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THE CONCEPT OF UTILITY. SHOULD IT BE REVISITED?[1]

1. Rationality as maximization of self-interest

At the beginning everything seemed simple. All rational beings are selfish, since they tend to maximize the subjective utilities of the consequences of their own actions. People are rational, thus they follow maximization rules. The rules, however, vary depending upon the type of decision making. In this paper, we will limit ourselves to decisions made under uncertainty, that is, decisions in game situations. Some implications of the paper do apply to other types of decision making as well.

In terms of game theory, any interdependence situation can be characterized by: the number of players involved, the number of actions (strategies) available to each player, the outcomes resulting from all possible combinations of actions, and each player's preferences over all outcomes. Outcomes are meant here as any action consequences that are of a (positive or negative) value to a person, be it money, other material possessions, power, status, social approval, etc. It is assumed that every individual is a rational, selfish being in the sense that he/she maximizes his/her own interest. In other words, facing a choice between two or more actions, every player is thought to choose that action whose consequences are of the highest subjective value to him/her. Since people are interdependent, what is rational to them depends upon how the individual preferences of the involved parties are related to one another: whether, and if so, to what extent and in what way, they are conflicting.

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The basic rules of rational choice in games were first described by von Neumann, Morgenstern (1944), then developed by Nash (1951). The first rule, the maximin rule, is somewhat conservative: Choose an action the worst outcome of which is still better than the worst outcome of any other available action. This is a safe rule since it secures „the best of the worst outcomes" one can possibly obtain in a given social interaction. The second most often recommended rule to reach a solution says: Choose the action that leads to that outcome, which neither party can improve by switching to the alternative strategy. This is a simplified definition of the equilibrium solution.

The rules appear to be quite intuitive. Let us consider the abstract situations shown in Table 1 and Table 2. There are two players, A and B, each with two strategies, A and B. The numbers in the cells show the subjective value of the outcomes of each possible combination of choices for each player. The higher the number, the higher the value, i.e., the subjective expected utility.

Table 1

Prisoner's Dilemma Game (PDG)

		Column	
		A	*B*
Row	A	*3* 3	*4* 1
	B	*1* 4	*2* 2

Table 2

No Conflict Game

		Column	
		A	*B*
Row	A	*4* 4	*3* 2
	B	*2* 3	*1* 1

The logic of these two situations is different and, according to the aforementioned rules, players should choose strategy B in the PDG (Table 1) and strategy A in the No Conflict Game (Table 2). The problem, however, is that very often people do not follow these rules. At least, not when money is at stake. A review of hundreds of psychological experiments shows that a 40%, sometimes more, departure rate from theoretically rational choices is observed, even in the seemingly least problematic situations with dominant strategies, like the Prisoner's Dilemma or No Conflict Games. In other words, very often people do not choose the strategy that brings about better outcomes, regardless of what their partner(s) chooses.

2. Self-interest revisited

Does this imply that people are irrational, or should we rather reconsider the concept of self-interest used in the simplest psychological interpretations of game theory? In other words, we may agree that people satisfy their self-interest, but clarify that self-interest is complex and does not mean the same thing to all people.

2.1. Social orientations

The great diversity of people's behavior in interdependence situations can be explained only if we assume that, in an interaction with another person, people may want to achieve goals other than the mere maximization of their own profits. Although these goals are called differently in various conceptualizations and at various times (social motives, social values, social orientations) the main idea remains the same: people care not only about what they gain (or lose) themselves but also about what others gain (or lose). The subjective value of outcomes in interdependence situations is a function of both one' s own and others' outcomes (McClintock, 1972, Griesinger and Livingstone, 1973). An individual can maximize only their own outcomes (individualism), only their partner's outcomes (altruism), a joint profit (cooperative orientation), a relative gain, i.e., an advantage over their partner (competitive orientation), minimize an absolute difference between their own and their partner's outcomes (equality orientation), or seek to achieve still other goals (e.g., Wieczorkowska, 1982, Grzelak, 1982).

Figure 1 shows social orientations as a function of one's own and others' outcomes.

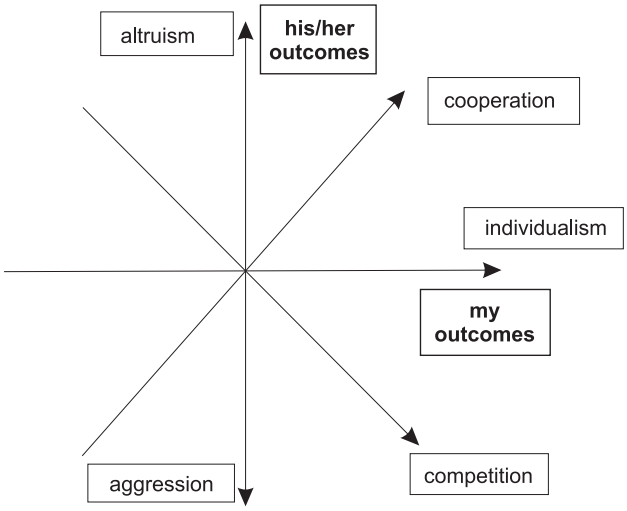

Figure 1. Social orientations in two-dimensional space of outcomes

Social orientations do not only provide a plausible *post hoc* explanation of the observed behavior. They can be measured independently of behavior and used as its predictors. A detailed description of social orientation assessment methods is beyond the scope of this chapter. However, it seems worth mentioning that some of these methods are based on a quite precise analysis of individual preferences over various allocations to the self and to the other(s). The analysis of preferences is a basis for drawing inferences about an individual's social orientation, that is, about the components of his/her subjective utilities. We assessed the social orientations of Poles in a nationwide survey (2001). Figure 2 shows the dominating orientations among Poles.

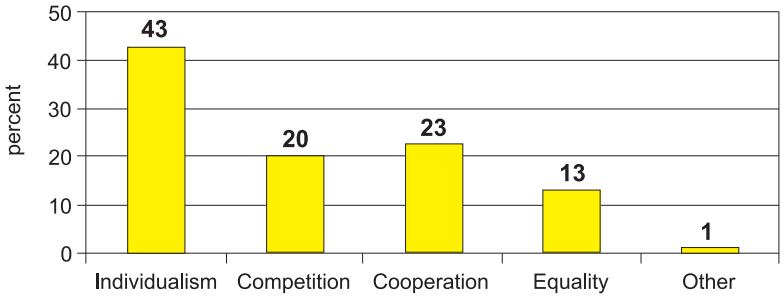

Figure 2. Dominating social orientations (2001)

Contrary to common belief, only 43% of respondents revealed a pure individualistic orientation, that is, a concern only for their own gain. The remaining 57% of population takes into account, in one way or another, others' gains or losses as well.

Although many studies have disclosed marked individual differences with respect to the goals that people strive for, social orientations are not usually considered stable, trait-like individual characteristics, since they are also situation dependent. They can vary from situation to situation depending on the partner's characteristics (wealth, prestige, identity), on group norms, and on other factors (Grzelak, 1982; 1995).

In light of these results, choosing cooperation in a Prisoner's Dilemma-like situation may be a perfectly rational decision on the condition that the persons involved in the situation care for each other's well-being. Imagine that player *A* values player *B*'s outcomes with the weight of 0.6. Due to this outcome transformation, the situation is no longer a Prisoner's Dilemma. It turns out to be a rather mild conflict in which *A* and *B*'s dominating strategies, A and B respectively, yield the equilibrium: A, B (see Table 3).

Table 3

Transformed Prisoner's Dilemma Game

		Column	
		A	*B*
Row	A	*3* 3+1.8=4.8	*4* 1+2.4=3.4
	B	*1* 4+0.6=4.6	*2* 2+1.2=3.2

The concept of social orientations leads to at least two important implications.

First, utility is not merely a matter of one's own gain, since it is also composed of value attached to other's gains.

Second, the weight and sign of own and others' outcomes vary from person to person. In other words, there are sound interpersonal differences in the composition of subjective utility.

Third, there is no universal rationality. Rationality is person-dependent; a question about an individual's rationality cannot be answered without knowledge of that individual's subjective utility function.

2.2. Control orientations

Any game is defined not only in terms of outcome allocations but also in terms of who decides about those allocations. Control can be considered as a means, as an ability to change outcomes in a desired direction. It can also be viewed as the end in itself.

The idea of control as a value in itself is deeply rooted in the history of psychology and it underlies a great number of psychological theories; to mention only a few: Adler's theory (1929) of power, Brehm's (1966) theory of reactance, Burger and Cooper's (1979) conception of desire for control, Winter's (1996) theory of social motivation, or Seligman's (1975) theory of learned helplessness resulting from loss of control. Although these theories are focused on different types of control motivation, they all share the same notions: (1) that people value control and (2) that the degree to which control is valued affects people's perceptions, emotions and behavior.

In interactions with others, as an interdependence actor, one can try to maximize: (1) one's control over one's own outcomes (*self-control preference*), (2) one's control over others' outcomes (*power preference*), (3) others' control over one's own outcomes (*dependence preference*), (4) others' control over others' outcomes (*respect preference*), and (5) joint control, one's and others' control over one's own and others' outcomes (*collaboration preference*) (Grzelak, 2001).

Figure 3 shows the dominant control orientations assessed in a 2001 survey run on a representative sample of adult Poles.

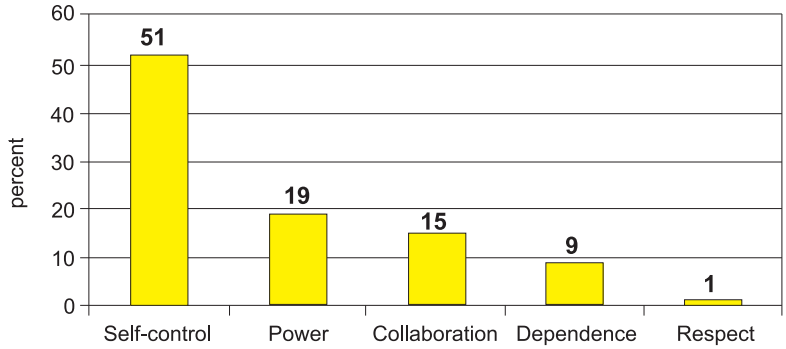

Figure 3. Dominating control orientations (2001)

It is noteworthy that only half of the population prefers to be in control over their own outcomes, and nearly a quarter prefers either passing control over their own fate to others (dependence orientation) or at least sharing it with others (collaboration). Thus, there are, as in the case of social orientations, pronounced individual differences in preferences over control.

Control preferences may affect the course of any given interaction. For instance, depending upon the type of preferences for control that are dominant, an individual either takes his/her own initiative or makes room for a partner's initiative in decision making. Turn taking in social interaction may be instrumental not only for the final outcome allocation (Kelley, 1997) but also for control allocation itself.

I began this chapter with the statement that every individual is thought to choose that action whose consequences are of the highest subjective value to him/her. That statement refers to choice between situations as well: Every individual is thought to choose that situation which is most attractive to him/her both in terms of available outcomes and in terms of control. Any social situation is evaluated, among other criteria, on the extent to which it satisfies one's control preferences. It is claimed that control preferences are one of the crucial determinants of inter-situational mobility of individuals.

The two types of orientations are theoretically and empirically orthogonal. Each of them is an independent source of attractiveness, that is, a separate component of the subjective utility of alternatives, be it various social situations or strategies available in a given situation. A large number of psychological and sociological studies have shown that people's actual behavior, emotions and cognitions are better predicted if we assume subjective utility to result from preferences over control and outcome allocation to the self and to the other(s).

3. Concluding remarks

Von Neumann and Morgenstern were not mistaken. In essence, they could not be. People do what they like. So, people maximize their subjective expected utility. For decades, researchers and theorists have assumed a simplistic interpretation, that utility is a function of one variable only: individual gain or loss. The closer the decisions were to economic ones, the easier it was for that gain or loss to be money, or other goods or services convertible to money. Even for psychologists, this vision of utility remained alluring for a long time.

The concept of utility does not need to be revisited. People still do as they like, as they did 60 years ago. What should be revisited is our interpretation of what they like. In games, a decision maker is both affected by and affects the other party. The other party is an intelligent, i.e. rational, player. This very nature of interdependence makes the distribution of control over game outcomes a non-neutral issue. In the case of people, the control

issue is not neutral also because of the value assigned by the players to the game outcomes. Just how (how much and in which way) this neutrality is infringed varies from person to person, from player to player. The same situation can, then, be differently defined by different players.

The concept of utility is growing ever more complex. Its explanatory value has not been and is not under debate. Its predictive value depends on whether we can measure its most significant components, and those include the social and control orientations outlined in this chapter. In recent decades, we have observed substantial progress in the measurement of these variables. The concept of utility is growing more complex, but the measurement possibilities of contemporary psychology appear to match its level of complexity.

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