

Continuities in the theory of social production functions

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1. Introduction

By now, it seems fairly well established that one needs a theory of valued goods in order to arrive at a theory of preferences. The latter is needed in order to use explanatory models in the social sciences. Wippler has seen this very clearly when he contributed to the elaboration of the theory of social production function, a theory of valued goods and of preferences.

Stigler and Becker (1977) identified a vexing problem concerning preferences in a rational choice theory: economists must assume stable preferences for theoretical reasons whereas one cannot make this assumption for empirical reasons. Stigler and Becker solved this problem by suggesting that you need to make a distinction between two kinds of goods: the goods that are coveted by everyone anytime (universal goods), and the goods that are instrumental for realizing the universal goods. Under the assumption that the universal goods are also the major goods which people aspire to realize, Stigler and Becker could split preferences into those concerning universal goods and those concerning instrumental goods. The former are stable because they are part of human nature and the latter are assumed to change according to circumstance. Thus, the vexing problem is solved.

The big drawback of this solution was the fact that Stigler and Becker did not specify the universal goods. It was thus still possible to shift preferences into the "stable" category on an ad hoc basis and little was gained. Lindenberg (1984, 1991, 1992a) did make this extra step of identifying the universal goods and on that basis, he elaborated the theory of social production functions.

The theory of social production functions states that human beings strive for two major goods: physical wellbeing and social approval. Thus these two goods are the major goals for human beings. This choice of goals is by no means arbitrary. Basically, physical wellbeing has been the major goal in economic theories. In all three basic categories of analyses, viz. consumption, production (capital and labor), and services, physical wellbeing is the major goal assumed to be operative. For example, the Encyclopedic Dictionary of Economics (1989) defines "goods/services" as referring "to tangible and intangible commodities capable of satisfying human wants. Goods are tangible commodities and include, for example, cars, food, and clothing. The intangibles, such as catering, chauffeuring, and banking, are called services." (p.100) Although economists do not explicitly exclude the possibility that some goods and services could cater to other

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aspects than physical wellbeing, the analyses concentrates almost exclusively on commodities that do produce physical wellbeing (even if that is only on the short run, like for smoking). Labor has two aspects: the contractual commitment and the effort needed for the execution. The former is seen as reduction in discretionary time (leisure time) but the latter is seen as a reduction in physical wellbeing that has to be balanced by some benefit. The tendency to withhold effort (shirking), is therefore central in labor economics. For human capital analyses, investments prominently include the effort exerted to learn (next to direct expenses and foregone earnings). In short, no other human want is as prominent in economics as physical wellbeing. Of course, there has been recognition of "social wants." For example, Marshall (1920, pp.14f) observed that

"the desire to earn the approval, to avoid the contempt of those around one is a stimulus to action that often works with some sort of uniformity in any class of persons at a given time and place."

Despite this insight by an exemplary economist, most economists recognize exclusively physical wellbeing. What keeps them from making use of this insight into the role of social approval is the fact that recognition of social wants adds so much complexity that rigorous analysis of markets is severely hampered. Knight makes this point explicitly:

"In order to study first the most essential features of exchange relations, it will be necessary to simplify the situation as far as possible by a process of 'heroic' abstractions. We therefore explicitly make the following assumptions as to the characteristics of our imaginary society:...Every member of the society is to act as an individual only, in entire independence of all other persons...free from social wants.. or any values which are not completely manifested in market dealing." (Knight, [1971 [1921], pp.76ff)

Notice that Knight talks about "the most essential features of exchange relations," and to him and to most economists, social wants clearly do not belong to the most essential features of exchange relations.

Sociologists never had the rigorous model building ambitions of economists and were therefore not constrained in this regard. In most sociological theories that deal with human strivings, social approval has been the major goal. Parsons may have been the most forceful and elaborate author on the importance of social approval and it was he who had pointed to the fact that the sociologically inclined economist Marshall made a similar observation (Parsons 1937, pp.162ff). Parsons and Shils (using Freudian language) state the point quite clearly:

"except for the objects which gratify specific organically engendered need-dispositions (i.e. physical wellbeing, S.L.), *the most pervasive cathected object* is a positive affective response or attitude on the part of alter or toward himself as object (e.g., love, approval, esteem)." (Parsons and Shils, 1951, p.69, emphasis added).

Krech, Crutchfield, and Ballachet (1962, p.74) point to the fact that

"it is highly probable that there are common wants because of invariants in the cultural arrangements which men face in all societies. In most cultures, men are taught to want to become a 'good man,' a 'successful man.' Thus we should expect to find some universal *social* wants."

Social approval is for them the most pervasive social want (ibid. p.96). Goode (1978, p.vii, emphasis added) puts it thus: "All people share the *universal need* to gain the respect or esteem of others." Schelling (1986, p.183) points to both social approval and physical

wellbeing as the basic things we strive for:

"I like to be liked, I like to be admired. I like not to be guilty of cowardice. I like to believe that I shall live long and healthily...I think I have stated the situation correctly for myself and for most of the people that I know."

Roethlisberger (1941, p.24) sums up his findings on human relations very vividly:

"Most of us want the satisfaction that comes from being accepted and recognized as people of worth by our friends and work associates. Money is only a small part of this recognition."

One would be hard pressed to think of goals that are equally basic and universal. The relation to Maslow's famous need hierarchy will be discussed below.

The theoretical bite did not come from the identification of these two fundamental goals itself but from the next step. On the basis of a literature search, three universal instrumental goals were identified for social approval: status, behavioral confirmation and affection (Lindenberg, 1984). By specifying universal instrumental goals, it is possible to trace substitution processes.

Wippler (1987, 1990) rightfully observed that a similar search for universal instrumental goals should be made for physical wellbeing. His own effort in this direction resulted in two universal goals: stimulation and comfort. Following Scitovsky (1976) who, in turn, followed Hebb and Berlyne, Wippler in fact elaborated the consequences of the critique of the classical drive model: human beings do not just respond to inner drives by seeking tension reduction (through eating, drinking or sex) but they also seek stimulation. Physical wellbeing would thus in part depend on the ability of individuals to find this stimulation. This suggestion was very useful and found its way into much further research with social production function theory. In the meantime, the theory that Wippler helped push along has been elaborated further. Many points of this development have been the result of the collaboration with the NESTOR program in Groningen in which the theory of social production functions was applied to various topics concerning the elderly. I should mention especially the collaboration with Ormel, Steverink, and Nieboer in this regard¹. In the remainder of this paper, I would like to present a brief overview over the most important developments.

2. How reasonable are the two basic goals?

One important result of the applications and further developments of social production function theory (SPF theory) is that as of to date it did not seem necessary to enlarge the list of the two basic goals². Because Maslow's famous need hierarchy is often held against the theory of social production functions, it seemed useful to me to start here with a comparison of SPF theory with Maslow's need hierarchy.

Indeed there is considerable overlap but there are also important differences. The overlap consists of comfort (what Maslow calls physiological needs), affection (what he calls belongingness and love needs), and a combination of status and behavioral confirmation (what Maslow calls esteem needs). He does not consider stimulation but postulates safety needs and the need for self-actualization. In addition, he postulates a hierarchy that begins with physiological needs, and then sequentially rises to safety needs, belongingness and love needs, esteem needs, and finally the need for self-actualization.

Let me first turn to the hierarchal nature of the needs and later to stimulation, safety and self-actualization. There may be levels of physical deprivation in which people are

willing to sacrifice a great deal of social approval for a small improvement in physical wellbeing. For example, in extreme situations, a man might eat the food plucked from the mouth of his children. But there may also be levels of deprivation of social approval in which people are willing to sacrifice a great deal of physical wellbeing for a small improvement in social approval. For example, youths are often willing to undergo very painful initiation rites in order to be accepted by the group. McKenzie and Tullock (1981, p.335) state the fundamental problem with Maslow's hierarchy succinctly:

"Maslow appears to assume that either there is no cost to need gratification and/or...the demand curve for any need is vertical...This means that the quantity of the need fulfilled is unaffected by the cost. An implied assumption of the vertical demand curve is that the basic needs are independent of one another. They are not substitutes; for example, a unit of an esteem need fulfilled does not appear in the Maslow system to be able to take the place of even a small fraction of a unit of physiological need."

The key to the problem with Maslow's hierarchy is thus its neglect of the possibility of *substitution*, a critique that could be leveled at many other psychological need concept, be they objective or subjective. By contrast, it is one of the major aims of the SPF theory to trace processes of substitution in instrumental goals. This is one of the major points that makes it sociologically relevant. For example, because status is mainly allocated through occupations in our society, its achievement becomes relatively more costly after retirement, in which case one can predict that, after retirement, efforts to realize social approval will increase in the direction of behavioral confirmation and affection. If people get still older and are unable to perform many roles that get them behavioral confirmation, most of the effort for the production of social approval will go into the provision of affection (say through the partner and interaction with grandchildren) (see Steverink, 1996). This is a movement exactly in the opposite direction of Maslow's hierarchy.

There is also substitution across categories, from physical wellbeing to social approval and the other way around. Take again the example of old people. For many of them, physical exertion is easier during some parts of the day than during other parts. Thus, the marginal utility of physical wellbeing differs during the day and we would expect that when the marginal utility is low, more attention is being paid to the production of social approval. Of course, since the emotional capacities also depend on some minimum of physical functioning, it is true that at some basic level, physical wellbeing is more fundamental than the rest. But this is quite trivial and there is a large range in which this does not hold.

Neglect of substitution effects can also be found in the sociological literature. Although social approval had been given center stage in many sociological writings, different forms are rarely separated. For example, respect, esteem, approval, and honor are often mentioned as if they were just different expressions of the same thing. Rarely is any attention being paid to different sources, different "prices" and the possibility that a person may move from one source of social approval to another in adjustment to changing relative prices.

The other difference of Maslow's hierarchy from the social production function theory concerns the list of needs. Let me begin with *stimulation*. For Maslow, the rock bottom of physical wellbeing consists of drive reduction, just as we have seen economists basically consider only drive reduction (through consumption and effort reduction). Yet, there is overwhelming evidence that individuals also seek stimulation, which led Hebb (1958),

Berlyne (1960), and others, to abandon the classical drive theories in favor of a theory of arousal, or electrical activity of the brain. The organism is either seen as seeking an optimal level of arousal or of seeking arousal in order to experience the pleasurable reduction in arousal. This research was picked up by the economist Scitovsky (1976) who favored the view of an optimal arousal level and built on it a critique of the consumer theory in economics. He suggested that individuals seek "comfort" when their arousal level is too high, and they seek "stimulation" when it is too low. Wippler (1987) in turn connected Scitovsky's work with the theory of social production functions: comfort and stimulation thus were suggested as the two first order instrumental goods for the production of physical wellbeing. While this suggestion was very useful, it did have some problems connected with it as well. Because of the underlying theory of arousal, comfort and stimulation were explicitly introduced as unusual goods in the sense that they are really two sides of the same coin. There is no substitution, nor are the two goods complementary. In addition, comfort and stimulation were meant by Scitovsky to cover not just physical wellbeing but every need: "whether biological or social, basic or acquired, present or future, real or imagined." (Scitovsky, 1976, p. 29). From the point of view of a theory of unitary arousal, this makes sense. But then, it is nonsensical to assign comfort and stimulation to physical wellbeing. What does that mean for SPF theory?

The problem can be solved if one considers two additional aspects. First, the idea of an optimal level of arousal (Scitovsky, *ibid.*, p.28) is misleading because it wrongly suggests that the individual seeks comfort only when the organism is above a certain point of arousal and that the organism seeks stimulation only when arousal is below a certain point. This picture suggests that there is a single peaked utility function and that the individual maximizes utility by achieving the optimal level of arousal. By contrast, the empirical evidence, even the one Scitovsky quotes, points in a different direction. The organism seems to receive pleasure from both a reduction in arousal (i.e. from increasing comfort) and from an increase in arousal (i.e. from increasing stimulation) within a large range of arousal³. Within this range, there are thus two sources of pleasure (i.e. increases in physical wellbeing), not just one.

The second point is related to the first. The idea (cf. Scitovsky *ibid.*, p.29) that human motivation depends on a unitary state of arousal is also not compatible with the empirical evidence. Far from seeking either comfort or stimulation, individuals often seek both at the same time. For example, when people watch television, they would like to sit comfortably, may even drink and nibble, and at the same time hope to be excited by the film.

At times, loss of some comfort may be the price paid for increasing stimulation, as for example when people join a survival tour in the wild in which they have to confront physical discomforts and dangers for the thrill of stimulation. In a small way, this happens also in every-day life. At other times, loss of stimulation is the price paid for increasing comfort. For example, when you opt for a nice hotel room on an African safari, you have all the conveniences but miss the excitement of sleeping in the tent and exposing yourself to the risk of being eye to eye with a lion. In a small way, this again happens in daily life, as when you decide not to talk to the interesting looking stranger who is the only other guest in the restaurant. Comfort and stimulation can thus be seen as fairly normal goods, and, against Maslow's list of needs, stimulation should be included as a general instrumental goal for the production of physical wellbeing.

Self-actualization. What about the needs on Maslow's list which were not included in the theory of social production functions? The safety need will be dealt with below under

the heading of "loss" which leaves self-actualization to be considered here. Maslow may be right that under certain circumstances individuals will strive for self-actualization. The question is whether this striving is on the same level as social approval. The possible ad-hoc-ness of Maslow's "need for self-actualization" has frequently been discussed in the literature. Berkowitz (1969, p.87) summarizes this point thus: "Based more on wishes of what man should be like than on actual hard fact...this growth-through-gratification doctrine has a dubious scientific and philosophic status..." Others accept that there may be such a goal as self-actualization but it only becomes a goal if it is linked to social approval (see for example Geen, 1991).

My own suggestion about self-actualization in the context of SPF theory is more complex (cf. Lindenberg, 1992a). In contexts in which social norms develop, there is always also a shared interest in norm conformity of the others in the group even when their behavior is not being monitored. This leads to the "moralization" of a norm, i.e. the expectation that it is followed for its own sake rather than for the sake of the sanctions connected with conformity or deviance. Individuals are expected and are taught to consider themselves as an important source of approval or disapproval of their own behavior. When norms become vaguer but are still strong enough to encourage the socialization of self-approval, then we get self-actualization as a goal that is supported by the social approval of relevant others. The individual should take responsibility for his or her actions and development even where norms do not chart the preferred way. But even where there are no standards against which the own behavior can be judged, the individual seeks approval from others in order to approve of him- or herself. Impression management is thus the flip-side of self-actualization (cf. Goffman, 1959 and Baumeister, 1982). The pathological side of this process has been described by Durkheim in what has been called the "vicious circle of individualization" (Lindenberg, 1975) which increases the suicide rate. But it is clear from the foregoing that self-actualization still depends on a context in which norms are strong enough to make self-approval desirable for others. In a completely anomic situation, self-actualization will not be supported by social approval and will therefore not be a goal of any prominence. Self-approval ultimately depends on the approval of others.

This criticism of Maslow's highest goal is also relevant for the suggestion that the highest goal for an individual is to have a positive self-image and that social approval and physical wellbeing are only instrumental for that "super goal". If it were true that a positive self-image would be the major human goal then we would expect that people never do anything of which they are ashamed at the moment of acting. Yet, at times people do things of which they are ashamed *ex ante*. Thus, people often do not help others for reasons of their own comfort even though they are ashamed of themselves. Sometimes people do things to please others even though they do not approve of the action themselves. Self-esteem is approval from oneself (even if this, in turn, depends on prior approval from others) and that can be traded for approval from certain others right now and for physical wellbeing. Self-esteem thus cannot be the highest human goal.

Other goals. In the literature, we find a number of other suggestions for universal goals, prominently including a need for power and achievement and a need to be acquisitive. Should they be included among the list of universal goals? This question will be taken up below under the heading of "loss".

Four kinds of means of production. Maslow's hierarchy is based on development. By contrast, the hierarchy in SPF theory is made up of nested production functions. The top is

formed by a function in which utility (U) is produced by physical wellbeing (PW) and social approval (SW), thus the utility function is $U = f(PW, SW)$ ⁴. Social approval is produced by three means: status (S), behavioral confirmation (BC) and affection (A). Thus, the production function for social approval is $SW = f(S, BC, A)$. Each of these factors can, in turn, be an instrumental goal produced by other factors. Behavioral confirmation is for example often produced by membership in groups (I) and by conformity to norms (C). The production function in this example is thus $BC = f(I, C)$. Conformity to norms, in turn, is produced by a variety of activities (and by abstaining from activities), like dressing appropriately, keeping the house clean, not complaining too much etc., depending on the normative expectations in the social environment of the individual. The lower we go in the hierarchy, the more context-specific the production function will become.

The general instrumental goals on the first layer of production functions can be considered to be the *first-order means of production*. Below this level in the hierarchy, it has proven useful to distinguish another three kinds of means of production⁵. First, there are *second-order means of production*. Among these means, one can again distinguish two kinds: activities and endowments. The individual performs certain activities, say, helping others, in order to produce behavioral confirmation; or he engages in personal care in order to create comfort. The individual may also have means that do not require any activity in order to realize the desired effect. In that sense, they can be considered to be endowments (see Becker, 1976, Lindenberg, 1984), even if they are the result of the individual's prior activity. For example, good health yields some internal comfort directly without any need to perform an activity, and being rich produces some status without necessarily spending the wealth in any way. *Third-order means of production* are those necessary for executing activities and obtaining endowments. Thus, in the instrumental hierarchy, they are below the level of second-order means of production. Examples are physical and mental capacities, social and other skills, time, effort, money. Some resources are both second and third order. For instance, physical fitness is needed for many activities but will also produce comfort directly. Money may similarly be needed for many activities but it may also produce status directly. Mental health and cognitive capacities are important as they affect motivation and ability to use available resources. *Fourth-order means of production* are those that can be mobilized when changes in production capacity ask for substitution. These 'latent' resources are analogous to credit or savings. For example, when a partner dies, part of the lost production capacity for affection may be regained by mobilizing kinship ties that have remained dormant for some time.

3. Time, efficiency and related points

There are a number of aspects of social production functions that deserve separate study. In the following, I will briefly discuss each point separately, just enough to indicate what has been suggested so far and to show that it would be worth-while to pursue the issue further in theoretical and empirical analysis.

TIME PERSPECTIVE. People can do something in order to produce physical wellbeing and social approval right then and there or they invest in their production in the future. For example, a person may jog (i.e. exert himself now) in order to avoid, say, the discomfort of heart trouble in the future. Or people will go shopping in order to prepare

food later. When the time horizon becomes shorter, investment behavior will be reduced as well unless the investment behavior has been undertaken for the sake of social approval. This possibility of rendering investment behavior independent of the time horizon is very important because it represents a social mechanism for bridging the short-term/long-term gap (see Loewenstein and Elster, 1992). For example, a wife may ask her husband to repaint the window frames so that there will be no reduction in comfort through rotten wood and leaks and drafts in the future. Since she does not have to do it herself, she will not be subject to any tendency to procrastinate. The husband, in turn, will not act primarily so as to invest in the future effect of his action (for that effect is heavily discounted). Instead, he will risk social disapproval right now if he does not do it and he will get social approval right afterwards from his wife for having repainted the window frames. When the husband loses his partner, her instigating behavior will also be lost and the full force of the short-term/ long-term gap will come down upon the husband, reducing his investment behavior and, with a time lag, the quality of his social production function (See Nieboer et al, 1996).

There is yet another aspect of time that concerns the possibility that *anticipated life-events* may also imply an anticipated change in social production functions and thereby affect the preferences at this moment. For example, Sanders (1991) has explicitly introduced anticipated life-events related to family formation. These events have an influence on the production of income and social approval. For example, does a woman who lives alone anticipate living with a partner in five or ten years from now? Does she expect having children then? If so, she is oriented toward additional or alternative means for the production of income and social approval over the longer haul. Income through paid work, promotion opportunities, and hours of (paid) work will all be less important to somebody who anticipates additional or alternative means of producing income and social approval. The more extensive these anticipated means of production (partner living apart, versus living with partner, versus living with partner and children) the lower the importance of the paid work characteristics will be right now. In negotiations with employers this lower preference may show and have a profound effect on salary and the kind of job the employer is willing to offer.

A related aspect of time has to do with *patterned changes in the price* of certain means of production. For example, as mentioned above, status in Western societies is mainly allocated through occupations. Thus, after retirement, status will have to be achieved by alternative means (say, by taking on tasks in sports clubs etc) which are less productive of status. The price of status is thus higher after retirement. Other means for achieving social approval (behavioral confirmation and affect) will become relatively more important. The size of this effect is, of course, different for different occupations. For example, a professor will keep more of his or her former status after retirement than a sales manager. The context of social production function theory thus provides a heuristic for life course research on the patterned changes in prices for the various first-order instrumental goods.

EFFICIENCY. Some means of production are more efficient than others in the sense that they are *multifunctional*. For example, having a partner can produce behavioral confirmation, affect, comfort and stimulation. Team sport and love making are important examples of such multifunctional activities that can provide various forms of physical wellbeing and social approval. Money can be used for activities leading to various higher level means of production and for status. Because multifunctional means of production are so efficient, individuals will seek them out. Loss of multifunctional resources may create

substitution problems of such magnitude that full substitution will not be possible or take long periods of time to be realized.

VULNERABILITY AND VARIETY. Some production functions are more vulnerable than others. Small changes can cause considerable deteriorations. In another context, I have tried to apply this idea to the analysis of revolutions (see Lindenberg, 1989) and that can illustrate the point. In pre-revolutionary France, the nobleman's social production function was quite robust, whereas the peasant's function was very vulnerable in the sense that such mishaps as temporary ill health, temporary unavailability of employment for the wife or small increases in prices and /or taxes and fees could drastically change the function. For example, an increase in taxes could be just enough to exhaust the peasant's ability to keep his debtors at bay. He may have to sell his piece of land and thereby lose his major source of status, credit and income and be forced to become a migrant worker with a social production function considerably worse than the one he had before. Without some land, the migrant worker would easily be tumbled into indigence by unemployment, ill health or old age. Once in that state, he would be likely to extract some necessities from others by threat and intimidation, wandering around alone or in groups. In other words, he would himself become a threat to the stability of the social production of others.

Pure markets create considerable vulnerability of social production functions to random shocks. The state and insurances can buffer strong downward fluctuations in the quality of social production functions with regard to income and status, and partially also health. But even the state cannot protect vulnerability with regard to behavioral confirmation, affect and stimulation. Steverink et al. (1994) have pointed out that successful aging means to guard against vulnerability of social production functions where state and insurances cannot reach and that requires variety in the means of production.

Uncertainty about outcomes in action situations can be a source of stimulation. But if the uncertainty is so strong that it threatens the production functions, it may become a source of serious psychic distress. For example, a person who does not know anymore how to produce any form of social approval is likely to become depressive. The higher in the hierarchy the uncertainty about means of production, the more serious the disabling effect of that uncertainty because there are fewer alternatives.

INTERRELATION OF SPFs. A person's social production function is not a private affair. Rather, it is interdependent with the production functions of specific others. Let us take again the example of pre-revolutionary France. The noblemen's tax privileges were seen both as financial privileges and as a status symbol by the noblemen. Yet, those privileges shift the tax incidence to those without such privileges and thereby increase their burden. Seigniorial rights of the noblemen are a source of income for the nobleman but they increase the financial burden of the peasant even more. Increases in taxes and in seigniorial fees will thus increase the number of peasants whose social production functions are drastically changed to the worst while leaving the social production functions of the noblemen unscathed or even improved. Conversely, with the taxes and seigniorial fees absorbing a large part of the peasant's income, there are no reserves left to cushion the blow of strokes of bad luck, such as ill health, bad harvest or unemployment. Bad luck is then punished by a strong and enduring reduction in utility.

Game theory is concerned with interdependencies of payoffs. What is suggested here is that the dimensions of interdependence to be studied are explicitly related to a hierarchy of social production functions.

4. Social production functions and framing effects

The theory of social production function has been related to the theory of framing (see Lindenberg, 1992b)⁶. There is an obvious link: goals. The theory of framing is basically a theory of the definition of the situation based on the idea that it is a single goal that structures an action situation. There are a number of goals possible in any given situation and one goal will win out. The situation will then be "structured" by this goal in the sense that the alternatives are being selected and ordered according to this goal and the criterion for reaching the goal. For example, if you are in a room and the overriding goal is to sit comfortably you will see mainly alternatives for sitting and you will order them according to their comfortableness. Should fire break out while you sit, you will see mainly exit possibilities in this room and order them according to your idea about the speed with which you can get away from the fire.

The goal that won out did so because it is the habitual goal in that situation or because it allowed the clearest structuring of the situation (i.e. a goal that discriminates the best between alternatives). The other goals in the situation are then outside the frame but they do not just vanish. They can influence the probabilities with which you choose a given alternative from the "background" by influencing the salience of the (foreground) frame. For example, if the dominant goal (i.e. the frame) in the situation was to make profit in a contractual situation, then the goal to keep up a good relationship with the contractual partner may lower the salience of the frame and lead to an attenuation of profit maximization by increasing the likelihood that the profit results are equitable for both partners (see Ligthart, 1995).

Frames can switch if the influence of the background goals lower the salience of the frame so much that the choice probabilities for the action alternatives begin to become very similar. For example, if a friend keeps asking for money, the likelihood that you will help him will decline and finally the frame will switch from "helping a friend in need" to "avoid him and save money". In the latter frame, you will see very different alternatives (such as ways to hide and get away unnoticed).

Behavior in framing theory is much more *goal-directed* than one would expect on the basis of micro-economic theory (see Lindenberg and Frey, 1993). In the latter there are many things that yield utility to various degrees and in any given action situation, there is only one goal and that goal is the same in all action situations: utility maximization. In framing theory, by contrast, the individual pursues one particular goal in any given action situation and there are many different goals. The pursuit of a goal may be disturbed by the fact that other goals also yield utility (even leading to a frame switch), but there is no overall and simultaneous comparison of the utility yielded by the pursuit of all possible goals. Framing theory implies *singlemindedness* to various degrees in the pursuit of a particular goal. This means that one has to pay particular attention to various kinds of goals, their consequences for behavior, and the interrelation of goals. Let me start with the last.

NESTED FRAMES. Frames can switch between very unrelated goals, as long as one goal (from the background) is able to reduce the salience of the other (i.e. the frame) sufficiently. However, it is also possible that these frame switches are between related goals. This happens when goals are hierarchically (instrumentally) related. Then the background goal that lowers the salience of the frame is hierarchically related to the frame. Let us take an example from the life of a home owner. You don't feel comfortable in your

living room; it is somehow not warm enough and you are looking for ways to make it more comfortable. There are different alternatives. You can increase the size of the radiators or you can reduce the draft by installing double window panes or you can install floor heating, etc. You are advised that the most certain way of making the room warm and cozy is to install floor heating. You abide by this advice and now your goal becomes: finding the best floor heating, and by "best" you mean vaguely the best quality/price ratio. There are various alternatives and different systems you did not know about, and you try to make a choice between them, but the one you really like seems much too expensive. The background goal that reduces the salience of the frame was "to save money" and at that moment, a frame switch toward "saving money" may occur. However, in the background there is also the goal of getting the living room comfortable. The strength of this background goal is reinforced by the experience of being cold and in all likelihood, the frame "finding the best floor heating" will be displaced by the original goal of getting the living room comfortable rather than by "saving money". With the original goal in the foreground, you search again for alternatives and decide, say, on double window panes and then pursue that goal. The mechanism behind these switches is quite simple: given a goal hierarchy (with nested production functions), the pursuit of a goal will lead you down the hierarchy, affecting frame switches from higher to lower level instrumental goals. However, at each point, a higher level goal will be among the background goals and when the lower level goal cannot be realized (and if the higher goal is salient enough) that higher level goal is likely to become the new frame again and the process begins anew. In order to make this mechanism fruitful for the analysis of action, it is necessary to have a theory of the hierarchical ordering of goals. We have discussed Maslow's need hierarchy above and found it wanting and it seems that, at least at present, the theory of social production functions is in that sense the complement of framing theory. These two theories are symbiotically linked to each other. The former offers a heuristic for the question: what will the action frame be?

BY-PRODUCT GOALS. Because, as we have just seen, higher-level goals are often in the background, it is entirely possible that the individual pursues a goal without in any way considering the instrumental nature of that pursuit. Insight into this mechanism is able to throw some light on a number of vexing problems. I would like to take on two such problems: morality and intrinsic motivation. Let me take them up in that order.

MORALITY. Sociologists have always insisted against economists that moral action is not instrumental, that it is conformity to a relevant principle or duty and thus without ulterior motives. There is a separate "moral dimension" as Etzioni (1990) has recently restated this position in a forceful way. By contrast, economists have long insisted that everything has its price, that there is no such thing as action without some consideration of consequences. Both positions lead to unattractive dilemmas (see Lindenberg, 1993). Seen from a framing point of view, the dilemma can be solved⁷. As we have argued above concerning self-actualization, in situation in which norms play a role there is also an interest that people judge their own behavior in the light of the norm, i.e. that people also conform when nobody is watching. This process leads to social disapproval if somebody explicitly conforms to norms in order to gain the social approval of others. Still, if the theory of social production functions is at least moderately correct, social approval will be a goal in the background of the frame "to conform to the norm (or the principle or to do one's duty)". A frame-switch that would make this background goal the frame is made less likely by the social costs of disapproval. Thus it seems that moral action is without ulterior

motives, even to the actors themselves, although moral action is solidly embedded in a hierarchy of instrumental goals. Moral action is rewarded with social approval and deviation with social disapproval, only that to the actor social approval through conformity is a by-product of conformity, not a goal itself. In this way moral action is stabilized socially and it remains "non-utilitarian". No sociologist who is the least bit interested in empirical work would assume that moral action could be sustained without social approval. The form of approval is not restricted to verbal behavior. Approval also can take on the form of a gift that symbolizes approval. Very large gifts however would run the danger of becoming so prominent that they push themselves into the foreground and thus change the frame to a gain frame.

INTRINSIC MOTIVATION. A point related to that of moral action is intrinsic motivation. There has been much discussion of the point that if a person does something for its own sake and is rewarded for doing something, it drives out the intrinsic motivation (see Lepper and Greene, 1978). Deci has been a major analyst of intrinsic motivation and has inspired much of this discussion (see Deci and Ryan, 1985). Frey (1992) has sharpened this point against neoclassical economics in which all behavior is steered by rewards. Yet, the discussion is very much hampered by the fact that framing effects are neglected. If one looks carefully at the examples given in the literature, the point of intrinsic motivation is not whether intrinsic motivation is driven out by rewards but that money as a reward has the tendency to render behavior blatantly instrumental. How can that be? On the basis of what has been said about moral action, we can find the answer in the question whether or not background goals are likely to come to the foreground as frames. The pursuit of goals that are socially supposed to be intrinsic is rewarded with social approval but only if the individual does not do it ostensibly for the social approval. Thus these goals operate like moral action. However, because this mechanism only works if the action is socially supposed to be intrinsically motivated, it will not work if there are clear social signals that a pure intrinsic motivation is not expected. This signal is given if the action is "paid", i.e. if it is presumably compensated by rewards. Then it is clear from the reward that the action was not expected to be purely intrinsic. This brings the pursuit of the reward from the background into the frame and thus "ruin" intrinsic motivation. The important point though is that intrinsic behavior can only be maintained through rewards (social approval and gifts a symbols of social approval). This mechanism also has direct consequences for a theory of verbal behavior. If people are asked about their goals, then the background goals will not be mentioned, especially if the goals are socially assumed to be intrinsic. This is one more reason to assume that the empirical assessment of preferences must be guided by a theory of preferences, especially one that does consider framing effects (see Kelle and Lüdemann, 1995).

LOSS. Because framing effects imply selective attention, they create action that is rational only in a limited sense, i.e. the substitution process is limited by what belongs to the frame and what does not. As said above, this singlemindedness can be larger or smaller, depending on the salience of the frame. There are reasons to believe that a particular frame can lead to extreme forms of singlemindedness: the loss frame. There seems to be an asymmetry between gains and losses (see Kahneman and Tversky, 1984). Losses seem to loom larger than gains and therefore it is more likely that even a relatively small loss will bring about a loss related frame in the sense that the individual structures the situation at first as one in which the many possible negative consequences of the loss are prominent and/or in which you perceive many additional possibilities of loss rather

than a situation asking for a solution to a problem. For example, if your wallet is stolen on the first day of your vacation with 400 guilders, you may become so occupied with loss that you see only the untrustworthiness of the people, the likelihood that the insurance will not cover the loss, the possibilities that other valuables are also stolen etc. You may become so uptight about loss that you will not go swimming for fear that things will be stolen off the beach, at night you might stay awake to be sure that nobody sneaks into your apartment, and during dinner you get into an unpleasant situation with the waiter because you are convinced that he is out to rob you as well. Although you paid 2000 guilders in advance for the rent of the vacation house, the week in that house may be utterly unenjoyable because 400 guilders were stolen on the first day. Had you been able to cut your losses, see how you can get things back from the insurance and get on with the vacation, you may have had still a very enjoyable week. But due to the singlemindedness that framing can cause, you actually increased the loss rather than reduce it. This kind of an effect is likely to be endemic with social production functions that are highly vulnerable to random shock because there is a constant threat of strong and lasting reduction in utility, i.e. loss. The result is a loss perspective and a strong safety-mindedness (see Steverink, 1996). In this light, there does not seem to exist anything like Maslow's safety need as a general human need; rather, what looks like a safety need is the singlemindedness of a loss perspective triggered under certain circumstances of loss. Due to so-called judgmental and ipsative biases with which individuals believe they are an exception to the general propensity to encounter a certain negative event (see Fishhoff et al., 1981 and Frey, 1988), it is likely that without the recent experience or threat of loss, people are likely to be even more careless and thus less safety-minded than would be warranted by objective probabilities. Still, because the loss frame, when it occurs, can create extremely singleminded behavior, safety-mindedness should be taken very seriously and it should be viewed in the light of its connection to action that is strongly limited with regard to what is generally taken to be rational problemsolving action.

Similar singlemindedness can occur with regard to the pursuit of gain (or power, achievement, acquisitiveness) when the conditions are right (high salience produced for example by high returns on gain-seeking activity). But it should be clear that the singlemindedness is the result of framing and circumstance not of a general human need. The same can be said about singlemindedness in the pursuit of norm-conformity. This can come about in situations in which norms become very important, as in situations in which much is being shared (see Lindenberg, 1986). The point here is that rather than talking about human needs in this regard, one should explain under what structural conditions certain goals become prominent. In our kind of society, for example, it is much more likely that gain-seeking and norm-conformity as goals will limit each other's salience if one is a background goal whenever the other is the frame, creating frame switches when the pursuit of one goal goes too much against the goal in the background. Thus in a long-term business relationship, gain is a legitimate frame but it will switch to conformity with relational norms when gain-seeking goes so far as to threaten the valued long-term relationship, and it will switch back to gain-seeking when attention to the relationship costs too much in terms of gain. Elsewhere this dynamic has been described in some more detail (see Lindenberg, 1992b). Suffice it here to say that the result of the balance between gain-seeking and rigid norm-conformity (which I have called "weak solidarity") is particularly adequate in economies where long-term contracting creates Pareto-superior outcomes for the contracting partners (see also Ligthart, 1995).

5. Conclusion

The theory of social production function to which Wippler had contributed has been developed further in the time since his involvement. Most importantly, there is stability of the core of the theory: no substantive considerations have come up over the years to change the assumptions on the universal goals physical wellbeing and social approval and their first-order means of production. Elaborations of the theory have mainly to do with a greater emphasis on time, on aspects of efficiency, vulnerability, and interrelatedness of social production functions. Another important development is the explicit combination of social production function theory with framing theory. The main result of that combination is that behavior is much more oriented toward the pursuit of goals than the overall pursuit of utility. Framing creates singlemindedness to various degrees and makes a theory of (hierarchically ordered) goals all the more important.

Notes

¹ See for example Lindenberg (1991), (1992c), Ormel et al. (1996). Published research using social production function theory in some way is reported among others in Van Liere (1990), Maas (1990), Sanders (1991), Westert (1991), Wielers (1991), van der Lippe (1993), Steverink (1996), Nieboer et al. (1996).

² At one point in time, I believed that loss avoidance would have to be added to the list (see Lindenberg, 1989), but I think now that loss avoidance is a goal on a lower level than the two fundamental goals.

³ There seems to be a level of arousal beyond which a further increase is noxious. However, research has not separated the effect of pure stimulation and the effect of the content that creates the strong stimulation (such as extreme uncertainty). This point will be discussed again below under the heading of "loss".

⁴ The form of the production functions is presumed to be of the Cobb-Douglas kind ($A = X^a \cdot Y^b \cdot Z^c$; with $\sum a, b, c = 1$). This means to say that substitutability is limited. For example, the individual needs some level of activation for physical wellbeing and no realistic level of comfort can compensate that.

⁵ The terms "resources" and "instrumental goal" will be used in the following way. If the individual has a certain means at his or her disposal, this means can be considered to be a resource. If the individual does not have it, it may become something the individual is striving for, a lower-instrumental goal.

⁶ Both the theory of social production functions and of framing have been adopted by Esser and developed in new directions and combinations, not all compatible with what has been presented here (see for example Esser 1996).

⁷ See Lindenberg, 1983 for more detail.

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