paces back, jumped, and tried to reach them but still failed. Finally, giving up, the fox turned up his nose and said, "They're probably sour anyway," and walked away.

Groucho Marx's Club "I don't care to belong to a club that accepts people like me as members."

Wishful Thinking "If P is a cause for Q, and Q is enjoyable, then P is true."

1.2 Separating *Can* from *Want*

These examples should make you smile. The first is a fable dating back to the sixth century B.C.E. It's intended to be more ironic than funny. The other two examples were meant as jokes but also to convey particular messages. These examples have one basic thing in common—they are silly because they involve the confounding of feasibility and desirability, of *can* and *want*.

In the first two examples, what the protagonist wishes depends on what he can achieve. Aesop's fox evidently wanted the grapes. Only when the grapes proved unattainable did he find that he actually had not wanted them, that is, that they were sour and not worth having.

Groucho Marx probably wanted to belong to clubs to be respected and accepted. But then he found he only liked those he couldn't get into. Once a club would accept him, he no longer valued it.

From a psychological point of view, Aesop's fox is much healthier than Groucho Marx. The fox declares that he doesn't want something because he *cannot* have it, whereas Groucho Marx, because he *can*. Thus, the fox brings closer to each other what he wants and what he has, whereas Groucho Marx keeps them apart. The fox may be a caricature of people who are willing to be intellectually dishonest in order to deal with frustration, disappointment, and envy.[1] Groucho Marx makes fun of people who suffer from self-hatred to a degree that does not allow them to be happy.

However, the two examples share the following feature: the feasibility of an option affects its desirability. An option is *feasible* if it can be chosen, if it is possible for the decision maker. The *desirability* of an option is the degree to which the decision maker wants it. Thus, feasibility has to do with beliefs about the world, and desirability with wishes. It appears irrational to mix the two. For example, if you think the grapes are tasty, then they are probably still tasty even if they are hanging higher than expected. If you think that a club is respectable and would be fun to join, then it should remain so after it admitted you. Rationality, we argue, requires that desirability be independent of feasibility.

Wishful thinking refers to considering a state of affairs true only because it is desirable. Assuming that a choice is feasible because we would like it to be is a type of wishful thinking. The sentence, "If P is a cause for Q, and Q is enjoyable, then P is true," adds a humorous twist, by giving the statement the general form of a principle of logic such as *modus ponens* ("If P implies Q, and P is true, then Q is true"), but it could also be read, "If Q is enjoyable, then Q is true." Again, it seems irrational to judge the feasibility of Q (or P) based on how much we like it (or its implications). When we analyze a problem, we should be able to judge what is feasible (possible for us) independently of our goals and desires. Doing otherwise would mean failing to face reality and deluding ourselves.

We are therefore led to suggest that one of the cornerstones of rational choice is a sharp distinction between desirability and feasibility. By sharp distinction we mean not only that the two can be told apart but also that they are causally independent; one does not affect the other.

1.3 What Is Meant by *Rational*?

We identified one pillar of rational choice: the dichotomy between feasibility and desirability. This does not imply that examples that violate it, like the ones shown, cannot be found in everyday reasoning. Indeed, these examples are funny mostly because they do remind us of real cases. Moreover, we should be content that there are some real life phenomena that we do not consider rational; otherwise *rationality* would be a vacuous term because everything would qualify as rational.

What precisely is meant by *rationality*? The answer is not obvious. Often rationality is taken to imply the collection of models of individual choice developed in economics. This definition is accepted by most economists, who believe that economic agents can, for the most part, be modeled as rational according to this definition. It is also accepted by most psychologists and behavioral decision theorists, who tend to believe that these models are at odds with the data, and that people are therefore not rational. These two camps disagree on the empirical question of how close economic behavior is to the rational model, but they often agree on the definition of rationality.

I have a personal preference for a different definition of rationality, which is much more subjective. According to this definition, a mode of behavior is rational for a given person if this person feels comfortable with it, and is not embarrassed by it, even when it is analyzed for him. For example, if you don′t care for clubs that are willing to accept you, I could point out, "Notice that you wanted this club until they admitted you. You don′t care for them *because* they are feasible. Why would you aspire to be admitted by the next club, knowing that you will despise it, too, as soon as you′re admitted to it?" I would expect most people to feel uncomfortable with Groucho Marx′s choices. That is, I would expect that the separation of desirability from feasibility will be rational for most people. But if someone insisted that they felt perfectly happy with this mode of behavior, I would prefer to think of this mode as rational for them rather than dub them irrational.

The reason I like this peculiar definition of rationality is that I find it useful. An irrational mode of behavior is one that I can hope to change by talking to the decision maker, by explaining the theory to him, and so forth. A rational mode of behavior is one that is likely to remain in the data despite my teaching and preaching. I prefer to think of rationality as a notion of stability, or coherence of the decision with the

decision maker's personal standards, rather than as a medal of honor bestowed upon certain decision makers by decision theorists.

According to this view, I present in the next few chapters various ingredients of so-called rational choice, and readers are free to choose and decide which ingredients fit their notions of ideal decision making. It is likely to be the case that a principle of rational choice will be acceptable in some contexts but not in others. My goal in this exercise is not to be convinced that you should make decisions in a certain way, or that most people make decisions in this way, but to enrich your understanding of the choices made by yourself as well as by others.

1.4 Uncertainty

Often you do not know whether an option is feasible for you or whether an outcome is desirable. Do these cases result in violations of the separation of feasibility from desirability? The answer is no. Let us start with uncertainty about the feasible options. If I do not know whether I can do something, I can at least *try* to do it, and then the absence of information will be reflected in uncertainty about the outcome of this attempt. For example, I may not know if I can solve a difficult problem, but then I can think of the act "try to solve the problem for two hours," which I can (presumably) choose, and then I have uncertainty about the outcome of this act but not about its feasibility. Thus, there is no difficulty in not knowing whether something is feasible as long as our beliefs about its feasibility are determined independently of its desirability.

Next consider uncertainty about desirability. Suppose that I come to the market at the end of the day. I see only one box of strawberries left for sale. Do I want it? Well, I might suspect that if this is the only box left unsold, there might be something wrong with it. Maybe other buyers have examined it and decided to leave it for a good reason. Of course, I cannot be sure that this is the reason the box is still for sale. But the fact that it is still on the market is a signal about its quality. Taking this into account a priori, I may decide to forgo the trip to the market; if I find anything for sale, it's probably not worth having.

This sounds similar to the Groucho Marx's line. In both cases the decision makers decide not to choose an option because it is feasible. But the similarity is only superficial. In the market example, my preferences about strawberries are inherently independent of the feasible

options. In the presence of uncertainty, if I make some plausible assumptions about the behavior of other consumers, I can infer something about the quality of the good from the fact that it is feasible. That is, the link between feasibility and desirability is not a direct causal link; it is mediated by information. Had I known the quality of the strawberries, the fact that they are available for sale would not change their desirability.

In this and the following two chapters, I discuss alternatives whose outcomes are known with certainty. Later, I discuss decisions in the presence of uncertainty. We look first at alternatives that are available to the decision maker but whose outcomes are not necessarily known at the time the decision has to be taken. Then we have to refine the dichotomy between the feasible and the desirable to distinguish among three concepts: feasible, possible, and desirable. The term *feasible* will still refer to what the decision maker can decide to do, whereas *possible* will mean "can happen but not as a result of the decision maker's choice." The term *acts* is often used to refer to the feasible choices of the decision maker, and *states* ("states of nature" or "states of the world") to designate possible scenarios, the choice among which is not under the decision maker's control. This choice will be made by other decision makers or by "nature"—a nickname for randomness or chance—but not by the decision maker herself.

Under conditions of certainty, the emphasis is on the importance of the distinction between feasibility and desirability. Under uncertainty, it will be equally important to distinguish between acts and states, or between feasibility and possibility. Often people arrive at erroneous conclusions when they mistakenly assume that they have control over choices that are not actually theirs to make, or vice versa.

1.5 Zen and the Absurd

Is it so obvious that desirability should be independent of feasibility? There seem to be situations in which we wish certain things precisely because they are attainable, or unattainable, and these situations are not as funny as a Groucho Marx line. For example, consider a mathematician who attempts to solve hard problems. She dismisses trivial problems as uninteresting and "not fun" and seeks to solve precisely those problems that have so far eluded her. In this sense, the mathematician would be similar to a mountain climber who seeks to conquer a summit *because* he has not yet done it; or to an imperialist who wishes

to add another country to his list of conquests; or to an athlete who attempts to break her own record once more. In fact, we seem to be surrounded by people who seek goals precisely because they may not be attainable and who lose interest in them as soon as they are proven feasible. All of the characters Camus thinks of as "absurd" are of this type.

You may also find reasonable people who tell you that the goal doesn't really matter, it is the road that matters. Zen philosophy might be a source of inspiration for this line of thinking. And if you're interested in the way to a goal rather than in the goal itself, you may prefer a goal that is unattainable. That is, it will be desirable *because* it is not feasible.

Do these examples confound desirability and feasibility? Not necessarily. There are several distinct issues in these examples, and some are simple to incorporate in the standard model of rationality, provided the alternatives are defined appropriately. Suppose, first, that you observe me devouring peanuts. Are you going to conclude that I enjoy having many peanuts in my stomach? Probably not. It will be more reasonable to assume that I derive pleasure from the taste of peanuts rather than from their weight in my stomach. That is, I enjoy the act of consuming peanuts rather than the state of having them. Similarly, I can enjoy swimming in the pool or strolling in the woods without trying to get anywhere.

Next consider a traveler who wishes to visit as many places as possible. He enjoys traveling but derives no pleasure from a daily stroll in the woods. He finds a known place less desirable than a new one. However, he does not seek a new place *because* it may not be feasible to get there; he simply enjoys the discovery, being somewhere for the first time. This phenomenon is also within the scope of rational choice as previously described. As in the case of consuming peanuts, the carrier of utility is the act rather than the final state. Also, in this case the pleasure derived from an act is history-dependent.

The mathematician's example is a little more complicated. As in the case of devouring peanuts, the mathematician enjoys the act more than the state. As in the case of the traveler, the mathematician also seeks the pleasure of a discovery and enjoys the act only the first time. But, as opposed to the previous examples, the mathematician enjoys a solution more, the harder is the problem. That is, she desires a conquest more, the less it appears feasible at first sight. What distinguishes her from Groucho Marx, then?

The answer is not obvious. One may argue that mathematicians, like athletes, enjoy a certain type of exercise and cannot derive pleasure from exercise that requires no effort. According to this account, they do not desire an achievement because it may not be feasible; they simply need to feel their muscles flexed, as it were, to enjoy the solution. Alternatively, you may decide that a mathematician's or an athlete's career is not rational enough for you. As will always be the case, you will make the final decision about what is rational for you.

1.6 On Theories and Paradigms

The previous two sections may seem like mental acrobatics. Rather than admitting that the definition of *rationality* involving separation of desirability from feasibility is very restricted, we come up with redefinitions of concepts to save the principle we were trying to promote. Is this honest? And is there anything that could not be classified as rational by some appropriate redefinition of terms?

Theories are supposed to be refutable, and when they are refuted, we should be honest enough to admit that. However, part of the merchandise we are trying to sell is not a specific theory, but a paradigm, a system of thought, a way of organizing the world in our minds. A paradigm consists of certain more or less formal, idealized terms, but, as opposed to a specific theory, it leaves some freedom in the way these terms are mapped onto real life phenomena. Thus, what gives pleasure to the mathematician is flexible enough to be changed from "being able to prove a theorem" to "finding a proof for a theorem that has not been known before."

Throughout this book there are examples of such redefinitions. The rational choice paradigm will often be useful and insightful even when particular theories of rational choice may fail. This is, in fact, why the book is called *Rational Choice* rather than the more common "Rational Choice Theory": in the social sciences it is often hard to come up with theories that are both useful and accurate. But there are many insights and organizing principles that change the way we think about the world. The focus in this book is on the latter.