MOTIVATIONAL ASYMMETRY IN THE PROSPECTIVE AND RETROSPECTIVE MODE OF VALUE: GOING FROM THE THIRD PERSON LOGIC OF THE NON-INVOLVED EXTERNAL OBSERVER TO THE FIRST-PERSON EGO-LOGIC OF THE MOTIVATED ACTOR HIMSELF

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Abstract

The paper compares two models of motivational asymmetry, one developed by Rijsman in his earlier work on social comparison (1970, 1974), and one developed by Kahneman and Tversky in their later work on prospect theory (1979). Although both models agree on motivational asymmetry, in the sense of "losses looming larger than gains", they differ greatly in terms of the motivational value they assign to equality and to extreme outcomes, and differ also in terms of the temporal modality in which they are formulated. To better understand these differences, the first model was carefully reviewed in terms of its analytic construction and it's application to behavioural economics, and contrasted with the second model, in which there was basically no conceptual analysis of motivational value, but intuitive transformation of the functional relation between outcomes and value on the normative balance itself. It was concluded that when we incorporate Self-involvement of the actor in our concept of prospective outcomes, as is automatically the case in the retrospective mode of value, we actually obtain the same type of motivational asymmetry as obtained for Self-involving outcomes in the past, as proposed in the first model. This was further elaborated in terms of the difference between the illusion of third-person logic (typical for models in normative economics), versus the first-person Ego-logic which is necessary to describe the actual decision making of the so called "motivated" actors themselves.

Keywords: motivational asymmetry, equality, prospective versus retrospective, comparative preference, self-involvement, decision-making, behavioural economics

JEL: D01, D91

Two models of motivational asymmetry

The concept of motivational asymmetry, known as losses loom larger than gains, is generally associated with the image in figure 1, namely a concave value-function for the attraction to gains, and a convex but steeper value-function for

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the aversion from losses, both starting from zero value in the middle (see figure 1). This image was created by Kahneman and Tversky, in the context of their work on prospect theory (1979), for which Kahneman (Tversky had passed away by then) was awarded the Nobel prize in economics in 2002. Kahneman and Tversky, however, did not base this image on any formalism, but presented it only as an intuitive sketch. Nevertheless, the particular shape of the function in the image has become the icon of the concept of motivational asymmetry, but not only of the concept of motivational asymmetry, but also of the idea, as shown in figure 1, of no motivational value for equality, and not disappearance of motivation at the extremes.
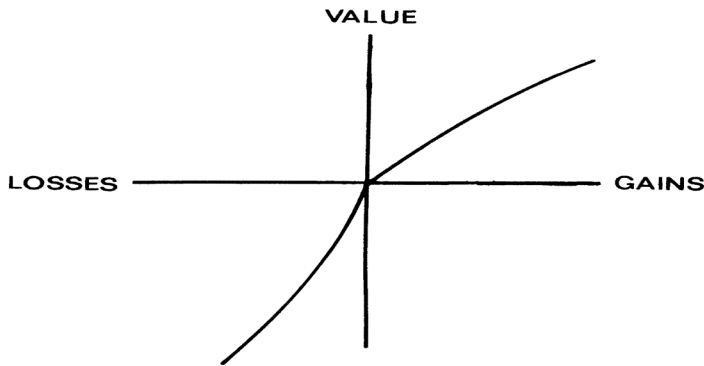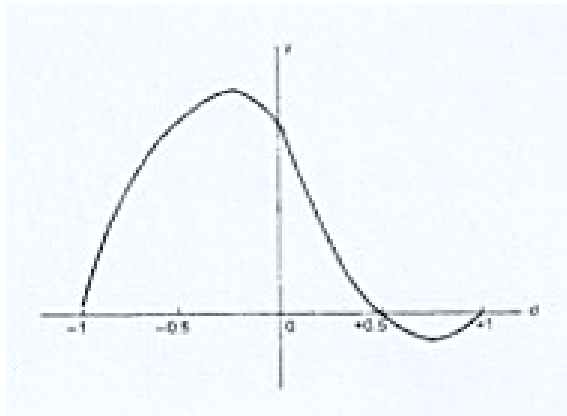
VALUE

LOSSES ——————————————— GAINS

Source: According to Kahneman & Tversky (1979).

Figure 1: A hypothetical Value Function of losses and gains

However, about a decade before Kahneman and Tversky, we had also proposed a model of motivational asymmetry, not between gains and losses in the comparison between current wealth of Self and prior wealth of Self, as was the case in prospect theory, but between gains and losses in the comparison between Self and Other. The gains in this social type of comparison are also called wins instead of gains, but the principle of comparative preference for a positive current Self relative to the used standard of comparison, prior Self or Other, is obviously the same. This earlier model of motivational asymmetry is shown in figure 2, and depicts, on the horizontal axis, the obtained outcome of comparison between Self and Other, from very inferior on the left to very superior on the right, and, on the vertical axis, the motivational pressure on the subject to change the outcome, upward or downward. According to the model, this pressure is slightly upward in the vicinity of very inferior, and increases with decreasing inferiority of Self, to reach a maximum just below equality, after which it goes down again, to become zero at moderate superiority, and to even turn downward, or a pressure to actually

decrease the outcome, in the zone between moderate and very high superiority. At the extremes, left and right, there is no pressure to change anymore, because there is no comparison any more at these points (see figure 2). Unlike the model in figure 1, this model was not based on mere intuition, but was formally derived from the process of comparative preference (later in this paper we will show again how exactly this was done), and was also tested empirically in a series of studies in which the obtained outcome of comparison was induced experimentally, and the effect on motivation measured by measuring the subject's change in real performance, or change in real competition after the induction (e.g., Rijsman, 1970, 1974, 1975a, 1979, 1980, 1983, 1985; Rijsman and Poppe, 1977).

Source: Rijsman (1970).

Figure 2: Motivational asymmetry between wins and losses
in the retrospective mode of value

The purpose of the present paper is to compare these two models, to see how they agree and how they differ. That they agree on motivational asymmetry, with negative outcomes in the comparison (i.e., losses/inferiority) "looming larger" than positive ones (i.e., gains/wins/superiority), is clear, but that they do so in different terms, leading to an entirely different shape of function, is clear too. Indeed, in figure 1, motivational value is expressed in terms of the tendency to move toward (i.e., attraction) or to move away from (i.e., aversion) the outcome "before" it is obtained, or in what we call the prospective mode of value, whereas, in figure 2, it is expressed in terms of pressure to change the outcome "after" it has been obtained, or in what we call the "retrospective" mode of value. These two modes of value are well known in psychology, just think of classical versus operant conditioning, but are generally assumed to be correlated, in the sense that a prospectively attractive outcome is assumed to induce little or no pressure to

change, whereas a prospectively aversive outcome is assumed to induce a lot of pressure to change. That is usually referred to as the psychological law of effect, or "win-stay, lose-change". When we look with that law in mind at the two figures, we immediately see the correlation, but only in the zone of moderate outcomes, or outcomes about halfway the midpoint and the extremes. For example, according to figure 1 a moderate prospective gain is quite attractive, and, according to figure 2, people who actually got that outcome are little or not motivated to change. That is coherent. Similarly, according to figure 1, the prospect of a moderate loss is quite aversive (more aversive than the prospect of a moderate gain is attractive, because of motivational asymmetry), and, according to figure 2, the people who actually got that outcome are very motivated to change. Again, that is coherent. In the middle of the two figures, however, and at the extremes, the situation is different. According to figure 1, the prospect of equality has no motivational value at all, whereas, according to figure 2, the people who actually got that outcome are very motivated to change. And also at the extremes the situation is different, because according to figure 1, the prospect of extreme gains and losses has still high motivational value, attractive or aversive, whereas, according to figure 2, the people who actually got that outcome are no longer motivated to change, because they have stopped comparison at these points. The question now is what to do with these differences: Is something wrong, or can we find a way to go from one figure to the other, or from one mode of value to the other, without losing coherence? Before trying to answer that question, we will first briefly review our formal analysis of the social construction of social comparison, from which we derived figure 2, and then come back to the question above. This will not only help us to better understand the conceptual foundation of figure 2, but will also make clear how a basic element of the conceptual foundation, namely the Self-involvement of the actor, is entirely missing in figure 1, and it may well be that element, as we will see, which offers the key to go from mode of value to the other without losing coherence.

The social construction of social comparison: a formal analysis

By "social" comparison, we obviously understand a comparison between "socii" (plural of the Latin word "socius"), and seen from the Self-referent standpoint of a subject, say Ego, this means between Self and Other, because it is clear that the concept of a "socius" of Self formally refers to some Other-like-Self. This meaning of Self and Other as "socii", however, is, just like all meaning, also what we call "socially constructed", and thereby we understand: constructed by the meaning making interaction between subjects. Now, in the case of Self, one of these subjects is by definition the owner of Self, the Ego, and the other subjects – let us call them the Alters – are subject with whom the Ego-subject

can interact in a meaning making way about Self. Thus, the social construction of social comparison can simply be reformulated as the Ego-Alter construction of the Self-Other meaning.

It is immediately clear that there are actually two fundamentally different definitions of the concept of "socii" combined in this formula, namely one in which "socii" refers to the other subjects, the Alters, with whom the Ego-subject can coordinate activities in a meaning making way about Self – we call that the intersubjective or Ego-Alter definition of "socii" – and one in which "socii" refers to the other objects of comparison, the Others, which are socially constructed as comparable to Self – we call that the interobjective or Self-Other definition of "socii". The latter is by definition a product of the former, and, thus, the two definitions can never completely and consistently be reduced to one another, just like the elements of a set and their set can never completely and consistently be reduced to one another either (this is one of the most fundamental theorems in formal logic, known as the Gödel incompleteness theorem). The intersubjective definition of "socii" in the social construction of social comparison is like the interactive definition of "conspecifics" in biology, or the other organisms with whom a given organism can mate and reproduce its own form of life. When we exchange mate for meaning making interaction with Alters, and own form of life for the meaning of Self, we get the intersubjective definition of "socii" in the social construction of social comparison. Its opposite is not the individual meaning making subject, because that is an internalized form of meaning making interaction with Alters, but autism, or literally the lack of a meaning making interaction with Alters. The social construction of social comparison is schematically represented in figure 3.
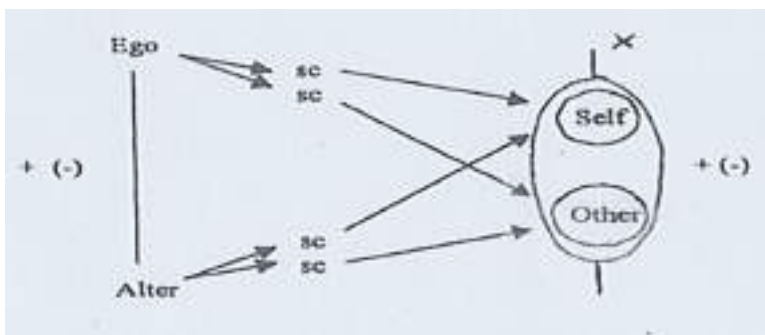

Figure 3: The Ego/Alter-construction of the Self/Other-meaning

On the left in figure 3 is the meaning making interaction between the Ego and the Alters, and, on the right, the meant product of that interaction, namely the

meaning of Self and Other as "socii". In the middle are the "social characteristics", or the perceptions which are socially constructed by the Ego and the Alters as references to Self and Other as "socii", such as what they do or say, how they look like, the groups they belong to, what they have or have not, etc. These three parts in figure 3, the intersubjective one on the left, the interobjective one on the right, and the intermediate one in the middle, can easily be distinguished analytically, but not separated, they form an integral unit or system.

The meaning making interaction on the left is obviously a generalized abstraction of many different forms of interaction, from the nonverbal coordination of activity between baby and caretaker, to the verbal construction of reality among speaking adults, to even the internal conversation in one's own mind. We do not discuss this variation in this paper, but only want to mention the basic principle that all meaning, irrespective of whether it refers to Self and Other as "socii" (what is usually called "social cognition") or to anything else (what is usually called "cognition" tout-court), is always the referential product of the coordinated interaction between people, and never an "a priori" or "given" meaning in reality itself. Meaning, by definition, is "that what is meant", it comes and goes with those who mean something. But of course – and that probably explains the pervasive tendency toward a logic of individual realism in psychology – once meaning is constructed socially, it can be internalized in one's mind, and later be reproduced in "recognition", or literally in "cognizing again" the meaning of what is perceived. At that moment it obviously looks as if the meaning of what is perceived was already present in reality before, and that meaningful perception is only the individual registration of that meaning by means of the psychological apparatus. When we then take that impression as a starting point of our epistemology, and forget about the socio-genetic antecedents which led to that impression, we fall in the logic of individual realism, and from there also in that of the "secondary" social constructionism. The reasoning which leads to the latter is as follows. When meaning is an "a priori" or "given" message of reality itself, then all people who register that message correctly will, when they communicate, agree, and those who disagree will at least be partially wrong, because at least some of them do not register the message correctly. Thus, concensus, in the logic of individual realism, is a "necessary" criterion of truth, and dissensus an absolute proof of at least partial falsehood. For that reason, thus the logic of individual realism, people who want to be sure that their cognition of reality is correct will, when they communicate, seek consensus, and that is the background of the many forms of pressure toward uniformity in social interaction, such as pressure toward conformity, rejection and even killing of deviants, etc. It is this "secondary" logic of social construction which has been adopted in the early decades of social psychology, with Leon Festinger, who published an

explicit theory of that kind halfway the previous century, as the most important protagonist.

In the logic of the "primary" social constructionism, however, which was developed later, and which is also the logic which we wish to represent in this paper, there is no "a priori" or "given" meaning in reality itself, but all meaning is the referential product of the coordinated interaction between people. Truth then in that logic cannot be the correct individual registration of the given meaning reality itself, but must be the socially valid reproduction, in action or in thinking, of the social coordinations in a community of practice which lead to meaningful reality, and which were sustained as such in that community. This holds as well in science as in religion, because also in science, and very explicitly in science, the truth of what is called "reality" is the referential product of the coordinated interactions between scientists, such as the coordinated use of telescopes and microscopes, of rods and clocks, etc. That meaning is socially constructed and not given by voices or messages in reality itself (moreover, who could ever check these messages independently, to see if the man-made meaning is true or false), becomes most visible when people from different communities of practice meet and need to do things together. At that moment they may clash, and will need to resolve these clashes. The most common way of doing this is orthodoxy – that is, either forced inclusion (force the other people to do "like us", which, when they are children, may be called "education", but when they are adults, may be called "integration"), or else forced exclusion, not only physically (send them away or even kill them), but also mentally (let their body stay in our community, but not their mind, such as laugh at them, call them crazy, etc.). But when the communities are about equally powerful, and cannot or do not want to break their interaction (but for the latter we need "binding forces", such as interdependence or external pressure), then conflicts of coordination can lead to new coordinations, or new meanings which did not exist on either side before. In this way culture evolves – that is, partly by orthodox conservation and partly by constructive innovation. If we had only the former, then nothing new would ever emerge, and if we had only the latter, then we always would need to start from scratch again.

We will not discuss here all these possible ways to conserve and to create new meaning, but will only ask ourselves what kind of coordination the Ego and the Alters must create and conserve "in any case" – that is, as "formal necessity" – to arrive at a meaning which in their eyes refers to Self and Other as "socii". It is the answer to that question, obviously again in a generalized abstract way, which is symbolically expressed by the part on the right in figure 3. What we see in that part is that to create and conserve a meaning of Self and Other as "socii", the Ego and the Alters must in any case "associate" (large circle) both concepts in the same category of meaning (because that is what "socii" literally means,

namely associable elements in the same category of meaning), but must at the same time also "discriminate" them (because Self is by definition not the Other, but the only one of the two which belongs to Ego). However, because Self, by definition, refers to the only one of the two which belongs to Ego (a Self that does not belong to the Self-referent Ego is a formal "contradictio in termine"), the Self-defining discrimination of Self from Other is by definition a "preference" (because a preference is a discrimination in which one tries to appropriate one element more than the other, like in the preference for this chair instead of for that one, and in the case of Self and Other, this is by definition Self). It is this "formally necessary" preference for Self, in the Self-defining discrimination, which is symbolically represented by the "+" to the right in figure 3. The vertical axis, X, through Self and Other, is a symbol of any dimension or attribute upon which this preference is projected. By implication, then, X is a value-dimension, or literally a dimension in terms of which the Ego-subject, together with Alter-subjects, constructs the basic preference for Self above the Other (and from which all other preferences, as discriminatory forms of associating other elements to Self, are necessarily derived).

The other "+", to the left in figure 3, is a symbol of the cooperation between the Ego and the Alters, which is necessary to arrive at and to maintain this socially coordinated or shared preference for Ego's Self above the Other on X. It has two basic forms, namely altruism and commerce. By altruism, we understand any cooperation in which the Alters share Ego's preference for Self because they "identify" with Ego. Thus, pure altruism, formally speaking, can be reformulated as "vicarious Ego-ism", or also as "delegated Self-interest", namely the Self-interest of the Alter-subjects (who are obviously also Ego-subjects with regard to their own existence), that is delegated to the Self of the Ego-subject with whom they identify. A clear example of such "altruistic" cooperation is the symbiosis between mother and child during pregnancy (because the body of the child is literally connected with that of mother at that moment), and later the behavioural care of parents for their own children. By "commerce", on the other hand, we understand any cooperation in which the Alters also share Ego's preference for Self above the Others, not because they identify with Ego, but because they consider the Ego-subject a better provider of certain non-vicarious goods, such as products and services, than the competing other subjects, or those who represent the Others in the competitive comparison with Self. The Alters who share Ego's preference for Self on these commercial grounds are not called "altruists", but "clients". These two forms of cooperation together, the altruistic and the commercial one, constitute the "social", in the sense of the "intersubjective" basis of Ego's competitive preference for Self above the Other, and so we see that cooperation is not the formal opposite of competition, as it is often portrayed

in social psychology, but actually the necessary complement of it. Cooperation, in the social construction of social comparison, is on the intersubjective side, or on the side of the Ego and the Alters, whereas competition on the interobjective side, or on the side of Self and Other as constructed objects of comparison. The latter cannot go without the former, or in short, there is no preference for Self without the support of Alters. The actual opposite of cooperation in the social construction of social comparison, therefore, is not competition, but antagonism, or any relation in which the Alters tend to prefer the Other instead of the Ego's Self on X. Now, such a tendency, needless to say, cannot be coordinated with Ego's necessary ownership of Self, and therefore necessary preference for Self on X, and needs to be reciprocally rejected. It is this formally necessary reciprocal rejection of negative Alters by Ego which is symbolically represented by the two negative signs, left and right in figure 3 (see the negative signs between brackets).

These two configurations in figure 3, the double positive and the double negative one, are obviously what we call "in psychological balance" (indicating that what we call "in psychological balance" is actually the representation of the coordinations which are inherent in the meaning of what we say), and can be regarded as the generic foundation of what is called the tendency toward social reciprocity, such as reciprocal love and hate, friendship and animosity, liking and disliking, etc. At closer inspection, however, they can also be regarded as the generic foundation of what we call the tendency toward social justice, or stated inversely, the rejection of social injustice. Indeed, by social justice, psychologically speaking, we simply understand the social construction of the meaning of "socii" which is considered right or just by the constructing subjects, and seen from the standpoint of the constructing Ego, this means: in which Self is preferred above the Other on the Self-defining dimension of comparison, or X. However, because there are many different social characteristics from which the meaning of Self and Other on X can be inferred (see the sc-symbols in the middle of figure 3, on which we will come back in a minute), there are also many different "forms" of social justice, all of which, however, resort to the same preference for Self above the Other on X. For example, when the meaning of Self and Other on X is inferred from their personal performances as social characteristics, then "just" Alters, in Ego's eyes, are Alters who validate these performances proportionally, but only to the extent that Self comes out as somewhat better than the Other on X (because otherwise other forms of social justice become relatively more attractive). Now, this form of social justice, in which people strive toward a proportionality between the relative "inputs" of Self and Other (what they both perform and what this means for their relative value on X) and the relative "outcomes" of Self and Other (how they are both rewarded by Alters, and what this means for their "socially reflected" relative value on X), but

with a clear tendency toward a proportion that is somewhat larger than one (to the advantage of Self), is precisely what is understood by the form of social justice called "equity". But when the meaning of Self and Other on X is not inferred from their "personal" performances as social characteristics, but from the level of the group to which they belong and with which they are identified, then "just" Alters are those who not only prefer the group to which Self belongs above the group to which Other belongs, but who also confirm that Self is equal to-, or should be "identified" with the better "ingroup", and is different from-, or should not be identified with the inferior "outgroup", and this is called the social justice of "equality" (whereby equality does not refer to the comparison between Self and Other, but to the relation between Self and the other members of the preferred "ingroup" which serve as social characteristics of a preferred Self above the Other at the moment). And when the meaning of Self and Other on X is inferred from their identification with other people who need help, like parents with their own children, or fans with members of their own club, then "just" Alters are Alters who provide more help to those dependent other people with whom Self is identified than to the other dependent people with whom the Other is identified, and this is called the social justice of "need". Thus, whatever form of social justice we take, equity, equality, or need, we always see the relation with the social construction of a preference for Self above the Other on X, and needless to say that the same principle also applies to what we call "Self-justification", because that is literally an active attempt of the Ego-subject to persuade Alters, including experimenters in a social psychological experiment, of a more positive view on his Self, such as, for example, by trying to attribute failure to circumstances instead of to Self, or socially undesirable behaviour to the pressure of alternative Alters instead of to Self, etc. In principle, the whole literature on Self-justification, including the one on the emergence and reduction of cognitive dissonance, or on the emergence and treatment of neurotic anxiety, etc., can be read and understood in terms of the structure and dynamics of figure 3 (e.g., Rijsman, 1978, 1997).

The symbols in the middle of figure 3, the sc-symbols and the connecting lines, are, as just said above, symbols of the perceptions which are socially constructed by the Ego and the Alters as "social characteristics" of Self and Other on X, or literally as characteristics which refer to the Self-defining meaning of "socii" (reason for which we call these characteristics "social" instead of merely "perceptual"). The lines on the left represent the social construction of the perceptions themselves, such as, for example, the assessment of performance, and those on the right of the attribution of the perceptions to Self and Other on X, such as, for example, the attribution of the assessed performance to ability, or of what people say to their attitude, etc. These two steps together, the perception and attribution of social characteristics, are usually referred to in social psychology

as "social cognition", but unfortunately the word "social" in that name is often understood as only referring to the social content of the constructed cognition, or the fact that it refers to Self and Other as "socii", whereas it should obviously also be understood as referring to the fact that this particular content, just like any other content, is also "constructed socially". This individualistic view on social cognition is sometimes referred to as the "Ego-solo" view on social cognition.

The perceptions which are socially constructed as social characteristics of Self and Other on X can in principle be anything, but for reasons of parsimony, we have classified them in four major classes, namely 1. Bodily characteristics (i.e., how people look like, how they feel, smell, etc., and needless to say that the "internal" bodily characteristics of Self, such as their sensations in the stomach, in the muscles, etc., cannot be shared directly with Alters, but only indirectly, namely via some form of "expression", so that the social construction of what they mean, or of what becomes Ego's Self-referent internal bodily feelings and emotions, must be the product of the coordinated responses of Alters to these expressions, and not to the sensations themselves, which immediately explains that Self-referent internal bodily feelings and emotions can differ from culture to culture, or from community to community, depending on the dominant patterns of dealing with expressions in that community), 2. Behavioural characteristics (i.e.,what people do or say, and is attributed to their dispositions, such as ability, attitude, character, opinion, etc., etc.), 3. Possessions (i.e., what people have or have not and, again, is attributed to their dispositions), and 4. The social groups or categories to which people belong and with which they are identified. When the meaning of Self versus Other is socially constructed with this latter class of social characteristics, we call the resulting meaning "categorical", and when it is socially constructed with one of the other classes of social characteristics, we call it "personal" (o.c.). Later, other authors, such as Tajfel and Turner (1979) made a similar distinction, but instead of using the term "categorical" identity, they used the term "social" identity. We did not consider that a fortunate change in terminology, because as one can see in figure 3, we can actually "always" call the meaning of Self social, in at least three senses of the word, namely in the intersubjective sense (the sense of being socially constructed), in the intermediate sense (the sense of being mediated by the perception and attribution of social characteristics), and in the interobjective sense (the sense of being based on the comparison with Others). Thus, when we use the word to refer to only one of these possibilities, without a clear distinction from the other ones, we run the risk to create confusing forms of discourse, as in fact has happened a lot in the literature on "social" identity, such as, for example, when speaking about the power of the ingroup as determinant of social identity, and sometimes mean the effective power of positive Alters relative to negative ones, what is intersubjective, but

other times the perceived power of the ingroup with which Self is identified, what is intermediate, and still other times the position of Others-for-comparison on the X-dimension of power, what is interobjective. And many other examples of such shifts in discourse, due to the use of the same word, but in different meanings, can be given.

One of the Self-serving tendencies in the social construction of social comparison which we have described and analyzed in rather much detail, using the logic of figure 3 as the basis of analysis, was what in our first paper on this matter – what was actually our dissertation on social comparison and social competition in 1970 – we called "primary human competition", but what Tajfel and Turner, just like identity, later called "social" competition. By this we understand a form of competition which has no basis in a material conflict of interest between people, or in other words which cannot be seen as a "secondary" consequence of such a material conflict of interest, but in the "primary" tendency of people to socially construct social characteristics of Self which make Self look better than the Other on some X, and to also get social validation or recognition for this from Alters. Now, it goes without saying that when two people do this toward one another on the same X-dimension of comparison, they become antagonists, because then they both try to make their Self look better than the Other on that dimension and to also get recognition for this from the one they inferiorize. This leads to very paradoxical forms of communication, or rather of mutual "excommunication", because they first try to transform the other person in a Self-less object of comparison, namely inferior Other, and then expect the other person to suddenly become a vivid subject again, namely the positive Alter who says that this is right. This is like seeking darkness with a lamp, or the more one seeks the less one finds. Remarkably, however, the same dynamics which lead to mutual antagonism in the case of the same X-dimension of comparison, lead to mutual attraction in the case of multiple complementary dimensions of comparison. To make this clear at once, let us use a simple thought experiment. Imagine two subjects, A and B, who are both hungry and want to go to a place to eat, but A is blind and B is paralyzed, so that, to get to that place and survive, they need to cooperate, with A as carrier and B as viewer (and not with A as blind one and B as paralyzed one, because that does not bring them forward in the right direction). It is clear now that when A and B cooperate in this way, A validates B's superiority in viewing, and B validates A's superiority in carrying, leading to mutual validation on a Self-involving X-dimension of comparison for the receiver of validation, or, in the logic of figure 3, to mutual attraction.

There are plenty of examples of such mutual social competition on a single X-dimension of comparison in the literature which is nowadays generally denoted as "behavioural economics". In fact, it was precisely the study of experimental

games, using the logic of figure 3 as basis of analysis, which formed the starting point of our dissertation on social comparison and competition in the late sixties (thus long before the so called Turner-Tajfel interpretation of intergroup behaviour in terms of social comparison and competition had appeared). To make this clear, let us give a simple example. Take a game in which two players, A and B, can each choose between L and R, knowing very well in advance that when they both choose L they both gain +2, when they both choose R they both lose -2, and when they choose differently, the one choosing R gains +1 while the one choosing L loses -1. It is immediately clear now that the best choice for "maximin" (maximization of absolute gain, minimization of absolute loss) in this game is L, and yet players often choose R, sometimes more than half of all trials in a game of hundred consecutive trials. The reason is that, with R, they can eventually gain more than the other player, namely +1, when the other player, who is supposed to have chosen L in that trials, loses -1. But when they both try this at the same time – what obviously happens a lot when players choose R so often – then they both lose -2, or the maximum absolute loss instead of maximum absolute gain. Normative economists call this "irrational", meaning that they cannot find a reason or rationale for this behaviour in their normative logic of "maximin". Seen from a social psychological perspective, however, this is not irrational at all, but something for which there is clear reason or rationale in the logic of figure 3. Indeed, what both players do, according to that logic, is socially construct their own outcome and that of the other player as social characteristics of Self and Other on some X, with the intention to make their Self look better than the Other on that X, and to also get social recognition or validation for this from the same other player as Alter. But since they both try this at the same time, but in an opposite direction, they never agree, and this is what appears as "social" competition in the game (and notice how all three meanings of the word "social", the intersubjective-, the intermediate-, and the interobjective one, are used in this interpretation of "social" competition). The same dynamics also appear in other forms of games, such as, for example, ultimatum games. These are games in which one player, say A, can choose between the rejection or acceptance of a proposition by the other player, thus B, to divide a given amount of money between them in a certain way. When A accepts, then A and B get what B has proposed, and when A rejects, none of them gets anything. Thus, from a purely normative standpoint, it is always better for A to accept, at least as long as B's proposal contains something for A, no matter how small, because "something" is always better than "nothing". In reality, however, A players often reject proposals in which B takes too much for himself in comparison with what he proposes for A, or, again, an indication that people are willing to "do an effort", or "to pay a price" – two clear indications of motivation – to reject attempted social

constructions of their identity in which they are invited to play the role of inferior Other instead of that of superior Self. The same dynamics also appear in other well-known phenomena in behavioural economics, such as, for example, in the so called "endowment effect", or in what is conceptually very similar to this, namely the price-inflation effect. By the endowment effect, we understand the tendency of people to attach more value to goods when they belong to their Self than when they belong to some Other, as is illustrated for example in their tendency to ask more money for goods when they sell them than they are willing to pay for them when they buy them. In ordinary economic terms, one would probably call that "profit making", but it is clear that we can also, and probably for the better, explain this in terms of the logic in figure 3, or in terms of the logic which says that people tend to attach more value to social characteristics of Self than to social characteristics of the Other. Now, when people do this toward one another in the exchange of goods via symbolic means, such as paper money, then they obviously start to ask more and more for their own goods than they are willing to pay for the goods of the other, but without exchanging more goods, and this is precisely what is understood by price inflation, of which is clear that it cannot be explained as profit making in the ordinary economic sense of the word. But when people do not exchange goods via symbolic mediation, but directly, then they both start to offer less and less goods of their own for what they want from the other, and, in the end, the process stops. We have given this example, as an obvious implication of the logic in figure 3, many times in our classes on the social construction of social comparison, long before the term "endowment effect" ever appeared in the literature.

Formal derivation of motivational asymmetry from the process of comparative preference

We will now briefly review the way in which the motivational asymmetry in figure 1 was formally derived from the process of comparative preference for Self above the Other on X as shown on the right hand side of figure 3. The first step in the derivation was the definition of a scale of psychological distance, d, between Self and Other on X, with the zero point on that scale, or $d = 0$, defined as the point of subjective equality or complete overlap of Self and Other on X, and with the unit-endpoints, or $d = +1$ and $d = -1$, defined as the distance at which the subjective possibility to still associate Self and Other in the same mental category on X vanishes, or becomes zero. Positive values of d represent distances in the positive direction for Self, or the ones we usually call "superior" on X, and negative values distances in the negative direction for Self, or the ones we usually call "inferior" on X. Given this definition of d, it is obvious that the

comparability, say C, between Self and other on X is negatively related to the absolute value of d, in this sense that C is maximal, or 1, when |d| is minimal, or 0 (because when two elements overlap completely, the possibility to associate them in the same mental category on X is by definition 100%, or 1), and is minimal, or 0, when |d| is maximal, or 1 (because that is how these unit-endpoints were defined, namely as distances at which the subjective possibility to still associate Self and Other in the same mental category on X vanishes, or goes back to zero). We can express this as C = 1 - |d|, or comparability decreases from 1 to 0, as the absolute distance increases from 0 to 1.

The next step in the formal derivation was the expression of the two necessary mental operations of interobjective comparison between Self and Other on X, namely association, say A, and positive discrimination, say P, in terms of d. The first operation, A, is by definition equivalent to the reduction of any given d to 0, or A = -d, and the second operation, P, by definition is equivalent to the reduction of any given d to +1, or P = -d + 1. The equation for the two operations at the same time is their sum, S = A + P, which, after substitution by d, becomes S = -2d + 1. This sum, however, can only be effective that Self and Other can really be compared with one another, and we know that this possibility, or C, decreases with increasing absolute distance. Thus, to compute the "effective" value of S at each point of d, we need to weigh or multiply each S with the corresponding C, or Y = S x C, which, after substitution by d, requires two separate equations (because the function is not continuous in the middle), namely one for the negative values of Y, given by $Y = -2d^2 – d + 1$, and one for the positive values of d, given by $Y = 2d^2 – 3d +1$. It is the function of these two equations together, from -1 to +1 on the d-axis, which is shown in figure 2. Thus, figure two is the expression of any process of comparative preference for one element above the other on a given dimension of comparison, in this case for Self above the Other on X, and obviously also for a positive current Self relative a prior Self on the X-dimension of ownership or wealth.

This function can obviously also be applied to several Others which are rank ordered on X. For example, imagine a series of Others at equal intervals on X, whereby each interval to the next Other is equivalent to half a unit of d, or |d| = 0.5, in terms of Ego's psychological scale of distance. Imagine also that Ego compares Self with only one particular Other at the same time, obviously with the one which is closest to Self at that moment (because that follows from decreasing C with increasing |d|). Now, with these two assumptions in mind, we can easily infer from figure 2 that the dynamics of the interobjective comparison of Self with Others will look as shown in figure 4.

Figure 4: The hypothetical dynamics of sequential comparison with different Others along a given X-dimension of comparison, whereby the adjacent Others are separated from one another by half a unit of d in Ego's psychological scale of distance

What we see in figure 4 is that Ego, after having reached a position of small superiority relative to the first Other on the left (actually a superiority of a little more than +0.25 in terms of d), stops the comparison with that Other, and shifts it to the next Other on the right, relative to which Self is then in a position of small inferiority (actually an inferiority of a little less than -0.25 in terms of d). As a result, the pressure to improve Self on X (i.e., the upward Y-value) does not further go down, as it would have if Ego had continued to compare Self with only the first Other on X, but suddenly goes up again, and this process repeats itself for every next Other on X. The length and depth of the step-waves in figure 4 obviously depends on the assumed distance between the adjacent Others on X. For example, when we let that assumed distance become very small, say close to 0 in terms of d, then the step-waves virtually disappear, and start to form a virtually straight horizontal line at $Y \approx +1$ above the horizontal axis. We might call this line the constant, *R*, of Self-realization, or the constant tendency to improve Self on X, due to the constant comparison with real or virtual Others on that dimension.

When we look at this tendency to constantly improve Self on X, and do not know its background, we obviously get the impression that Ego wants to "maximize" superiority relative to inferior Others, whereas the only tendency is to stabilize it at moderate superiority, but each time relative to a new and somewhat better Other. This constant movement upward with smaller or larger steps, depending on the distance to the next available target, is something that has been observed already for long in studies on the change in level of aspiration after success, in which people, after having reached success at level L typically try again at a somewhat higher level L + 1, not with the intention to fail, but with the intention to succeed again (e.g., Rijsman, 1975b). It is also something that has been observed already for long in studies on the social comparison of power, in which people, after having reached power-level L, typically try to reach

a somewhat higher power-level L + 1, and more so the closer they get to that higher level, what corresponds of course with the increasing upward pressure with decreasing inferiority in figure 2 (e.g., Rijsman and Poppe, 1977).

In the reasoning above, it was assumed that the Other was not aware of Ego's tendencies to compete, and did not react reciprocally, but we can also compute what happens with individuals who do react upon another. For example, imagine two subjects, A and B, who both compare their Self with one another on the same X dimension, and who do this in complete symmetry, which means that when A is in position –d, then B is in the symmetrical position +d. Imagine also that A and B dispose of exactly the same means to change their position on X, which means that their actual changes are for both of them equally proportional to their Y-values in figure 2, or in other words, we can use the Y-values themselves as index of their change. Now, with these two assumptions in mind, it can easily be inferred from figure 2 that A and B will move toward one another on the X-dimension, with a variable velocity of approximation, or V, which depends on their momentary distance toward each other, until they reach complete equality, at which point they both move upward side by side with a common upward pressure of Y = +1, which is the upward pressure for people in a state of subjective equality. To see how this works, let us elaborate an example in which A starts in the vicinity of -1 on the d-axis, and B in the vicinity of the symmetrical +1. Given these starting positions, A will move slightly upward on X, and B slightly downward, leading to an approximation between them of which the momentary velocity, or V, is equivalent to the upward movement of A plus the downward movement of B. As they come closer to each other, the upward movement of A increases, and the downward movement of B increases too, leading to a higher and higher velocity of approximation. This acceleration of V goes on until A reaches -0.5 on the d-axis, and B the symmetrical +0.5, after which we get a deceleration, because once B descends below +0.5 on the d-axis, B starts to move upward as well, but always with a smaller upward Y-value than A in the symmetrical negative position. Thus, A and B continue to approximate one another, but with smaller and smaller V, until they reach complete equality on X, at which point they both move upward side by side on X, with a common upward drive of Y = +1. The entire function of V depending on |d| is a perfect parabola, namely $V = -4 (d^2 - |d|)$, which is simply the difference between the left and right part in figure 2, but assuring that for each d-value on one side, we take the symmetrical d-value on the other side. This function, however, only leads to complete equality on X when A and B have exactly the same means or power to actually change their position on X, because when one of them has more power, then he or she will obviously maintain a certain lead, because more power simply means that the same motivation has more effect, or is "more effective". A

paradoxical implication of this observation is that people with equal power will compete more than people with unequal power, because the sum of Y-values at symmetrical distances away from the midpoint is always smaller than twice +1 in the middle (as one can easily compute with the Y-equations above, but can also see with the naked eye in a careful inspection of figure 2). We also tested that implication empirically, and with very positive results. We let players in a mixed motive game compete with either the same means to win (symmetrical payoff matrix) or different means to win (asymmetrical payoff matrix), and it turned out that players in the first condition made a lot more competitive choices than players in the second condition, and especially than players in the second condition with superior means to win (e.g., Rijsman, 1970, experiment 1 and 2; Rijsman and Poppe, 1977; Rijsman, 1983).

Besides these and many other findings in the domain of behavioural economics which clearly support the implications of figure 2, we also found direct support for this figure, as said already in the introduction, in a series of studies in which the outcome of comparison, or d, was induced experimentally, and the effect on motivation measured by measuring the subject's change in real performance after the induction.

The possible role of Self-involvement of the actor in finding coherence between motivational asymmetry in the prospective and retrospective mode of value.

We now come back to the question with which we started this paper in the introduction, namely whether we can find a way to go from figure 1 to figure 2, or from motivational value in the prospective mode of value to that in the retrospective mode of value, or vice versa, without losing coherence. But before tackling that specific question, it should first be very clear to the reader that the motivational value of "obtained" gains and losses in the economic domain is in principle the same as that of "obtained" wins and losses in the social domain. Indeed, obtained economic gains and losses on the balance can only become gains and losses in the motivational sense of the word (which is not the same as just calling these outcomes "value" and performing computations on them), when they are seen by the subject in question – and that is by definition some Ego – as "own to Self" in such a way that the current Self, given the outcome, is experienced as being in a superior or inferior state of ownership or wealth relative to some prior Self, namely to the one that is represented by the point of subjective equality between the two in the middle of the balance. This implies that the "dynamics" of the obtained gains and losses on the balance are in principle the same as those which are shown in figure 2, we only have to exchange Self and

Other by current Self and prior Self on the underlying X-dimension of ownership or wealth. Clearly, then, the outcomes which refer to dynamic losses – that is, to negative d-values in figure 2 – exert more pressure to change than those which refer to symmetrical dynamic gains, or to symmetrical positive d-values in figure 2. It also follows immediately from this observation that, unlike what we might think on a basis of figure 1 (which is about prospective outcomes, not about retrospective ones), the motivational asymmetry between gains and losses is not infinite – that is, goes on and on for ever increasing gains and losses – but is limited to the zone of comparability, or to the zone in which current Self and prior Self can still be compared with one another in the same mental category of ownership or wealth. Once the limits of that zone are reached, or once d reaches -1 or +1, there is no pressure to change anymore, and the asymmetry disappears. The latter, however, will not easily occur in concrete situations, because, in the meantime, another standard of comparison, closer to current Self, will be chosen, and the motivational asymmetry will continue to appear, but at another level of comparison (as is illustrated, for example, in figure 4). Thus, to really observe the disappearance of motivational asymmetry at the extremes, we must somehow ensure that Ego continues to compare Self with the original standard of comparison, no matter how big the difference (or create a "closed" comparison situation, as one might call this), but at the same time also take care of not exerting too much Alter-pressure to compare in the subject, because when we do this, we also make it more difficult for the subject to infer large differences at the X-level from the large differences at the level of social characteristics (because remember, comparison takes place at the inferential level from the visible differences at the concrete level), and the motivational asymmetry might go on anyway (as we clearly observed, for example, in an earlier experiment on the social comparison of performances with either high Alter-pressure for comparison or low Alter-pressure for comparison, and found the disappearance of motivational asymmetry only in the second condition, and not in the first one. E.g., Rijsman, 1974, experiment 1 and 2).

As said already in the introduction, the question of coherence between figure 1 and figure 2, or between motivational value in the prospective mode of value and motivational value in the retrospective mode of value, was already partially responded affirmatively for moderate outcomes, or outcomes about halfway the midpoint and the extremes, because the high attraction to moderate gains in figure 1 is fully coherent with the low pressure to change these outcomes in figure 2, and also the high aversion from moderate gains (more aversion than the attraction to the symmetrical gains) is fully coherent with the strong pressure to change these outcomes in figure 2. That is what the psychological law of effect also says, or

"win-stay, lose-change". The problems of coherence only start in the middle and at the extremes.

Those at the extremes, however, are relatively easy to solve, because when we assume that also prospective extremes can lose comparability with the prospective standard of comparison, then also the extreme outcomes in figure 1 can go down to zero value, and the coherence with the extremes in figure 2 is solved immediately. The only thing we need to do to make this work is to also express prospective gains and losses in figure 1 in terms of psychological distance, or d, between the prospective new outcome of Self and the prospective prior outcome of Self, weighted with the comparability between the two. That would not only be good to solve the problem of coherence, but also to solve the ubiquity of figure 1 itself. Because as said already above, figure 1 is neither scaled nor based on any formalism, so that there is no way to link specific numerical values on the horizontal axis to changes in value on the vertical one.

The more difficult problem to solve, however, if at all, is the one in the middle, or the intuitive assumption in figure 1 of no motivational value for prospective equality at all, combined with the formally predicted and also observed high pressure to change obtained equality in figure 2. At first glance, these two notions do not seem to be recognisable, at least not within the current frame of thinking. Our first inclination, then, to solve this problem was to simply say that the assumption of no motivational value for prospective equality is downright wrong, and should be replaced by some aversive value, or a value which is coherent with the prediction and observation that people who actually got that outcome are very motivated to change. That would not only make figure 1 more coherent with figure 2, but also with the very basis upon which figure 1 rests, namely intuition. It does not look very plausible, indeed, from a merely intuitive standpoint, to assume that people who react so strongly upward after actually scoring equal to the standard, will remain completely indifferent (because that is what zero value in figure 1 means) to the prospect of that same outcome in the future.

Unless! - and here we touch upon a fundamental issue in the study of "human" motivation, in which strongly Self-involving outcomes in the past can become cognitively elaborated plans and expectations for the future – we assume that the actual experience of a given outcome in the past is much more Self-involving that the prospect of that same outcome in the future (just like only thinking about losing breath in the future does not necessarily makes one stop running or even sing, whereas the actual loss of breath certainly does, and makes one gasp for air). When such loss of Self-involvement occurs for the prospect of equality, then we immediately understand that somebody who looks at the balance from that perspective can only see what a non-involved external observer can see, namely that the midpoint has no value. But when such loss of Self-involvement occurs

for the prospect of equality, then why would it not also occur for the prospect of gains and losses, because what is shown in figure 1 for the value of these prospects is far from a linear and symmetrical representation of what is visible on the balance, but a non-linear and asymmetrical transformation of it. One possible answer to that question could be that, indeed, what happens for the prospect of equality, does not happen for the prospect of gains and losses, because the latter are usually based on the Self-involving recall of similar outcomes in the recent past (or on an internalized version of such a recall, in the form of high or low self-esteem), whereas the prospect of equality can in principle be based on the total absence of such a recall, so that the subject may think: precisely because I have no experience with that situation in the past, I can as well gain as lose, or in other words a kind of expected equality with my average Self in the past. But whatever the validity of this speculative assumption about the presence or absence of Self-involvement in prospective outcomes, we may immediately ask the question what will happen if "all" prospective outcomes, not only prospective gains and losses, but also prospective equality, are Self-involving. Now, in our dissertation in which we elaborated the motivational asymmetry for Self-involving outcomes in the past (figure 2), we also raised that question, and our answer was that, just like for Self-involving outcomes in the past, the motivational value of Self-involving outcomes in the future must be asymmetrical with not only prospective losses looming larger than prospective gains, but also with relatively high motivational value for prospective equality, and little or no motivational value for prospective extremes. The logic which led to that conclusion was the simple "insight" that prospective gains and losses which are Self-involving are by definition subjective probabilities of success above and below the midpoint of possibilities, or above and below Ps 0.50, so that Aktinson's (1966) theory of achievement motivation, in which the motivation to achieve is explicitly linked to Ps, becomes relevant. Let us explain.

According to Atkinson (o.c.), a subject's motivation to achieve in a Self-involving task is a product of his subjective probability of success, the incentive value of success, and his motivation of success, or $Ma = Ps \times Is \times Ms$. The last factor in this equation, Ms, was conceived by Atkinson as a personal constant, or as an index of the subject's typical appetite for success, whereas the second factor, Is, as a variable, namely as $1 - Ps$. The reason to assume a negative relation between Is and Ps was obviously the Self-involving character of the task, because that literally means that people tend to attribute their own success in such a task to their own value, but obviously more when the task seems difficult, or low Ps, and less when it seems easy, or high Ps. In current attribution-theoretical terms, this would be called an instance of respectively augmentation and discounting in attribution, or the tendency to attribute a given event to a possible cause (i.e.,

own success to own value) "more" when the event is seen as happening despite a counteracting force (i.e., despite the perceived high difficulty of the task, or low Ps), and "less" when it is seen as happening in the presence of another facilitating force (i.e., in the presence of the perceived low difficulty of the task, or high Ps). When we substitute $1 - Ps$ for Is in Atkinson's equation, it becomes $Ma = Ps \times (1 - Ps) \times Ms$, and this yields a symmetrical distribution of Ma, with the maximum in the middle, or at Ps 0.50, and with values of Ma which go down to zero value at the extremes, or at Ps 0.0 and at Ps 1.0. Thus, when the prospects are explicitly Self-involving, then contrary to what is shown in figure 1, the motivational value of prospective equality is far from zero, but, according to Atkinson, has even the highest motivational value of all. But the distribution is symmetrical!

In our own use of Atkinson's equation, however, we decided to not only let Is vary negatively with Ps, but also Ms, or to exchange the constant Ms by a variable Residual Ms, in which Residual Ms, just like Is, is $1 - Ps$. The logic of that decision was twofold. First, it is perfectly reasonable in a Self-involving task to equate the subjective probability of success for the future, or Ps, with the proportion of personally obtained success in that same task in the past, or Ps = past Ps. For example, if one has succeeded in 7 of the past 10 trials to beat a given standard of reaction time, then, without a change in circumstances, one can reasonably expect to have 7 in 10, or 70% probability to succeed again in a next trial of that same task, and these probabilities do increase with every next success in subsequent trials, such as 8 in 11, 9 in 12, etc. (which is not the case at all in pure chance-tasks with full replacement, such as a roulette, or die, etc., in which the probabilities of future success are not dependent on the obtained success in previous trials, but only depend on the a priori odds in the task itself, such as the proportion of black and red spots on the roulette, or the proportion of uneven and even numbers on the die, etc.). Second, because the past Ps in a Self-involving task may, just like eating shortly before dinner, reduce one's appetite for more success in that same task immediately thereafter, at least when past success and subsequent success are seen as belonging to the same psychological unit, or "end in the same stomach", to use the metaphor of "appetite for success" in Atkinson's definition of Ms. This second idea can be expressed as Residual Ms = 1 – past Ps, but since past Ps, in a Self-involving task can be equated with Ps, we can rewrite this as Residual Ms = 1 – Ps. When we substitute this variable Residual Ms for the constant Ms in Atkinson's equation, it becomes $Ma = Ps \times (1 - Ps) \times (1 - Ps)$, and this yields an asymmetrical distribution of Ma, with the maximum not in the middle, but just below the middle, namely as Ps 0.33, and with values of Ma for every Ps below the middle, or below Ps 0.50, which are higher than those for the symmetrical Ps above the middle, or above Ps 0.50. Specifically, the values of Ma for every Ps from 0.0 till 1.0, going up in steps of

Ps 0.10 at a time, are respectively 0.000, 0.081, 0.128, 0.147, 0.125, 0.096, 0.063, 0.032, 0.009, 0.000, and the asymmetry is obvious. Thus, when the prospects are explicitly Self-involving, then the distribution of motivational value is, just like that of Self-involving outcomes in the past, not only asymmetrical, with prospective losses looming larger than prospective gains, but also with relatively high motivational value for prospective equality, and little or no motivational value for prospective extremes.

In our dissertation, we also looked at the implications of this model when the amount of appetite for success which is deducted from the constant Ms to obtain the variable Residual Ms is not merely based on the "raw" proportion of personally obtained success in the past, or on raw past Ps, but on the difference between this raw proportion and the a priori expectation of success in terms of social categorization. It rarely if ever happens, indeed, that people enter a Self-involving situation as isolated individuals in a social vacuum, but do this as members of a social group or category with which they are identified and with certain expectations of success attached to this. For example, when one is identified as member of a social category of which the other members have the reputation to be very good in a given skill task, such as beat a given standard of reaction time, then, even without any personal experience with that task in the past, one may expect to be very good at that task oneself. If that is the case, however, then the amount of success which one experiences on a basis of the personally obtained success in that task may be very different depending on whether it is above or below that category based expectation. For example, if one personally gets 70% success, but had categorically expected 90%, then this probably does not taste like a big success, but more like a small failure, because 20% is below what it should have been given the category. Similarly, if the categorically expected success was 50%, then this same 70% probably does not taste like a big success either, but more like a small success, because only 20% above what should have been the case given the category. Moreover, the relation between "experienced" success, and difference between personally obtained and categorically expected success is probably not linear, but just like in psychophysics, logarithmic. Thus, to compute that experienced success, we decided to use the following logarithmic equation: "Experienced Ps" = + log10 (| raw past Ps – categorically expected Ps | +1), defined as positive when the first factor is larger than the second one, and as negative in the opposite case (and the informed reader will immediately recognize the basic similarity between the logic of this equation and the one which Kahneman and Tversky also used when, about a decade later, they proposed to consider the experience of gains and losses in decision making not as a linear, but as a logarithmic function of the difference between current wealth of Self and prior wealth of Self, also using the analogy with psychophysics as their intuitive

argument). Now, when we compute Residual Ms, not as 1 – Ps, as we did first, but as 1 – Experienced Ps, and substitute this revised Residual Ms for the constant Ms in Atkinson's equation, it, again, yields asymmetrical distributions of Ma which structurally resemble the one we just described above, but with one important effect of categorically expected Ps, namely that the higher this categorically expected Ps, the more the maximum of the Ma-curve shifts toward the middle of the balance. For example, when the categorically expected Ps is very low, say 10%, then the maximum of the Ma curve is at Ps 0.22, or quite low too. But when the categorically expected Ps is very high, say 90%, then the maximum of the Ma curve is at Ps 0.44, or almost in the middle, and making the distribution almost symmetrical as well. And when the categorically expected Ps is intermediate, say 50%, then the maximum of the Ma curve is at Ps 0.33, or at precisely the same Ps as when the categorically expected Ps was not taken into account (suggesting that when it is not taken explicitly into account, it acts like a silent average of 50%). This revised model of motivational value for explicitly Self-involving outcomes was also tested empirically, and with positive results. Halfway and experiment in simple reaction time, individual participants were told that they were drawn from a category of people of which the other members had on average 10% success in that task (or 50%, or 90%), and that their own personally obtained success in that task so far was 10% (or 30%, or 50%, or 70%, or 90%). Thus, we created fifteen different conditions, namely three levels of categorically expected success, combined with five levels of personally obtained success. To measure the effect on motivation, we measured the change in simple reaction time from the trials before the manipulation to the trials after the manipulation, and these scores were in many ways as predicted by the model, and especially as predicted with regard to the shift in maximum depending on categorical expectation of success (e.g., Rijsman, 1970, pp. 61-72; Rijsman, 1974, experiment 6).

Looking back now at this remarkable shape of motivational asymmetry, not only for Self-involving outcomes in the past (figure 2), but also for explicitly Self-involving outcomes in the future (the Atkinson-based revision of prospects), it seems reasonable to say that the reason that this shape has not been seen and acknowledged earlier in normative economics (and with regard to the high motivational value of prospective equality, and the little or no motivational value for prospective extremes not even by Kahneman and Tversky), is probably the fact that motivational value, in normative economics, is generally not defined from the standpoint of the motivated actor himself, the Self-referent Ego, but from the standpoint of the non-involved external observer, the normative economist. For a non-involved external observer, it is absolutely logical that symmetrical outcomes on a balance are "equivalent", because that is the very definition of a balance, namely a device on which equal weights at equal distances from the

midpoint are kept in equilibrium. If that is not the case, it would not be called a balance, at least not a fair one. For a motivated actor, however, these outcomes are not merely numbers on a balance, but they are referents to a current Self that, given the outcome, is experienced as being in a superior or inferior state of ownership or wealth relative to some prior Self, namely to the one that is represented by the point of subjective equality between the two in the middle of the balance. Without this reference to Self, and without the ensuing process of comparative preference for a positive current Self relative to the prior one on the X-dimension of ownership or wealth, there simply can be no experience of gain or loss, nor of equality "in the motivational sense of the word" at all.

It is a categorical mistake, therefore, to assume, like in normative economics, that "motivated" decision making can and should be linear and symmetrical, and, if not should be called "irrational". Such an assumption is itself irrational, because it ignores the very rationality of the motivated Ego-subject which is "necessary" to transform mere outcomes on the balance in dynamics experiences of gain or loss or of equality. The assumption then that "motivated" decision making can and should be linear and symmetrical anyway may be called an "***illusion of third-person logic***", or a logic which consists of thinking that "other people", or the "he's" and the "she's" about whose mind and motives we talk, do see the world as we see it when we see it when we look at it as non-involved external observers, and agree upon it with our colleagues (the reason for which we consider our observations as being "objective", because when we would disagree, we would consider at least some of us as being "subjective", or as not seeing how it really is). The point is that such clones of our non-involved external position do not exist in motivated action, but only in our "othering" discourse about it. As soon as the he's and the she's about whose motivated action we talk become motivated actors themselves, they are no longer the third persons of our objectifying discourse anymore, but they become first-person Ego-subjects who link what they do or say, how they look like, groups they belong to, and also what they have or have not to their Self, and who start acting in accordance with the dynamics of their Self. The fact that "motivated" actors act in accordance with the dynamics of their Self is not an irrational bias of the logic of the non-involved external observer, but it is the other way around, namely that the logic of the non-involved external observer, which is simply projected on "other people", who are then called "motivated", is an irrational bias of what motivated action is all about. A proper theory, then, of motivated decision making can never be a theory of the non-involved external observer which is simply projected on other people, but must be a theory of vicarious action, or one in which we try to look at outcomes through the same Self-referent eyes as those of the Ego-subjects about

whose motivated decision making we talk, and this is what has been tried in our models above.

It also follows immediately from what is said above that what hitherto has been reported in the literature as rational decision making, in the sense of treating positive and negative outcomes on a balance in a completely linear and symmetrical way, is probably the decision making of non-involved external observers, as normative economists probably are when they look at outcomes on a blackboard and compute expected utilities on both sides of the balance. It is probably also the position that consultants are in when they give advice to other people with whom they have little or no vicarious relation. And it may even be the position that people are in when they make decisions for themselves, but for outcomes which are so trivial or so alien to their ongoing definition of Self, that any psychologically valid construction of Self-involvement in the outcomes is excluded. This is easy to verify empirically, because we are talking about the social construction of different degrees of Self-involvement in the outcomes which are used as options for decision. In a sense we have touched that issue already empirically to some extent when we investigated the dynamic decision making of people in pure chance tasks, with little or no Self-involvement of the actor, and in pure skill tasks, with high Self-involvement of the actor, and found that, despite a complete equivalence in computed expected utility at the onset of the task, people reacted very differently upon success and failure in the different tasks (e.g., Rijsman, 1975b). Another possible way to approach that issue empirically is to do exactly as just said above, namely to let people make decisions for themselves, or for other people with whom they have little or no vicarious relation. If our thoughts about the role of Self-involvement are valid, then people in the first condition should look at outcomes on a balance more as non-involved external observers – that is, more in a linear and symmetrical way – whereas those in the second condition more as shown in figure 2 or as computed in our Atkinson-based revision of Self-involving prospects. And then, of course, all phenomena in decision making which are assumed to depend on motivational asymmetry, should then only appear in the second condition as well. But whether the latter will be the case or not does not only depend on the assumed disappearance of motivational asymmetry in the first condition, but also on whether the assumption of the dependence of the phenomenon on motivational asymmetry is valid or not, and this latter issue is actually beyond the aims and scope of the present paper.

But just to illustrate how important and subtle this latter issue can be, let us give one example, namely that of the so called reversal of attitude toward risk, depending on framing. This phenomenon, which we will describe in a minute, is often mentioned in popular discussions of prospect theory as one of the most

spectacular illustrations of motivational asymmetry, under the generalizing umbrella of "losses loom larger then gains", whereas in fact it has nothing to do with it, at least not as shown in figure 1. To make this clear, let us look in somewhat more detail at an abstracted version of an experiment which Kahneman and Tversky did on this phenomenon. When people are asked to choose between a certain gain of 1, starting from a possession of 0, and a gamble with one third probability of a gain of 3, and two thirds probability of gaining nothing, then most people prefer the former, or certainty above risk. However, when they are asked to choose between a certain loss of 2, starting from a possession of 3, and a gamble with two thirds probability of losing 3, and one third probability of losing nothing, then most people prefer the latter, or risk above certainty. From a normative standpoint this is hard to explain, because the final absolute outcome is exactly the same in both cases (a certain gain of 1, starting from 0, leads to 1, just like a certain loss of 2, starting from 3, leads to 1, and also the expected utility of each gamble, or the sum of its possible outcomes, weighted with their respective probabilities of occurrence, is 1 too). Why then do people prefer certainty above risk in the first "gain framed" decision, and risk above certainty in the second "loss framed" decision? According to Kahmeman and Tversky, who actually did this experiment, but then formulated it in terms of a health programme with either the saving or losing human lives, the explanation is a combination of two reasons. First, because people do not evaluate decisions in terms of the absolute outcomes to which they may lead, but in terms of the changes in outcome, or the gains and losses relative to the chosen point of departure to which they may lead, and in the first "gain-framed" decision, that is a gain of +1 relative to 0, and in the second "loss-framed" decision, a loss of -2 relative to 3. Second, because the value-function of the gains and losses in this relative sense of the word, is not linear and symmetrical, but non-linear and asymmetrical, as shown in figure 1. Now, as we can intuitively infer from figure 1 (we say "intuitively infer", because, as said already above, figure 1 is neither scaled nor based on any formalism, so that the connection between gains and losses on the horizontal axis and changes in value on the vertical axis, is basically arbitrary. But for the sake of the present example, we will assume that the outcomes on the horizontal axis vary from -3 on the extreme left to +3 on the extreme right), the attraction (vertical upward value) of a certain gain of +1 to the right is higher than one third of the attraction to a gain of +3, hence preference for certainty above risk in that decision, and the aversion (vertical downward value) from a certain loss of -2 to the left is larger (more aversive) than two thirds of the aversion from a loss of -3, hence preference for (or better said, less aversion from) risk than for certainty in that decision. This explanation is fully coherent with the finding, but, as one can see, has nothing to do with motivational asymmetry, or with the assumption that the

function on the left is steeper than the one on the right, but has only to do with non-linearity, or with the assumption that both ends of the function flatten off for larger gains and larger losses. In fact, if we would assume that both parts of the function are completely linear in themselves, or would not show the flattening at the extremes, then whatever the difference in steepness between the two parts, there would not be any preference for certainty or for risk on either side, and the phenomenon of the reversal could not even occur. Thus, when we assume, as we did above, that people in a situation without Self-involvement will no longer display the phenomenon of the reversal, we can justifiably expect this, but not – and this is the point we want to make – because they lost motivational asymmetry in that case (with which the phenomenon of the reversal had nothing to do in the first place), but because, together with motivational asymmetry, they also lost non-linearity in that case.

This reasoning only holds of course as long as we think of motivational asymmetry as shown in figure 1, but when we think of it as shown in figure 2, or eventually also as computed in our Atkinson-based revision of Self-involving prospects, then new possibilities emerge in which the phenomenon of the reversal may be linked directly to motivational asymmetry without having to invoke the correlated non-linearity in figure 1. Indeed, when we assume that people process "certain" outcomes in the retrospective mode of value – that is, as if they were "a given" – then, according to figure 2, a certain outcome which is presented as loss relative to the standard of comparison, induces a lot more pressure to change, or to opt for the alternative of a gamble, than one which is presented as gain relative to the standard of comparison, and that is exactly as found. And also our Atkinson-based revision of prospects which are explicitly defined as Self-involving lead to a similar conclusion, because according to that revision, the Self-involving prospects which are presented as losses relative to the middle of possibilities, or to Ps below 0.50, induce more motivation to achieve, or to engage in the challenge of these possibilities, than those which are presented as gains relative to the middle of possibilities, or to Ps above 0.50, and, again, that is exactly as found. We do not claim that these are the correct explanations of the phenomenon of the reversal, let alone the ultimate ones, but they are in any case better than any explanation in terms of motivational asymmetry as shown in figure 1, of which it is clear that they do not only not explain the phenomenon of the reversal, but, when separated from its correlated non-linearity, make it even impossible. Thus, room for more thought.

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