

The Third Speed: Flexible Activation and Its Link to Self-Regulation

Siegwart Lindenberg

Department of Sociology, University of Groningen, The Netherlands
s.m.lindenberg@rug.nl

ABSTRACT

There are not two, but three speeds of transmission or of transformations of sensory inputs into behavioral outputs: first, genome encoding; second, learning; and third, flexible situational activation of mental constructs, especially overarching goals. Gintis and Helbing focus on the first two, and surely these two are important. However, by completely neglecting the third speed, their theory lacks the most important ingredient that would make a microfoundational theory relevant for sociology.

1 Introduction

Bridging economics and sociology has been a noble enterprise for a long time, but, with the possible exception of Parsons, Gintis (an economist) and Helbing (a sociologist) are approaching it in a bigger way than many others have done, taking evolutionary theory as catalyst to meld economic and sociological theory. They bring many sociological concepts to the table of a modified general equilibrium theory, called general social equilibrium theory. For example, they bring in roles, network effects on expectations, moral commitments, character virtues, legitimacy, and, next to the profit-maximizing firm, institutional orders such as family, community, and the private association. This calls for an overall evaluation of how useful it may be as “analytical core for sociological theory”. Is it truly more than a collage? In order to judge this, I have to pose the crucial question for such grand designs: how good is the behavioral basis for this endeavor? Is there any advance? If not, what is missing?

2 Flexible Activation is the Third Speed

Gintis and Helbing (2015) use a rational choice framework and stretch it by adding next to self-regarding preferences, prosocial “tastes” such as a taste for cooperation, fairness, retribution, conformance to norms, and esteem from others; the ability to value some character virtues (such as honesty, hard work, piety, loyalty); and the ability to empathize. This stretching is not new. In fact, it can all be found already in the works of Adam Smith (Smith and Wilson, 2014), but the emphasis on socialization and internalization (both concepts taken from sociology) as mechanisms for generating the prosocial tastes is less often found among behavioral economists. Gintis and Helbing embed this emphasis in a framework of gene-culture coevolution. They point to two kinds of influences in the transformation of sensory inputs into behavioral outputs that differ in speed. First, there is the genome that encodes those aspects of the organism’s environment that change only slowly relative to an individual’s lifetime or don’t change at all. For example, the distinction social/not-social is both relevant and unchanging over time, and thus we are likely to be hardwired to distinguish a social from a non-social situation (Wynn, 2007). We are also hardwired to express emotions and to distinguish and read facial expressions that represent emotions (Tracy and Matsumoto, 2008). Second, Gintis and Helbing say that when things in the environment change rapidly, the organism is served by the capacity to learn from experience. It is the latter that allows socialization and internalization of norms and values, and it is described as “the most powerful form of epigenetic transmission found in nature.” (p. 11). There is no denying that these two kinds of “transmission” are important, even though the authors fail to mention the interrelatedness of both, since many genetic predispositions are linked to learning before they can be expressed (see, for example, Warneken and Tomasello (2009)). However, what the authors neglect is a third “speed” or kind of transforming sensory inputs into behavioral outputs: situational flexible (de)activation of mental constructs that are subject to self-regulatory efforts.

The possible interpretations of sensory inputs are so numerous that the organism cannot react fast enough without being prepared and selective with regard to (the processing of) inputs. There are hardwired modules, such as face recognition, and learned modules, such as word recognition and habits, each characterized by functional specificity (Barret and Kurzban, 2006). But social life is situationally so changeable that primates (and especially humans) evolved an even more flexible form of being prepared: the situational (de)activation of goals. Goals are highly sophisticated mental phenomena. They combine cognitive and motivational elements and represent a network of concepts (prominently those concerning means and causal knowledge) (Kruglanski and Köpetz, 2009). Situational cues and affordances can activate a particular goal and, at the same time, inhibit other goals. Thus, also preferences are

situationally activated. In this way, socialization and internalization effects can be trumped by situational factors that change the level of activation. The emphasis on gene-culture coevolution (with culture being defined as the results of social learning) (Boyd and Richerson, 1985; Richerson and Boyd, 2005) was a big advance in thinking about human behavior in a social context. However, it also contributed to a blind spot with regard to the “third speed” of situational activation via goals among those scholars that were otherwise at the forefront of the socially relevant evolutionary theory. Later on, I will discuss the self-regulatory aspect of this third speed, but first, I turn to flexible activation itself.

2.1 Examples of Situational Activation

Cialdini and his co-workers (Cialdini *et al.*, 1990) already showed that social norms do not influence behavior unless they are activated. Extending this idea, we could show that the activation of one norm influences the activation of other norms. This situational activation effect can be illustrated by one of our field experiments that involved a highly internalized norm “don’t steal” versus a situational cue of normative disrespect that was unrelated to stealing (Keizer *et al.*, 2008). We placed a very noticeable envelope with a transparent window in a public mailbox, but we did it in such a way that it stuck out and people walking by (or posting a letter) could clearly see what was inside. What they could see was a five Euro bill peeking through the window of the envelope. The question was how many people who passed the mailbox would go so far as to take the envelope with them. If they left it, or if they stuck it into the mailbox, it was counted as ok and if they took it with them, it was counted as stealing. What we varied was just a small detail: in one condition, we left the mailbox as it was. In another condition, we covered it with graffiti. The assumption was that graffiti would create the impression of an environment with people who do not care much about social norms. This would presumably weaken the activation of general normative obligations in the passersby. The results showed that without graffiti 13 percent of all passersby took the envelope and that with graffiti this percentage more than doubled (27 percent). Could it be that the people read the graffiti quite differently, namely as a sign that the police does not enforce laws around here and that one could steal with impunity? In order to test that possibility, we repeated the “temptation” condition, not with graffiti but with trash around the mailbox, which we assumed would indicate the same lack of concern for general social norms in this environment. Since littering in Groningen (where the experiment was conducted) is not a violation, littering cannot be a signal that the police does not watch the neighborhood. The result of the second experiment corroborated the first finding and also the high magnitude of the effect (25 percent with trash compared to the control condition of 13 percent mentioned before). The same effect could be observed

in a different field experiment with helping behavior (where sanctions explicitly play no role) (Keizer *et al.*, 2013): would passersby put an addressed and stamped letter they saw lying on the sidewalk (close to the mailbox) into the mailbox? The only difference in conditions was that “illegal” garbage bags were or were not placed in the vicinity of the mailbox. In Groningen, where we conducted the experiment, it is forbidden to place garbage bags on the street, so seeing them is a cue that some people did not respect this rule. With garbage bags present, 10 percent picked up and posted the letter, without garbage bags it was 24 percent, a significant difference. We could demonstrate (Keizer *et al.*, 2008) that this activation effect did not just work for social norms but also for various legitimate rules (including police ordinances and rules for clients of private organizations). In short, the third speed of flexible activation is a powerful influence on behavior.

3 The Role of Overarching Goals

The situational selectivity of flexible activation is strongest when overarching goals (mindsets) are involved, and, actually, the experiments just described already made use of such overarching goal activation effect. Overarching goals filter the selective activation of whole sets of more concrete subgoals by affecting what we attend to, what information we are sensitive to, what information we neglect, what chunks of knowledge and what concepts are being activated at a given moment, what we like and dislike, what we expect other people to do, and what criteria for goal achievement are being applied, etc. (see Gollwitzer and Bargh, 1996; Marsh *et al.*, 1998; Förster *et al.*, 2005; Kruglanski and Köpetz, 2009). In addition, overarching goals make effects spread from an episode with one subgoal to an episode with a possibly completely different subgoal (“cross-episode effect”). The first episode (such as observing graffiti) increases or decreases the activation of a particular overarching goal which, in turn, influences the next episode (such as stealing). Depending on which overarching goal is most strongly activated, a person will thus have a different set of preferences activated and will focus on different alternatives. This also fits well with the finding that making different identities salient, changes the set of preferences considerably (see LeBoeuf *et al.*, 2010). An evolutionary approach allows us to specify the three most important overarching goals and also understand where they come from (see Lindenberg, 2013a, 2015; Lindenberg and Steg, 2007).

The hedonic goal. The most basic overarching goal concerns the satisfaction of basic needs. Deficits in need fulfillment are signaled to the person by the way he or she feels. For example, hunger makes itself known by the feeling of being hungry. Seeking pleasant feelings and avoiding noxious feelings is thus an overarching goal (which has been called *hedonic goal*). This hedonic

goal is characterized by a focus on the here and now and by not paying much attention to context (Goldberg, 2009). For example, the more hungry a person, the more his attention will focus on things that seem edible and the less he will focus on decorum, health, or property rights. The cross-episode effect has been well demonstrated for the hedonic goal. For example, being exposed to an attractive dessert also shifts people's time preferences toward smaller and sooner rather than larger and later monetary gains (see Li, 2008). Being exposed to a picture of an attractive woman in an advertisement for loans increased loan demand by about as much as a 25% reduction in the interest rate (Bertrand *et al.*, 2010). Being exposed to an attractive cookie smell leads subjects to make more unplanned purchases, even when their budget is tight (see also, Van den Bergh *et al.*, 2008). In sum, even though people care about money and have learned to take norms seriously, their preferences will not reflect this when the hedonic goal is the most salient. Then, people tend to focus most on how things feel rather than how appropriate they are or how much they cost.

The normative goal. The other two overarching goals are likely to be evolutionary offshoots from the ability to put oneself (cognitively and emotionally) into the shoes of others. This ability probably evolved in the course of pairbonding and cooperative breeding (Dunbar and Shultz, 2007; Hrdy, 2009), allowing individuals to live in larger groups but also to encounter more frequently competing groups. This context put selective pressure on being able to put oneself into the shoes of the whole group, adopting group goals as one's own (Tomasello *et al.*, 2012; Lindenberg, 2015). Living in groups only confers adaptive advantages to individuals if these groups produce collective goods. The ability to put oneself into the shoes of the group as a whole creates the behavioral basis for this collective good production.

This group-oriented overarching goal is called "normative goal", because group norms are a codification of ways to reach group goals, and a commitment to group goals is thus linked to an obligation to follow group norms. Norms also reduce or eradicate the effect of time horizon (such as discounting) because group norms refer to things that one should or should not do in a given situation (even if this involves thinking about one's future). When this goal is the most strongly activated overarching goal (when it is the "goal-frame"), people are highly sensitive to cues that indicate what is expected or appropriate. In such a state, normative uncertainty (say by conflicting norms or relational uncertainty) is highly disturbing and lowers the relative strength of the normative goal. Internalization is an important way to make people feel obliged to do or to abstain from doing certain things. But when the normative goal is not strongly activated, the internalized norms will not have much influence on actual behavior (Cialdini *et al.*, 1990). We have seen this above in our experiments on stealing. But we could also show that the activation effect works in both directions. We conducted an experiment (Keizer *et al.*,

2013) in which people helped or did not help one of our confederates pick up oranges that were “accidentally” dropped from a bicycle bag. The only difference in manipulation was that in one condition, the passersby had passed (about 20 meters back) a person who swept the sidewalk in front of his house clean (a sign of respect of a social norm) and in the other condition, there was no such sweeper. In terms of helping, the results differed markedly: 40 percent without the sweeper, i.e. without a norm-respect cue, and 82 percent with such a cue. The activation of the normative goal is highly sensitive to situational cues.

The gain goal. The third overarching goal derives from applying the ability to put oneself into the shoes of others to oneself in the future. Being able to project oneself in the future and anticipate one’s future condition allows planning, as well as a focus on improving one’s resources rather than consuming them (investment, strategic behavior). This goal is called “gain” goal. When the gain goal is more strongly activated than the other two overarching goals, a person will be very sensitive to changes in his or her personal resources and much less sensitive about how he or she feels and what is appropriate (for example, Frey and Jegen, 2001; Small *et al.*, 2007; Caruso *et al.*, 2012). The time horizon is middle or long-term and the criterion for goal realization is an improvement of (or prevention of decrease in) one’s resources or efficiency of resources. A good illustration of the flexible change in activation between the normative and the gain goal are experiments on social dilemmas. For example, Pillutla and Chen (1999) found that when people who see a situation as a joint project (which increases the activation of a normative goal), they will contribute considerably more to a collective good than people who see the situation as “economic” one (which increases the activation of the gain goal). A similar effect was found by Liberman *et al.* (2004) who could reproduce such a flexible activation effect just by labeling a social dilemma as either a “Community Game” or a “Wallstreet Game”.

4 The Importance of Legitimacy and Flexible Activation

In economics, the salience of the gain goal, that is of a forward looking and ethically neutral orientation towards increasing one’s resources, is often taken to be the core of human nature. Williamson’s treatment of this view in his famous book on the institutions of capitalism is prototypical, for what many other economist have done: bring flexible activation effects in as an aside, where needed, but rule them out in the basic theory. For Williamson, a realistic view of human nature is self-interest seeking with guile, including the ‘calculated efforts to mislead, distort, disguise, obfuscate, or otherwise confuse’ (Williamson, 1985, p. 47). Norms can play a role in the gain goal-frame, but only as constraints (i.e. sources of possible sanctions and other costs), not

as obligations. Williamson is quite explicit about this: kindness, sympathy, solidarity and the like have no place in this view and ‘to the extent that such factors are acknowledged, their costs, rather than their benefits, are emphasized’ (Williamson, 1985, p. 391). At the same time, Williamson needs some social glue to make the firm work and thus he assumes that a firm will engage “in considerable social conditioning to help assure that employees understand and are dedicated to the purposes of the firm . . . Effective adaptation in a cooperative team context is especially difficult and important to achieve. A sense that management and workers are ‘in this together’ furthers all of those purposes.” (Williamson, 1985, p. 247). Note that these remarks refer to flexible activation effects (“social conditioning”), not to the existence of egoistic and prosocial types of stable learning effects. No wonder that Williamson admits (in footnotes) that ‘I originally intended to include a discussion of dignitarian values and how they influence economic organization. The effort was not successful, however’ (Williamson, 1985, 44n) and he adds later that ‘the calculative orientation that economists bring to bear advantageously on other matters may be a disability on this’ (Williamson, 1985, 405n). This is in stark contrast to the message in the main text of the book in which a “realistic view of human nature” explicitly denies flexible activation effects.

Gintis and Helbing do something similar. Nowhere do they include flexible activation in their model. But, when needed, it is simply assumed. For example, they claim that “in many social roles high level performance requires that the actor have a *personal commitment* to role performance that cannot be captured by the self-regarding ‘public’ rewards and penalties associated with the role” (Gintis and Helbing, 2015). But where does this personal commitment come from? Their answer is: it comes from considering a social role to be “legitimate” which activates an “intrinsic positive-ethical value”. Cues that influence legitimacy of the role activate the felt obligation to fulfill the role expectations (orient oneself toward the goals of the collective of which the social role is a part). This is clearly a flexible activation effect. What would management or the state have to do to make a social role legitimate (see Lindenberg, 2013b)? Gintis and Helbing cite an article by Andrighetto *et al.* (2010) that deals with the importance of making norms salient and increasing this salience with punishment of norm deviation. But there is nothing about the mechanism of creating legitimacy. Without explicit consideration of a normative goal-frame, it is difficult to get at the mechanism of establishing and maintaining legitimacy. Rules that are experienced as imposed through power advantage may create fear of sanctions and conformity when the chance of being caught is high, but, lacking legitimacy, they do not guide behavior in a normative goal-frame (Smetana, 1993). Legitimacy refers to beliefs that link a rule or an appeal to a relevant collective. It thereby plays an important role for the activation of the normative goal. A rule or appeal is considered legitimate by A if it either pertains to the moral universe of which A is a

part or if it issues from a person B who is seen as representing the goals of a collective of which both A and B are a part. For example, research shows that when adolescents see parental authority as legitimate, they also feel an obligation to obey (Darling *et al.*, 2008). However, they stop seeing parental authority as legitimate when it comes to matters that the adolescent sees as “personal” (such as relations with peers, clothing).

Even where legitimacy beliefs remain intact, the normative goal may not be automatically activated. Conflicting gain or hedonic goals are likely to make it necessary that the activation of the normative goal receives situational support. In order to get compliance, institutionalized rules must thus both be embedded in legitimacy beliefs and accompanied by frequent reminders of legitimacy (Lindenberg, 1992), such as cues that show respect for the rules (Keizer *et al.*, 2013), and information that establishes an instrumental link of following the rule to important collective goals (Steg and de Groot, 2010; Lindenberg and Foss, 2011).

5 Self-Regulation and Overarching Goals

Overarching goals and flexible activation form the heart of human self-regulation (Lindenberg, 2013a). Self-regulation has been identified as “one of the most important factors in making it possible for human beings to live as they do.” (Vohs and Baumeister, 2004, p. 3). Moffitt *et al.* (2011) showed that self-control (an important form of self-regulation) influences virtually every valued outcome over the life course. Self-regulation makes humans able to take care of themselves and to establish and maintain the conditions for being able to take care of themselves (such as the ability to elicit the cooperation of others, and to be able to adequately cooperate with others). The link of self-regulation to overarching goals runs via lower and higher-order forms of self-regulation. The hedonic goal is largely a lower-order form of self-regulation that works through the link of fundamental needs with the way one feels. For example, if one’s body needs food, one feels hungry and the urge to eat. When the hedonic goal is the most strongly activated, context is poorly cognitively represented and processed. This is different with the other two overarching goals. Both the gain and the normative goals are part of higher-order forms of self-regulation in which context (such as the presence of conflicting lower-order processes, appropriateness of a (re)action; expectations of others, longer term consequences of one’s (re)action, and norm-oriented behavior (Goldberg, 2009)) plays an important role. What is often called “self-control” is a process in which prepotent hedonic responses (“temptations”) are dominated by appropriate standards (the normative goal) or longer-term aspects (the gain goal). Self-control also consists of the inhibition of a prepotent selfish response (hedonic or gain) by the normative goal. Gintis and Helbing refer to such processes, but

they take them completely out of the context of flexible activation. They state that “Such fundamental human emotions as shame, guilt, pride, and empathy are deployed by the well-socialized individual to reinforce these prosocial values when tempted by the immediate pleasures of such deadly sins as anger, avarice, gluttony, and lust” (Gintis and Helbing, 2015). This looks like a stable acquired trait. However, as we saw above, many well-socialized passersby find themselves seduced to steal just by being exposed to a graffiti cue. The important point here is that the relative strength of the normative and gain goals (and thus higher-order self-regulation) depends very much on flexible activation by situational factors. The more salient these two overarching goals, the stronger self-regulation. Macro level cultural and institutional factors exert an important influence on the salience of the overarching goals (see, for example, Matsumoto *et al.*, 2008). For example, market institutions generally emphasize the gain goal in contexts of production, competition and exchange, and the hedonic goal in contexts of consumption (Lindenberg, 2006; Molinsky *et al.*, 2012; Falk and Szech, 2013). Thus for self-regulation in market societies, it will be structurally more difficult to make the normative goal more salient than the other two overarching goals (creating extra problems of fraud, corruption, rent seeking, overspending and lack of compassion in the public realm). On the meso level, there are similarly problematic effects emanating from incentive-based governance structures (Lindenberg, 2013b), especially with regard to finding the right balance between overarching goals (such as overworking with the danger of burnouts, see Van Echtelt *et al.*, (2009)).

On the micro level, supports for the overarching goals mainly comes from the cue effects of others (contagion effects). For example, being related to others with a strong hedonic goal negatively affects one’s own self-control ability (see Christakis and Fowler, 2007; Evans and Kutcher, 2011), with, for example the danger of overeating and obesity. But not all social relationships are of equal strength in this regard. The impact of significant others on the strength of the balance of overarching goals is particularly strong and often even stronger than that of simple network effects (Lindenberg, 2013a; Veenstra *et al.*, 2014). Gintis and Helbing speak of “networked minds” and mention network effects that “alter personal tastes in the direction of increasing compatibility with networked associates” (Gintis and Helbing, 2015). However, they don’t distinguish the varying impact of different kinds of relationships and all they have is the second speed of learning (and internalizing) whereas network effects, just like the “nudge” effects identified by Thaler and Sunstein (2008) mainly work through the third speed of flexible activation. Changing attachments to entire networks can have quick and lasting effects on the relative strengths of the overarching goals. For this very reason, if given half a chance, people self-select into environments that support their self-regulation (see Dohmen and Falk, 2011; Shalvi *et al.*, 2011; Lindenberg, 2013a). In short, self-regulation as “one of the most important factors in making it possible for human beings

to live as they do” (Vohs and Baumeister, 2004, p. 3) is thoroughly affected by the impact the macro, meso and micro-level environments have on the “third speed”, the flexible activation of overarching goals.

6 Conclusion

Gintis and Helbing have presented a valiant effort to bridge the gap between economics and sociology by offering a new “Analytical Core for Sociological Theory”. This is welcome and important. However, in their theory, they focus only on two “speeds” of processes that affect the relation of the input to behavioral output: genetic encoding and learning. Surely, these two are very important. However, Gintis and Helbing bypass virtually all newer developments in cognitive (social) psychology and cognitive sociology on the role of flexible activation of goals, and especially of overarching goals (mindsets). Flexible activation of overarching goals is essential for tracing effects of the social environment on behavior. It is also essential for understanding self-regulatory ability and why this ability would differ strongly among people, even beyond the genetic individual differences. It is dependent on institutions on all levels and on social networks and this dependence works mainly via flexible activation of overarching goals. One of the key points of Gintis and Helbing’s paper is that social order is prominently brought about by correlated equilibria, meaning that individuals’ actions are coordinated by the fact that they choose their action according to the same public signal. Gintis and Helbing surmise that norms are such public signals. However, for norms to be able to act as public signals, they must be activated. Thus, for this important part of their theory too, they would have had to pay close attention to processes of flexible activation, but didn’t. Without considering this third speed, the usefulness of their theory for sociology (and other social science disciplines) is very much in doubt.

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