The Role of Attitudes in Action and Institutional Change – An Evolutionary Perspective

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Abstract:

That institutions matter has been a path breaking insight in economics. That they have a considerable influence on preferences or changing tastes has equally been acknowledged. The real challenge, however, seems to be the opposite direction of influence. What do people rely on when they choose rules or behave in certain ways? The paper draws on an action function generated from social psychological research, including attitudes, subjective norms and behavioural control. In a broader perspective the paper contributes to a more realistic behavioural model in the (evolutionary) economics of institutional change, based on cognitive, social psychological, socio-biological and anthropological findings.

Keywords: attitudes, institutional change, evolutionary perspective, substantive preferences, behavioural model
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1. Introduction

That institutions matter has been a path breaking insight in neoclassical economics (North (1981)). Since then, it has been shown by comparative studies within new institutional economics that they heavily influence economic performance of economic systems. That institutions have a considerable influence on preferences or changing tastes has equally been acknowledged (Bowles (1998)). The paper asks in the opposite direction how endogenous - and substantive - preferences influence institutions and institutional change. How can it be explained that in some cases seemingly efficient institutions are not viable for long or why they are not voted for at one time but gain acceptance through time? Are there human universals in the substance of preference content or other systematic influences, and how do they come into play? These questions of institutional embeddedness have largely remained a matter unresolved.

‘Man is a social animal.’ Part of the answer to the questions posed above is given by this Aristotelian observation. From the point of view of economics this has for a long time been neglected. Even in game theory where the focus is on strategic interaction the social aspect of decision making has played a minor role. Advances have been made with respect to incorporating evolutionary psychology and to some extent anthropology into game theory and other microeconomic analysis (Cosmides and Tooby (1992), Boyd and Richerson (1980), Richerson and Boyd (2001) or Henrich, Boyd, Bowles et al. (2001)). What are the implications for institutional analysis? The Aristotelian observation above has two implications or aspects. The first is that there is an evolutionary basis of human nature that continues to be present, hence man being an animal. The other aspect is that there are two poles in the human soul, hence man being naturally social beside their self-interest. Both aspects indicate the evolutionary perspective that is taken in this paper and has to be borne in mind for explaining institutional change.

Being inspired by Prof. A. A. Schmid’s (1987) and (2004) works where he touches upon the problems of preference changes and their foundations the paper examines on the individual level what influences choice of institutional rules. Starting from an evolutionary perspective, that is, starting from a self-transforming institutional system (Witt (2003), Ch. 1), whose transition depends on the naturalist bases of substantive preferences and learning, emergence and dissemination of novel institutions seems to rely more on this substance of preferences, hence attitudes toward concrete issues, than has been acknowledged so far in the economics of institutions and institutional change. Kahneman (2003) in his Nobel lecture addresses several factors in cognitive processes that are relevant to a realistic model of the economic agent in order to predict and explain behaviour in a given situation. What is “natural and intuitive” in a given setting, however, is “not the same for everyone: different cultural experiences favor different intuition about the meaning of situations, and new behaviors become intuitive as skills are acquired.” (Kahneman (2003), p. 1469.) The present paper, however, does not rely so much on his illuminating scheme of three cognitive systems, these being perception, intuition and reasoning, being distinguished in part by the dimension of accessibility. Neither does it rely on the distinction of stimulus-based percepts and conceptual representations which can be evoked by language, where the distinction has to do with differences in effort. Instead, the most interesting idea the present paper draws on is that of “affective evaluations”, i.e., attitudes (Kahneman (2003), p. 1463), bearing upon the core concept of preferences. Since affective valence is a natural assessment, being automatically computed and always accessible, it is as such part of the more intuitive cognitive system. Automatic “natural assessments” (p. 1453) of stimuli as good or bad, in addition to physical and more abstract properties, are particularly important for the attitudes and preferences that people adopt more or less consciously and deliberately. The dimension of accessibility is of
importance here as well. It is on a continuum of effort with genetic as well as experiential
determinants. In conclusion, the role of liking and disliking in factual predictions, among
others, indicate “that the traditional separation between belief and preference in analyses of
decision making is psychologically unrealistic.” (Kahneman (2003), p. 1470.) This tension
has also been highlighted by Romer (2000) and Loewenstein (2000).

The paper examines in greater detail the relations between preferences in an economic
understanding and expressions of attitudes in social psychology for a more fruitful
understanding of institutional choice. It integrates psychological notions of emotion, identity,
and others in one unifying concept of behaviour being based on the social psychological
accounts of attitudes, subjective norms, and behavioural control (Ajzen and Fishbein (2005)).
The attitude concept used in social psychology gives insights into a basic element of dynamic
preference formation (Albarracin/Johnson/Zanna (eds.) (2005)). Hence, attitudes matter. How
they matter depends on their being “learned predispositions to respond in a consistently
favourable or unfavourable manner with respect to a given object” (Fishbein and Ajzen
(1975), p. 6). Given the immediate and measurable influence of attitudes, subjective norms
and behavioural control on rule choice they can help to explain our world of lagging and
often inefficient institutions apart from distributional conflicts and power (Knight (1992). In
this way the paper shows that more complicated processes than simply perception are at work
in repercussions on technological dissemination and institutional adaptation.

In what follows, in section 2 I give an account of why from an evolutionary
perspective attitudes matter in institutional change, drawing on various strands of literature
there. In section 3 the attitude concept and its various aspects are scrutinized more closely,
before the dynamics and levels of learning attitudes toward rules are analysed in section 4.
Potential applications are presented in section 5. Section 6 concludes.

2. The evolution of institutions and the human agent: attitudes in
disguise

2.1. Incorporating perception and preference content

The analysis of institutional change in long-term perspective has begun with North’s seminal
work on economic history (1981). There, however, the economic agent of government
behaved quite rationally to the challenges of his or her equally rational rivals or opponents.
‘Relative prices’ were the key term according to which choices were reached. The perceptive
element in considering prices as high or low and what counts as a price in the first place was
not central to the discussion then. Later in (1995) North stressed the role of perception and
the mental constructs of the actors in his five propositions of institutional change. Together
with Denzau he reemphasized ideology as a means to economize on the costs of enforcing
rules (Denzau and North (1994)). Their introducing shared ‘mental models’, however, never
referred to the respective literature starting with Johnson-Laird (1983) on agent based
modelling. The theme of mental models recurred since then in various approaches to
institutions and institutional change. Since then also Ostrom (2005) has made use of the idea
of mental models in her extensive work on governance problems of the commons (see also
Ostrom (1990)). However, mental models either seem to explain too much or not enough.
They remain peculiarly opaque. If they include also the notion of liking what one knows
about the functioning of the world, they seem to include too much, since this is more than
their being defined in simple terms of perception. If an explanation drawing solely on mental
models disregards the evaluational aspect, the liking or not of what one knows about the world’s functioning, then mental models are not enough. As becomes clear, cognitive mental models alone are not enough to explain institutional change. Motives and evaluations have to be taken into account as well. This drawback shall partly be overcome with the model of action based on social psychology that will be put forward in section 3.

Unchanging preference bases have been on the agenda of institutional choice since evolutionary psychology entered into economic thinking (Cosmides and Tooby (1994)). Also in evolutionary economics and the more applied transition literature (e.g. Stahl-Rolf (2000) and Mach and Jackson (2006)) changing attitudes and, more generally, values and mentality find their way into explanation but not as systematically as one might hope for. Particularly there, attitudes come in disguise. As early as (1986) Ostrom has put forward an agenda for the study of institutions using preferences, institutions and physical possibilities to be combined somehow to account for (institutional) outcomes (see also Ostrom in this volume). As will be shown later, these three are valid inputs to the model of action presented in section 3.

Game theoretic perspectives combined with anthropology as well have shed some light on more realistic thinking about real world institutional choice and change (Ensminger and Knight (1997), Knight and Ensminger (1998) and Henrich, Boyd, Bowles et al. (2001)). Bowles (1998) and (2004), especially ch. 3, acknowledge that preferences are situation specific and endogenous, hence they also change within institutional settings, but their being filled with content and being operationalized eventually leads back to some specification of the utility function. Here, it is altruism, spite, fair-mindedness (mostly as ‘inequality aversion’) and reciprocity besides self-interest (p. 120). The behaviours that are to be explained with these specifications are experimental outcomes, however, and not everyday real world cases. Akerlof and Kranton (2000) do something similar by incorporating an identity term into the utility function. The crux of the matter, however, is in the further functional specification of the identity term. Although the authors shortly refer to social status and state that individuals are likely to have some choice over identity, at least over the social categories lending social status to them (p. 719ff), the authors do not draw systematically on theoretical social psychological literature to validate their concept and the mechanisms working behind it. To provide part of this missing link section 3 will shed some light on the issue of identity in choice behaviour.

2.2. Extending the utility function

Specifying and extending the utility function for certain purposes has a long tradition since the seminal paper by Stigler and Becker (1977). They have developed a theory of stable preferences, as tastes, where people are endowed with a common set of basic tastes that “neither change capriciously nor differ importantly between people” (p. 76). What particular goods they eventually favour as a means for satisfying their needs according to their tastes is determined by a taste-acquisition process, in which, again, relative (‘shadow’) prices and income play key roles. How people’s environments – including institutions created by people themselves - affect their preferences or tastes becomes the central question. (For this interpretation see Ben-Ner and Putterman (1998).) The mechanism builds on accumulating human capital (e.g. education) conducive to the production and consumption of commodities. Whether they can be interpreted as means to satisfy human needs is not clear, since commodities can take the quite advanced form of pleasures like ‘euphoria’ (Stigler and Becker (1977), p. 80). Later, Becker (1996), p. 5, defines the household-produced
commodities on the intermediate level between utility and inputs, such being health, social standing and reputation, and pleasures of the senses. Knowledge or other ‘appreciation skills’ (of a more physiological nature?) can take the beneficial form of appreciation or the harmful form of addiction. Stigler and Becker (1977) touch upon the effect of exposure on the accumulation of human capital spurring appreciation of commodities, which depends in turn on already accumulated capital. If one does indeed read Stigler and Becker (1977) correctly the problem with this approach to consumption – and preferences in general - is that it captures a life-long utility perspective of commodity appreciation with accumulated human capital, but it does so by shifting the explanatory burden of change from tastes to capital. Where is the difference between commodity appreciation and utility; do not both arise at the same level? Moreover, the question arises as to what is really acquired with exposure: experience in the sense of human capital accumulation, which has to be translated somehow into appreciation, or the taste proper, i.e. the liking, to appreciate commodities, which indeed seems to change with education and thus accumulated human capital. In the social psychological literature, however, the mere exposure effect influences the evaluation part of attitudes directly, without recourse to the belief part (Zajonc (1968)). This finding will be taken up again in the next section.

Since investment of time and other resources is needed for the accumulation of knowledge about the environment, and for the accumulation of skills with which to cope with it, according to Stigler and Becker (1977) habit represents an efficient way to economize on information and to deal with moderate or temporary changes in the environment, an example being habitual purchase. In terms of institutional change economic development, causing a permanent change in the environment, would lead to changes in behaviour due to changed prices or income and making disinvestment of capital and accumulation of new one necessary. This takes time, however. Therefore, small or ‘inelastic’ responses that figure prominently in a short run perspective can be explained by habit formation. In contrast, stable behaviour in the face of changing prices and incomes might contradict the approach taken by the authors. What this approach could not explain either is changing behaviour in the face of (seemingly?) unchanged conditions.

Taking up this perspective, it might indeed be right to argue that there is no real endogenous change in human social behaviour that cannot be accounted for by external factors that force people to adapt. But there might be one endogenous source of novel behaviour: human curiosity together with a natural tendency to lessen one’s work burden and become more efficient, which leads to technological advances under appropriate conditions. These conditions, however, are decisively shaped by institutions for social interaction of the human kind. How would Stigler and Becker (1977) argue in this case of social influences on action? Perhaps they would state – as Becker (1996), p. 18, does – that

“ethics and culture affect behavior in the same general way as do other determinants of utility and preferences. In particular, considerations of price and cost influence ethical and moral choices – such as whether to act honestly – just as they influence choices of personal goods.”

Becker (1996), ch. 1, ingeniously termed the utility function usually considered by economists as a ‘sub-utility function’ using the extended version from Stigler and Becker (1977) and incorporating personal and social capital as substitutes for the former undifferentiated human capital. Thereby he is able to account for the influences of a person’s own learning past on his or her future utilities and of others on that person’s utility. This social component is due to people’s want for “respect, recognition, prestige, acceptance, and power from their family, friends, peers, and others” (Becker (1996), p. 12). He claims that the human desire for distinction (social recognition and prestige), a good name (reputation) or
benevolence (‘altruism’) have to be taken into consideration as arguments in the utility function. This is where the more invariant preference bases, such as human needs and Darwin’s (1981), p. 71f, ‘social instincts’, come in. By way of doing so Becker can incorporate something similar to social learning into his extended utility function. This is, of course, not reaching far enough, since the learning mechanisms remain in the dark. In the end, Becker (1996), ch. 1, seems to acknowledge that tastes and attitudes change, but not preferences conceptualized in his way. With his approach to human behaviour he has reappraised the social component. He has done so especially by incorporating group reinforcement, as peer pressure and the norms of peers, into the utility function of the individual.

Although with their approach Stigler and Becker (1977) have not made the “easy suggestion that the further explanation will perhaps someday be produced by one of our sister behavioral sciences” (p. 90) there is still quite a bit left to do in order to make their utility approach compatible with the other social and natural sciences in the best sense of ‘consilient’ science (Wilson (1998)). Starting from this discussion I would like to argue two things in the course of the next sections. I show, first, where Stigler and Becker (1977) may be indeed right to claim that preference bases – not tastes – do not change, but attitudes – and tastes - do. By spelling out the details of the functional form of a so called ‘action function’, rather than a utility function, I explore in more detail how the concept of attitudes that is prevalent in modern social psychology can be made use of for the concept of preferences in economics. Second, the analysis shows how Stigler and Becker’s account of change can be made compatible with the modern view on attitude change in social psychology. With this I explore the economic implications of (social) psychological effects for institutional change.

3. Attitudes and behaviour

The question arises as to ‘why attitudes’, why are attitudes so important? The answer is quite simple: because attitudes are as close as we can get toward filling the concept of endogenous preferences with meaning. With meaning that can be exploited for explaining coherently diverse real world puzzles in social interaction and institutional choice. As will be seen, the affective component of attitudes, of like and dislike, is a good predictor of behavioural intention and, eventually, of action. That is why we have to account for attitudes.

What does it mean when someone says he or she does not support a party because of certain policies or when someone ‘hates’ certain parliamentary decisions on welfare reform, liability, taxes on property and bequest, protection of intellectual property or else? These are statements about like and dislike, i.e., attitudes. For sake of clarity, some working definitions of what is really meant by preferences, attitudes, tastes and the like are given in the following subsection.

How do attitudinal expressions transform into action? Attitude expression is a delicate matter in connection with more invariant human characteristics, such as socio-biologically founded instinctive reactions and human needs or wants. Norms also play a relevant part in determining action. To see this we go on in the next subsections to scrutinize the ingredients of the ‘action function’ mentioned afore that has been developed over the years in social psychology. The main ingredients have been put forward by Ajzen and Fishbein (2005) starting with Fishbein and Ajzen (1975). These ingredients, combined in an ego-empathy

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2 I have argued elsewhere that the more invariant preferences, such as instincts in social interaction, or in short ‘social instincts’, can act as constraints. See Niederle (2006b).

3 Kahneman (1994) has already distinguished between “decision utility” and “experienced utility”.

perspective that has been mentioned at the beginning, are also those of a model to explain institutions and institutional change. Therefore, in this paper mainly exchange relationships and social interaction are the relevant focus.

### 3.1. Some working definitions

The definition of preferences as *reasons for behaviour*, that is, attributes of individuals that account for the actions they take in a given situation, which has been put forward by Bowles (1998) and (2004), p. 99, seems to imply *motives* for behaviour. It distinguishes preferences from beliefs and capacities that also account for behaviour. For Bowles, to have explanatory power preferences must be sufficiently persistent to be able to explain behaviour over time and across situations. Why these reasons for behaviour should count as much as “attributes” of an individual is not quite clear, however. These attributes seem to imply personal characteristics or personality traits rather than situational factors for decision making that also seem to be relevant for preference formation. According to Bowles (1998), p. 78f, preferences go considerably beyond tastes and should include values and the like as well as the cognitive construal of the choice situation. In this he seems to be in accord with Stigler and Becker (1977). In this sense, preferences include a heterogeneous melange of tastes, habits, emotions and other visceral reactions, commitments, socially enforced norms, situation construal, psychological propensities and one’s affective relationships with others (Bowles (2004), p. 99). All this will be kept in mind for the presentation of the action function in the next subsection.

To distinguish preferences from tastes I would like to introduce the social psychological definition of attitudes. An “attitude can be described as a learned predisposition to respond in a consistently favorable or unfavorable manner with respect to a given object.” (Fishbein and Ajzen (1975), p. 6.) In social psychological terms attitudes represent a person’s general feeling of favourableness or unfavourableness toward the attributes of some stimulus object, which can also consist of means-end-relationships. Attitude objects may include individuals, groups of people, social issues, abstract ideas, behaviours or specific objects (Maio and Haddock (2004), p. 425f). Then, taste is condensed into attitudes, and attitudes are one *basis of* preferences, the other two being, first, biologically determined physiological and social needs and drives and, second, socio-biologically evolved human instincts in social interaction, or short, social instincts (Binder and Niederle (2006/forthcoming)).

As humans we share with our animal relatives a repertoire of immediate - as inborn and reflexive, i.e. instinctive - reactions to certain stimuli in situations of social interaction. These also carry a component of affective reaction, a feeling. In contrast to instinctive animal reactions humans have built a host of culturally learnt, rule-guided actions around these basic reactions. These instincts in social interaction, or short: social instincts, colour the emotive evaluational part of attitudes. Examples are possessiveness, reciprocity, fairness evaluations, helping, conformity etc.

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4 The most conventional contemporary definition is by Eagly and Chaiken (1993): The psychology of attitudes, Orlando: Harcourt Brace Jovanovich, p. 1, quoted after Albarracin, Johnson, Zanna et al. (2005), p. 4: an “attitude is a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor” (emphasis in original omitted). But this definition seems too vague with respect to learned characteristics and consistency of response in comparison with the original definition by Fishbein and Ajzen (1975).

5 For more extended examinations cf. Niederle (2006b) and Binder and Niederle (2006/forthcoming).
To complete the list of clarifications, let us say that values are favourable valences associated with abstract concepts (Ajzen (2001), p. 42). They are not the same as (social) norms, these being rules in social interaction. In the present paper values are seen as generalized attitudes over abstract issues. Moral values, then, are about issues concerning social interaction. This means that “morality ultimately comes down to where one places one’s affect.” (Trafimow and Sheeran (2004), p. 69; see also Camerer, Loewenstein and Prelec (2005), p. 26f, for the primacy of affect.)

With these definitions at hand the action function will be presented and its elements discussed in turn.

3.2. The action function

Referring back to Ostrom (1986) and the ingredients of a fundamental outcome equation, namely preferences, institutions and physical possibilities or opportunities, the action function to be presented here comprises corresponding analogous elements. It is, however, based on theoretical and empirical work in Social Psychology. Within their theory of reasoned action and planned behaviour Ajzen and Fishbein (2005), p. 194, have lately presented a model of behaviour (valued as $x$) resulting from the three elements of attitudes $a$, subjective norms $s$ and behavioural control $c$ (perceived $c_p$ and actual $c_a$). A complete picture of what will be discussed in the course of the next sections is depicted in figure 3.1 below. It shows the delicate relation between behavioural control, intention and actual behaviour at the end of the causal chain from motivation and background influences to actual behaviour. The figure also shows the more indirect influences and repercussions in the form of broken arrows.

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6 Note that ideology in this interpretation comes down to “systems of attitudes and values that are organized around an abstract theme” (Olson and Stone (2005), p. 263).

7 For this section, the paper draws on Niederle (2006a).
Figure 3.1: Influence of background factors on attitudes, subjective norms and behavioural control as determinants of intention and behaviour.

(Based on Ajzen and Fishbein (2005), p. 194, with own extensions.)

To specify matters, one can put these concepts of the three elements of the behavioural model - attitudes $a$, subjective norms $s$ and behavioural control $c$ - in functional form. (Here, the paper draws especially on Ajzen (1988), p. 32, Katzner (1989), p. 136f, and Earl (1990), p. 728, for single parts of the equation.) One can write in composite functional form:

$$x = h(z, c_a)$$  \hspace{1cm} (1)

$$z = g(a, s, c_p) = (\omega_a \cdot a + \omega_s \cdot s) \cdot c_p$$  \hspace{1cm} (2)

with $a = f_1(b_a, e) = 1/L \cdot \sum_{l=1}^{L} (b_{al} \cdot e_l)$  \hspace{1cm} (3)

and $s = f_2(b_s, w) = 1/M \cdot \sum_{m=1}^{M} (b_{sm} \cdot w_m)$  \hspace{1cm} (4)

and $c_p = f_3(b_c) = 1/R \cdot \sum_{r=1}^{R} b_{cr}$  \hspace{1cm} (5)

In essence, expressions (1) and (2) equal the assumption of an indirect attitude-behaviour relation mediated by intentions $z$. Equation (1) shows that the behavioural value $x$ depends on intentions $z$ and actual behavioural control $c_a$. As shown in (2), behavioural intentions $z$ in turn consist of attitudes $a$, subjectively perceived social norms $s$ and perceived behavioural control $c_p$ (summarizing and extending Ajzen and Fishbein (2005), p. 194). To complete the chain of how attitudes translate into behaviour, attitudes $a$ are a function of beliefs $b_{al}$ about attribute $l$ and (affective) evaluations $e_l$ about this attribute $l$. To describe the way in which subjective beliefs and evaluations combine to produce an attitude Ajzen (1988), p. 32, sums up the product of beliefs and evaluations $\sum b_{al} \cdot e_l$. A person’s attitude $a$ is
expected to be directly proportional to this summative belief index. Beliefs $b_{al}$ can be defined as a subjective probability in the interval $[0,1]$ indicating strength of belief that the object or action under consideration has an attribute $l$ or not. To indicate the range from strong positive to strong negative over neutral evaluations $e_l$ can be defined within the range $[-1; 1]^8$. Both components of attitudes will be discussed further in the next section under the heading of cognition and emotion. Likewise, subjective norms consist of normative beliefs $b_{sm}$, i.e. others' normative expectations about one's own behaviour, and the motivation or willingness to actually comply $w_m$. Normative beliefs $b_{sm}$ have to be “directed” in that other people may be assumed to be strongly against action $x$, hence $b_{sm} \in [-1;1]$, while the individual need not be in favour of abiding by these social expectations, hence willingness to comply $w_m \in [0;1]$, representing no willingness at all up to full willingness to comply. In contrast to beliefs $b_{al}$ about attributes of action $x$, beliefs $b_{sm}$ are about action $x$ directly. Perceived behavioural control $c_p$ concerns the $r$ subjectively perceived constraints $b_{cr}$ of the action, including the usual economic ones, viz. the budget constraint. Control beliefs range between 0 and 1. In order to avoid summary differences between few and many considerations of attributes, others’ expectations and control aspects, the sums in $a$, $s$ and $c_p$ are normalized in the simplest way with $1/L$, $1/M$, and $1/R$, respectively, leaving at the outset equal weight to attitudes, social norms and perceived control for obtaining intentions $z$. As tendencies to act, intentions $z$ range within $[0;1]$ and must exceed a certain individual aspiration level $z > Z$ in order to become relevant for action. If $z = 0$, then the action $x$ under consideration is “unthinkable” to the individual. In order to normalize and obtain intentions $z$ ranging within $[0;1]$, factors $\omega_a$, and $\omega_s$ are introduced, with $\omega_a + \omega_s \leq 1$. $^9$ For intention $z$ an additive function of $a$ and $s$ is assumed, “weighted” by $c_p$. Because of assuming potentially negative values both attitudes and social norms can be outweighed by each other, leaving the individual in the extreme undecided or hesitant as to what to do ($z = 0$). Equally, perceived behavioural control $c_p$ modifies or lowers intention. In the extreme, if the individual does not see any possibility of acting in the desired way, he or she may outwardly cease completely from intending to act ($z = 0$ because of $c_p = 0$), whereas with rising perceived control ($c_p \geq 0$) inwardly kept intentions may come again to the fore ($0 < z \leq 1$).

Hence, for intentions generally the following applies:

$$z = \begin{cases} 0 & \text{if } g(\bullet) \leq 0 \\ z & \text{if } 0 < g(\bullet) \leq 1 \end{cases} \quad (6)$$

Ultimately, action depends on the situation the individual is in, meaning that action depends on time. Likewise, the individual has to choose among several alternatives. Hence, an action $i$ with some value $x$ is taken of a set $X(t)$ of alternative action values $x_i$ dependent on time $t$, so that

$$X(t) = \{x_1(t), \ldots, x_n(t)\} \text{ with } n < 10, \text{ usually.}$$

The action function $h$ really is a step function, only leading to action $i$ as $x_{i,t}^* = 1$ at time $t$ if the following conditions hold

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8 This is similar to the scale used by Ajzen (1988), p. 8ff, where attitudes are measured within diverse, but ordinal scales, sometimes including negative integers, sometimes being defined only positively.

9 In this way, one could assume different factors for $a$ and $s$ in order to emphasize individual reliance on own attitudes versus social norms. However, this seems to be already expressed in strength of attitudes versus strength of social norms per se, so that equal weights seem the most plausible. Note that Earl (1990), p. 728, and Janssen and Jager (2002) attach weights to attitudes and subjective norms.
\[
\begin{align*}
x_{i,j}^* &= \begin{cases} 
0 & \text{if } z_{i,t} \leq Z \forall i \\
\text{or if } z_{i,t} > Z \text{ and } H < x_{i,j} = x_{j,i} = x_{\max,j} & \\
1 & \text{if } z_{i,t} > Z \text{ and } H < x_{j,i} = x_{\max,j}
\end{cases} 
\end{align*}
\]  

(7)

with \( i \neq j \) and \( x_{\max,t} = \max[x_{1,t}; \ldots; x_{n,t}] \).

At a certain point in time \( t \) intentions greater than a certain threshold level \( Z \), so that \( z_{i,t} > Z \), combined with actual control \( c_a \) in \( h(\bullet) \) with result \( x_{i,t} \), must exceed a certain threshold value \( x_{i,t} > H \); otherwise an action cannot be taken, not because of low intentions, but actually because of low control of the situation, meaning that there must be feasibility and opportunity to really act. Actual behavioural control \( c_a \) modifies the intention value \( z_{i,t} \) in that it enhances or decreases the decision value to act \( x_{i,t} \), which is again between 0 and 1. Control can be complete down to non-existent, so that \( 0 \leq c_a \leq 1 \). Among the range of alternatives under consideration at \( t \), that are greater than \( \text{H} \), action \( x_{i,t} \) must have the highest value \( x_{\max,t} \) to be ultimately taken, hence \( H < x_{i,t} = x_{\max,t} \). Thereby however, no marginal optimization process is needed. Taking the maximally valued action \( x_{i,t} = x_{\max,t} \) only requires evaluating the relatively easy to grasp, manageable and calculable one handful up to two handful of discrete alternative actions that come to mind, and usually less than that. If \( x_{i,t} = x_{j,t} \), then the classic indifference problem occurs and no action will be taken, but this becomes relevant for action only, if the two equally valued alternatives have the maximum value \( x_{\max,t} \). In the end the highest valued action \( x_{i,t} \) fulfilling all conditions is taken so that \( x_{i,t}^* = 1 \). Otherwise no action is taken at all at time \( t \) and \( x_{i,t}^* = 0 \).

Focusing on attitudes as the primary factor for acting (see figure 3.1), as has become clear, with knowledge of attitudes alone, one cannot predict behaviour. I may like something generally without this fact being immediately relevant for action now. Hence, without relating beliefs \( b_a \) and evaluation \( e \) to one’s motives to act, attitudes provide only part of the explanation. But in fact, these motives are implicitly given in the attribute evaluation within the beliefs part of the attitude concept. Attributes are related to certain functions they might serve. Of course, this is in relation to some goal that has to be achieved. If there were no goal, there could be no appraisal of a function. And a goal springs from motivation to act. This might be ultimately want-related or instinct based. But there is never no reason for the formation of beliefs. In contrast, affect per se tags potential objects of attitude formation once we encounter them. The only goal here seems to be approach or avoidance. There is a nice differentiation given in Camerer, Loewenstein and Prelec (2005), p. 37, who distinguish “liking” (in terms of what causes pleasure and pain) from “wanting” (in terms of motivation to act in order get what might cause pleasure).

To sum up, first comes motivation to act in the form of want or desire or else. Then, attitudes, subjective norms and perceived behavioural control together combine into intentions to act according to these motives. Intentions in turn lead to overt behaviour if actual behavioural control does not stay against it. As a general rule, “we intend to behave in favorable ways with respect to things and people we like and to display unfavorable behaviors toward things and people we dislike” (Ajzen (1988), p. 33). Because of the evaluative part, attitudes can easily be likened to a psychological interpretation of preferences as “expressions of an affective response” rather than the reflectively reasoned orderings in economics (cf. Kahneman 2003, p.1463). In the same manner, attitudes are defined by the affective value of (the mental representation of) objects and not by choices (Kahneman et al.)
With these specifications attitudes are as close as we can get toward substantively interpreted, endogenous preferences. But if preferences are defined more globally as behavioural dispositions or inclinations (referring back to Bowles (1998)) they are closer to including the function of behavioural intention $z$ as a whole than that they resemble attitudes $a$ per se, which are a distinct element in this function. Preference in a specific situation could then be expressed by a greater intention to do one thing compared to another. With this, the action function also allows a systematic view on intention and motivation.

Details in content of the equation elements will be discussed within the next sections.

### 3.3. Emotion and cognition

Kahneman (2003), p. 1470, notes that “the role of emotion in judgement and decision making received less attention [...] than it had received before the beginning of the cognitive revolution in psychology in the 1950’s. [...] The traditional separation between belief and preferences in analyses of decision making is psychologically unrealistic.” Social psychologists seem to be on the right track when giving primacy to the affective component sometimes overruling every other conscious and deliberative consideration. When it comes to analysing the influence of emotion versus cognition on attitudes, hence belief versus evaluation, the picture becomes more complicated, though.

It is generally presumed that attitudes comprise beliefs and evaluations. Beliefs are subjectively derived assertions about the object’s characteristics. These assertions are probabilistic in nature. They may as well be derived from heuristics as simplifying devices in cognition and decision making, relying on certain cues when motivation and ability to think are low (cf. Kruglanski and Stroebbe (2005); see also Berg, in this volume). More generally, beliefs are “an individual’s understandings of the relationship between an action and an outcome” (Bowles (2004), p. 99). Typically, this happens in respect of fulfilling diverse goals or motives. Satisfying a want or combinations of them seems to be the ultimate, but not necessarily predominant, motives for evaluating potential behaviour, having been discussed before. Likewise, evaluating some institutional rule rests upon its contribution to one’s goals or motives.

On the other hand, attitudes rest upon more or less emotive evaluations of the attribute relations mentioned afore. Beliefs and (affective) evaluations are formed simultaneously and independently inasmuch as affective judgements are simultaneously formed and may even in the extreme precede perceptual and cognitive operations (cf. Zajonc (1980)). Hence, “as a person forms beliefs about an object, he automatically and simultaneously acquires an attitude toward that object. Each belief links the object to some attribute; the person’s attitude toward the object is a function of his evaluations of these attributes.” (Fishbein and Ajzen (1975), p. 216.) Therefore, “current affect” is the predominant and, in general, the better predictor of behaviour than cognition (belief) (Trafimow and Sheeran (2004). The interesting implication is that cognition cannot directly affect behaviour; it is the affect that is attached to the cognition that matters. Then, looking at mental models only (on the belief part), without taking affect and emotion into account, is cutting the argument too short. Stressing current affect, for instance in weighing short-term versus long-term consequences of behaviour, comes close to what Stigler and Becker (1977), p. 77f, may have had in mind with their beneficial and harmful “addiction” expressed with “dated”, i.e. time dependent, arguments in

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10 Everybody knows a statement like ‘I do not see the practical value, but nonetheless I do like it’, or ‘I do see the practical value, but nonetheless I do not like it’.
the utility function. Likewise, weakness of will can be expressed in terms of current affect, when, at the moment under consideration, hedonic feelings now outweigh current (!) affect stemming from long-term considerations (Trafimow and Sheeran (2004), p. 68f). Then, “decision is simply the result of combining all of the affects”, and if “the resulting sum is greater than some threshold, the person will decide in favor of the behavior, otherwise the person will decide against it.” (Trafimow and Sheeran (2004), p. 65; emphasis added.) As an economist one has to note that there is no maximizing calculus involved but rather something that comes close to ‘satisficing’ along some aspiration level.

Usually, people have a number of about $7 \pm 2$ salient beliefs about some object or action under consideration (cf. Earl (1990), p. 728). This is a very interesting fact in itself, since it means reduction of complexity of a choice situation. For example, for reform of health insurance an individual might hold salient beliefs concerning the effectiveness of new rules for intensifying competition within the pharmaceutical industry, their legality and legitimacy, the rules’ capability of obtaining majority, their status relevance for the individual, their cost and security aspects. Every single belief $b_i$ is combined with a specific positive or negative (affective) evaluation $e_i$ of it. This is expressed in equation (3) above. Here, the concept of “mental models” going back to Johnson-Laird (1983) would find its way in as an interpretation of probabilistic beliefs concerning functional attributes. But it has to be kept in mind that, in addition, beliefs may be coloured by normative considerations and values as background factors as well as emotion and other visceral factors (Ajzen and Fishbein (2005), p. 194; see also Romer (2000)). In my reading mental models are a set of (coloured) beliefs about the functioning of and relations between a more or less complex phenomenon or abstract issue or object. Mental modelling belongs to the definition of a decision situation, be it individual or social (inter-)action. Naturally, beliefs can be updated via learning. At the same time they are stuck with cognitive-affective invariance like personal risk perception, attention processes or personal capabilities and personality traits.

With affective reactions we may distinguish between positive or negative valence (pleasure/pain) as a basic and bodily reaction indicating usefulness of stimuli. Affectivity is one dimension of a feeling, i.e. an affective state also comprising quality, intensity and duration. There seem to be four to six basic feelings or emotions, namely joy and sadness, fear and anger plus surprise and disgust (cf. Camerer, Loewenstein and Prelec (2005), p. 23, Griffiths (1997), p. 230ff, Schimmack and Criles (2005), p. 413, and Scherer (1996), p. 299). More complex emotions like guilt and shame may be combined from these basic feelings and other higher cognitive factors. It may be hypothesized that all these basic and ‘cognitively combined’ emotions and their (facial) expressions serve commitment problems in social interaction. Emotions in general serve useful functions with respect both to the preparation of adaptive behaviour and to the regulation of social interaction (cf. Darwin (1965/1872) and Scherer (1996), p. 286). As Muramatsu and Hanoch (2005) put it, emotion is a ‘fast and frugal’ way to economize on an agent’s cognitive processing capabilities, because it uses affective cues for cognitive guidance and behaviour preparation. In general, “emotions give direction to search, stopping, and decision rules that produce choice behavior” (p. 212). They can alter one’s goal prioritization, determine the relative salience of aspects of a task, shape

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11 Only if people endeavour to experience positive affect when resisting temptation or if people learn to attach more (current) affect to long-term issues, they may overcome this “affect deficit” (Trafimow and Sheeran (2004), p. 68).
12 This amounts to one up to two “handful” of salient beliefs.
13 Disgust and anger (‘moralistic aggression’) may be the key emotional reactions forming moral attitudes (Clore and Schnall (2005), p. 457).
14 Elster (1998), p. 48, has created a long list along six categories consisting of social and counterfactual emotions, of emotions created by what has/has not happened, what may happen, what others possess and controversial cases. It seems to contain repetitions, however.
cost-benefit assessments, lead to stop processing information and make certain options “unthinkable” Muramatsu and Hanoch (2005), p. 212). In terms of motivation the point is that negative motivating feelings like hunger and thirst or anger may be generated by deprivation of some kind, in the case of anger by socially obstructed goal attainment or need satisfaction. Positive feelings on the other hand seem to be the rarer motivators, but positive affect is attached to the satisfaction of needs, i.e. the condition of homeostasis. Then, pleasure is a homeostatic cue, an informational signal (Camerer, Loewenstein and Prelec (2005), p. 27), but it is transient. Once homeostasis is reached pleasure will fade into indifference up to pain. In terms of learning theory positive affect is related to positive reinforcers.

Coming back to attitudes the question emerges as to how feeling or emotion influences attitude and how the ephemeral evaluative aspects of them (pleasure and pain) become an attitudinal evaluation without this temporal constraint (like/dislike) (cf. Clore and Schnall (2005), p. 438). My simple preliminary answer would be that affective valence is held up while thinking of the object of attitude formation also when the stimulus itself to elicit affect is not present (see the discussion above about current affect and behaviour). Then the question emerges as to what a person is likely to do in the face of own attitudes versus social norms.

3.4. Individual attitudes against social norms

“One once activated, the attitude will serve as a ‘filter’ through which the attitude object will be perceived. […] Thus, selective perception produces perceptions of the object in the immediate situation that are consistent with the attitude.” (Fazio, Eiser and Shook (2004), p. 84.) But this is only part of the individual’s definition/perception of the event. The other part is “normative guidelines” that may run counter to the attitude so that the definition may not be attitudinally congruent (Fazio, Eiser and Shook (2004), p. 84). This, indeed, depends on the individual’s identity concept. This is why: An actor’s inclination to behave according to her own (strong) attitudes in contrast to complying with others’ rules can be interpreted as an expression of her self-identity versus her social identity within the relevant group (for this aspect see also Akerlof and Kranton (2000)). Within equation (2) of behavioural intention z the first two terms a and s express the intensity with which people stick to their own attitudes a versus how much they weigh others’ influence in the form of abiding by subjectively perceived social norms s (cf. Earl (1990), p. 728). In the extreme this amounts to social pressure. As mentioned before, to specify the term of subjective norms one can sum up the product of m normative beliefs \( b_{sm} \) held by others whose opinion is relevant to the actor and the corresponding motivation to comply \( w_m \). Normative beliefs \( b_{sm} \) relate to the set of normative expectations that, as a rule, can be expressed as rules. Subjectivity plays a key role for interpretation in that also simply congruent behaviour by others can be interpreted as normative expectation without there being a rule. These ‘others’ may be peers, relatives, friends, teachers or instructors or role models of some kind or another (like ‘public persons’

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15 Whether hunger is rather to be counted as a ‘sensation’ shall not interest us here; see Cabanac (1995) for a very good analysis.

16 Note that there is only one positive feeling on the list, namely joy.

17 The influence of information and manipulation on affect is discussed in Clore and Schnall (2005).

18 In their account, however, identity is a variable in the utility function whereas in the behavioural equation used in the present paper identity springs from the ratio between strength of attitude and strength of subjective norms.
known from the media). Motivation to comply \( w_m \) with every single of these subjectively perceived social norms in turn depends on the individual’s having internalized them and having developed some positive affect for them in the first place. Similarly, motivation to comply seems to be deeply rooted in “instincts” in social interaction, or short “social instincts”, which are discussed elsewhere as the ultimate basis for evolving institutions (Niederle (2006b) and Binder and Niederle (2006/forthcoming)). For example, such social instincts are reciprocity, a notion of fairness, or even possessiveness. These, too, have an emotional component (anger) when they are not met by others. As it turns out, even in the conflict (or congruence) between attitude and social norms affect has its central role. In this connexion the tension within man being a social animal re-emerges.

In a broader perspective we see clearly the repercussions of institutions - as systems of rules in social interaction - on intentions and attitudes in the form of subjective norm formation and developing values as a background factor of belief formation and attitudinal evaluation (see figure 3.1). These influences on behavioural intention are different from perceived behavioural control factors that are discussed now.

### 3.5. Intention and constraints on behaviour

Like the formal preference concept the concept of attitudes does not spare us the trouble of scrutinizing the constraints of an action, but it makes the picture more realistic in terms of systematic influences and systematic change of influencing factors. Taken together the three elements of equation (2), namely attitudes \( a \), subjective norms \( s \) and perceived control \( c_p \), lead to behavioural intention \( z \), which translates into overt behaviour \( x \) under the restriction of actual behavioural control \( c_a \) in equation (1). Besides the economic budget constraint mentioned earlier perceived as well as actual behavioural control may also include impulsive (somewhat instinct based) behaviour leading to more or less uncontrolled (re-)actions. Addictive behaviour, and the physiological and psychological bases, belong to this category as well. In this respect divergence between \( c_p \) and \( c_a \) is highly possible. It becomes clear that with impulsive behaviour personality traits come into play. Another influence on action, especially on \( c_a \), is coercion, in the extreme causing cognitive dissonance when diverging from attitudes. (This is discussed elsewhere in Niederle (2006a) in relation to institutional change.)

As with all theory it is the little things that always cause the problems. The problem with attitudes and their influence on action is that one cannot reliably and unambiguously predict behaviour from attitudes only. On the other hand, incorporating intentions for predicting behaviour means having to cope with yet another unobservable source that must be inferred or tested (see Ajzen and Fishbein (2005), p. 187ff., for a critical assessment). In respect of the general rule of congruity mentioned above, however, for further analysis we can start from the assumption that attitude and intention overlap and that strong attitudes even overrule subjective norms. Another limitation is that in all cases where behaviour is forced against attitudes, e.g. by institutional coercion, cognitive dissonance is caused (Olson and Stone (2005)). For predictive purposes, it depends on strength of inconsistency or contradiction whether attitudes or behaviour will be adapted. Furthermore, one has to distinguish single and general (or broad) attitudes and particular behaviour and behavioural tendencies (cf. Ajzen and Fishbein (2005), p.178ff). Thus, on the one hand, general attitudes allow only limited prediction of specific behaviour or decision. On the other hand, strong, salient (= accessible), general attitudes toward objects can give guidance as to prediction of broad behavioural dispositions or behavioural tendencies; single attitudes toward certain
behaviour can give guidance as to predicting specific behaviour. Therefore, it is important to analyse attitude and behaviour at the same level of aggregation. Despite these reservations it remains to be restated that attitudes, as affective liking, are as close as we can get toward preferences in a substantive meaning.

3.6. **Background factors and motivation**

Some of the most influential background factors have already been mentioned. These factors influence behaviour in a general and indirect manner. Following Ajzen and Fishbein (2005), p. 194, they can be divided into individual, social and informational factors. Individual background consists of personality, mood (as unfocused emotion), emotional arousal, intelligence, personal values, stereotyping, general attitudes and experience/past behaviour. Social background factors are education, age, gender, income, religion and mores, race and ethnicity and culture. One might ask why such personal characteristics as age and gender are listed here, but they are relevant for the social implications they have for the individual. Among informational background factors are listed knowledge, the media and (government) intervention.

Antecedent of all intention and behaviour is motivation. It completes the picture of the causal chain. In my reading of the social psychological literature and from what has been discussed before in section 3.3, motivation to act can either emerge from present homeostatic disequilibrium or anticipated future disequilibrium of some sort. All kinds of visceral factors belong here. See Loewenstein (2000) for a list of such motivating states like emotions, drive states and feeling states that come to or even grab people’s attention and motivate them to engage in specific behaviour. Visceral factors function biologically to grab the attention needed to ensure certain behaviours, and they function with minimal or with no higher-level cognitive mediation (Loewenstein (2000), p. 428). Strikingly, the diagram in figure 3.1 shows motivation listed with the background factors. The reason is that it is all behind it. Motivation to act transcends all forms of beliefs and individual evaluative reaction to them. Forming beliefs of any kind without motivating focus would be futile. Motivation is mirrored in the affective evaluation part of attitudes as well as motivation to comply with subjective rules, and it colours control beliefs. Of course, motivation to act is influenced by the background factors as well that may shape attention processes to visceral feelings and belief formation. As has been said before, it is in fact these (anticipated) visceral feelings. By contrast, behaviour may also derive or rather be predicted from past behaviour in the form of habit formation. But this is not equal to motivation as such.

4. **Dynamics: learning attitudes at different levels**

Contrary to Becker (1996), when incorporating the concept of attitudes, preferences do change, but they change systematically. Attitudes are learnt; hence, they are mouldable. They change with experience and knowledge of the stimulus objects. For instance, attitudes change with experience of social rules and institutions.

Both beliefs $b$ and evaluations $e$ may be subject to learning processes. It suffices to say here, that change of attitudes via learning may be due to the partial change of either

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19 The present paper does not distinguish further between ‘motive’ as a goal and ‘motivation’ to act to reach this goal.
beliefs \( b \) or evaluations \( e \), or both at the same time. Learning about norms \( h \) and changing motivation for norm compliance \( w \) has to be taken into account in the same way as learning and practicing is relevant for perceived behavioural control \( c_p \). All are taken to be driven by the same basic learning mechanisms, but the normative and control part of intention and behaviour are left out from the discussion, since the literature is predominantly on attitude change. Note in this respect that attitudes seem to be the dominating basis of decision making, because they determine the initial direction and strength of intention and are only mediated by subjective social norms and behavioural control. The basic learning mechanisms at work are assumed to be similar, because basically people learn through experimenting and imitating on reinforcement and cognitive bases in all areas of life, be they individual or social, heuristic or strategic.

The mechanisms of attitude formation work through direct experience or indirect experience (Fazio et al. 2004, p. 293), which possibly influences rate and strength of attitude change. Indirect experience is based vicariously on information that one receives from others about a given attitude object, be it through general socialization, inferential reasoning about the communicated attributes, or the value with which others regard the object. Direct experience includes the consequences of mere exposure\(^{20} \) to some (neutral) stimulus (Zajonc (1968)), conditioning of attitudes and inferring attitudes from observing one’s own behaviour in the specific context. Hence, because of reinforcement and processes of conditioning, “attitudes may unwittingly be coloured by the context in which an object has been experienced” (Stroebe / Jonas 1996, p.244). Supposedly, such conditioning processes mostly influence the emotive evaulational part of attitudes in that primary reinforcers, i.e. rewarding stimuli corresponding to innate drives and desires, serve as emotional or sensory “colour” or cues. For example, simple praise and reprimand may serve to reinforce attitudes toward rule compliance on the more emotional level, whereas giving reasons for rules and reasons for reproaching deviant behaviour may rather influence the belief part of attitudes on a more cognitive level. To wit, a rewarding experience following an action entails that this action will be more frequently chosen or, in our case, that the respective attitude toward the action is intensified (see Binder and Niederle (2006/forthcoming) for a more detailed account).

Of course, attitudinal formation and change is mediated by cognitive learning and perception beside the basic processes of reinforcement learning (Stroebe and Jonas (1996)). People learn socially from peers, the media, etc. (see Bandura (1977), Bandura (1986)). Hence:

“In the course of our lives we acquire many different beliefs about a variety of objects, actions, and events. These beliefs may be formed as a result of direct observation, they may be self-generated by way of inference processes, or they may be formed indirectly by accepting information from such outside sources as friends, television, newspapers, books, and so on. Some beliefs may persist over time, others may weaken or disappear, and new beliefs may be formed. People can hold a great many beliefs about any given object, but they can attend to only a relatively small number, perhaps eight or nine, at any given moment [...]. It is these salient beliefs that are the immediate determinant of a person’s attitude [...].”

(Ajzen (1988), p. 33; emphasis omitted)

When considering cognitive attitudinal change, there are several influencing factors accruing from social-cognitive learning conditions (see Stroebe / Jonas 1996, passim; see also

\(^{20}\) “By ‘mere exposure’ is meant a condition which just makes the given stimulus accessible to the individual’s perception.” (Zajonc (1968), p. 1)
Petty / Wegener 1998). Among them are situational or contextual, motivational and ability factors that bias information processing. Coercion, distraction, and message repetition stand for situation biases. Involvement in the issue and mood state influence motivation to change one’s attitudes, whereas personal need for cognition or heuristic cues like credibility of the information source (= status) represent the ability to (correctly) process information that may lead to attitude change. More concretely, motivations for information processing are accuracy motivation (test validity of information), defence motivation (vested interest, attitudinal commitment, need for consistency), and impression motivation (social acceptance of own position versus conformity).

More concretely, beliefs are indeed subjective and biased in a certain way. This is also a matter of selective attention processes. Attention is largely controlled by automatic processes, and intention in turn determines what information is absorbed (Camerer, Loewenstein and Prelec (2005), p. 38). Attention seems to be chronically drawn to information that is favourable to one’s attitudes. Another critical point is that perception as a basis of belief formation is reference dependent, avoids ambiguity, needs accessibility, and is affected by framing (Kahneman (2003), p. 1452ff). How beliefs are updated by learning mechanisms and how evaluations are adapted can be modelled in different ways (for discussion of a range of models see Brenner (1999) and Brenner (2006)). A formalized model, however, is beyond the scope of this paper and will be dealt with elsewhere.

Two more important issues to be mentioned in attitude dynamics are stereotyping of attitude objects and polarization of attitudes in the process of recall, both belonging to the relation between beliefs and evaluation (Clore and Schnall (2005), p. 449, 462ff, and Marsh and Wallace (2005), p. 385f). Stereotyping belongs to category-triggered beliefs and evaluation instead of relying on individuated information, whereas polarization leads to increased coherence in expressed beliefs congenial to one’s attitudes. Fluency, i.e., accessibility of stimulus representation and effortless processing, leads to more extreme judgements of any kind, whether positive or negative, affective or not (Clore and Schnall (2005), p. 451f). Manipulation of fluency, however, has an asymmetric effect in that every evaluation becomes more positive, hence also judgements of disliking decrease. This means that with experience (and habituation?), people have the tendency to become more decisive in their attitudes as if they want to have clear-cut pictures of yes and no, good or bad for their behaviour. People tend to avoid ambiguity both in stereotyping and in polarization.

As to persuasion it is assumed that all influence attempts create conflict, either leading to social conformity or individually making sense of the confusing situation. One can observe the tendency to conform to majority views if the informational and normative social influence (consensus heuristic) outweighs own beliefs and evaluations (accuracy motivation) in attitude formation and change (Kruglanski and Stroebe (2005), p. 354ff). In contrast to informational social influence reflecting actual belief change, the normative influence may lead to ‘public lies’ of ‘private truths’ involving cognitive dissonance. Minority views on the other hand can also influence majority. In fact, precisely this type of influence enables social change of various sorts. Minority influence, then, is assumed to be mediated by some validation process in others, this being qualitatively distinct from majority processes of conformity. Concerns for validation result from the minority’s consistency, self-assurance and behavioural persistence, leading to others’ conversion and real change of judgements or opinions. This has consequences for the acceptance and spread of institutions, for instance, implying that for a new rule to disseminate other people really have to be convinced of its value by information and knowledge, whereas at later stages conformity to majority practices is sufficient. Yet this

21 For a more detailed account of influencing factors on attitude change see Niederle (2006b) and Binder and Niederle (2006/forthcoming).
rethinking process instigated by minority influence might cause an indirect shift only, meaning judgement on issues that are assessed in other contexts. This would have implications for the propagation of new institutional rules.

5. Potential Applications

As the reader may ask what the whole exercise might lead to, potential applications of the model are presented now. There are several appropriate examples in the realms of strategic interaction, criteria of justice therein or coercion and attitude adaptation. All these are institutional matters. The striking point to be made is the peculiar impact of emotion on cognition in these matters, meaning the influence of affect on rationality. It seems hard to believe that emotional influence on perception and action has not found its way in substantial explanations of institutional change when considering emotive political debates on justice and welfare that cannot be grounded on rational considerations alone.

Coming back to the three-partite model of action including attitudes, norm compliance and behavioural control, there are two aspects or levels of applying the action function to institutional settings. One is explaining real world phenomena in their own right and especially with taking into account the perceived or rather ‘felt’ situation including other people and control potential. The other is making use of the action function for game theoretic analysis of the strategic interaction comprised in these real world institutional settings.

What is meant by this can be shown in concrete examples of all kinds of institutional reforms, be it concerning welfare in general, insurance, taxes, ecological issues or else. All these reforms involve diverse property rights in the sense of redistribution and reallocation of property and the associated rights. One can think of a handful of salient beliefs $b_1, \ldots, b_n$ usually with $n < 10$ that people hold, more or less accessible, about institutional reform. More concretely, let us think about what people may actually be concerned with, when it is possible to get through quick emotion down to more elaborate modes of thinking. Where property is involved status is at stake as well, which seems to be an overwhelmingly central motive (a human need) for action. Hence, status relevant beliefs will certainly play a role for reform. Among other aspects of belief formation efficacy and efficiency (cost-benefit relevance), legality and capability of obtaining majority (control relevance), justice and fairness (value relevance), security (need relevance) may be salient. There are also but a handful of salient norms accruing from family, friends and peers, other role models such as teachers, prominent persons in the media or people of similar social strata. The critical point is, however, that no inference can be made as to a correlation between social distance and personal relevance of the subjectively perceived norms. This depends on the individual orientation. Indeed, one cannot say that norms conveyed by the media have less relevance than family norms today. There is also a considerable direct influence from institutions on attitudes through mere exposure and cognitive dissonance accruing from coercion (Niederle (2006a)). As argued before, weak/strong dissonance gives rise to adaptation of attitudes/behaviour. On the other hand there are strong direct influences from human endowment (human needs, capabilities and social instincts) on what institutions are possible and viable (Niederle (2006b)). From this point of view it would be interesting to test under what (emotional) conditions one or two salient beliefs on the one hand or one or two salient norms on the other overrule all other considerations.

In light of the social psychologically inspired model of action some observations in economics become obvious results that fall into place within the broader framework of institutional change on the formal legal and the informal level of social norms. I use three
examples to illustrate this point. The first concerns fairness and dissonance in bargaining for rules, the second status, dissonance and work effort and the third biological bases of preferences and human behaviour.

In the first example, in the context of bargaining for rules, e.g., in legal proceedings, government regulatory and taxation policies, Konow (2000) holds that fairness arguments are used. Cognitive dissonance, then, arises from claiming too much measured against one’s own standards, i.e., conflicting desires produce this state of unpleasant tension. In social psychological terms, attitudes stay against behaviour or attitude element $b_{11} e_1$ against $b_{12} e_2$. When tension is reduced not by adapting (unfair) behaviour but by adapting fairness led attitudes toward the behaviour this leads to self-deception in the extreme. This interpretation differs slightly from Konow (2000), p. 1073, where fairness considerations are not integral part of an overall action function combining individual interest and social interest. Instead, the utility function is stretched once more to cover individual fairness sensitivity (dissonance) and self-serving rationalization (self-deception) beside the usual term of ‘material utility’ (self-interest). Hence, if the problem of dissonance were framed as part of the action function presented here, conflicting desires for both self-interest and fairness in the outcomes can be reframed either as countervailing beliefs and evaluations concerning own shares versus others’ shares within overall attitudes or as countervailing attitudes versus subjective norms. No ad hoc further extension of the function would be necessary in different contexts. The application to the dictator game in Konow (2000), p. 1077, which is no real bargaining situation, leads to the following differentiation of four cases of dictators, being fair, selfish, self-deceptive or complex (a combination of two and three). These are, however, rather technical assertions devoid of the social psychological support given to the action function in section 3. For example, the weight given to the self-serving or ‘egocentric bias’ in contrast to a ‘generosity bias’ found in other experiments seems overrated (cf. Konow (2000), p. 1087). Taking into account anthropological literature, one would find a correlation between generous meat sharing, usually leaving less for the successful hunter than his entitlement, and reproductive success in hunter-gatherer societies (cf. e.g. Robson (2001), p. 23f). Hence, taking into account ‘success’ types of people outside the laboratory, would be helpful to interpret some of the findings in experiments. Another puzzle mentioned in Konow (2000), p. 1089, the impact of ‘social distance’, as “perceived proximity to or isolation from social interaction” (p. 1089), on experimental outcomes, could be solved in the same way using the action function presented here. It would simply mean to dig deeper into the structure of belief formation and evaluation, the bases of people’s inclination to follow norms, and of certain limits to (self-)control.

As noted in Konow (2000), p. 1089 (fn. 17), the question as to why (un-)fairness causes dissonance is not answered yet. If a person has a certain attitude toward an outcome, even if it is considered unfair in the eyes of others, (s)he may not bother because of strong self-identity as compared to social identity. Usually, unfairness causes more displeasure and anger on one’s own behalf than when it is experienced by others, which is the self-serving bias. The point is that it may indeed be culturally and even personally idiosyncratic what is felt to be unfair. However, fairness notions as such are universal to all people and (emotional) reactions to them are particularly hardwired. Thus, specifically the conflict between self-interest and fairness considerations may be integrated more naturally in the action function proposed here.

Similarly, in the second example, Oxoby (2004) and (2003) treats status concerns and cognitive dissonance thereof in the usual utility framework, applying it to endogenous class formation. Although attitudes and beliefs are used in this context, the mechanisms remain unclear of how “individuals’ attitudes regarding social status are shaped by their relative social positions in the economy” (Oxoby (2003), p. 366). There are several reservations
concerning the use of the utility function with potential remedies available in the action function. First, the framing within marginal utility does not allow answers as to what is potentially deemed status worthy in the first place; there might be ‘natural’ limits for socio-biological reasons. Be that as it may, recurrence on the individual perception of self-esteem versus social esteem, i.e. status, causing dissonance, immediately lends itself to integration into the action function in the way that status (as a social need) is an important source of beliefs about attributes of an attitude object. This is within the attitude term as mentioned earlier. The subjective norm term may also be involved here, when what seems to be ‘the norm’ in a social environment is strongly considered. This again is an expression of own identity versus social identity. Second, the framing of dissonance reduction in terms of either modifying status seeking efforts or preferences as attitudes is straightforward (Oxoby (2003), p. 366). But the framing within a “status game” displaying an ‘accelerating effect’ of positional consumption as well as a ‘discouragement effect’ of abandoning status seeking in the form done before does not really produce the bifurcation level of dissonance where the cases of behavioural versus attitudinal adaptation can be differentiated. Third, the assumptions of a continuum of agents with identical utility functions over consumption and effort seem oversimplified, and social status is integrated only in the form of relative consumption levels and not other forms, which are also prevalent in reality. Examples mentioned before may be generosity or manners and education. All seems to hinge on the ‘taste parameter’ measuring the weight assigned to status from relative consumption relative to absolute consumption. Referring back to Stigler and Becker (1977) individuals incur the cost of altering their stock of ‘psychological capital’, in the sense of altering attitudes toward status, to maximize utility. Strangely enough, and contrary to contemporary social psychology, “an agent may find dissonance reduction by way of attitude modification too costly” (Oxoby (2003), p. 371). Usually, behavioural adaptation is found to be more strenuous when having been coerced to it somehow before (Olson and Stone (2005)). Fourth, the whole long and complicated maximization issue cannot be what humans actually go through aspiring to a certain outcome, and psychological differentiation of the ‘underclass’ from those living in poverty does not seem warranted in light of the preceding theoretical model.

Last but not least, in the third example Robson (2001) and (2002) analyses the (socio-)biological foundations of attitudes toward risk, hedonic adaptation, time preference and status thinking, all being discussed in terms of adaptive rationality based on maximizing hedonic utility. He uses a very cautious account of preference bases in his analysis of biological bases of human economic behaviour and their discussion in light of utility theory. The point of view taken in the present paper is slightly more radical in that it abandons the concept of ‘utility’ entirely for the straight forward affective dimension of sensation, being pleasure and pain and the causes of it being liked or disliked. The present action function, too, incorporates beliefs, preferences as affective evaluations and also a substitute of procedural rationality in its summation form that are all discussed but not wholly integrated in Robson (2002) and (2001). The human concern for status that is addressed could be integrated in the way proposed before. What Robson (2001), p. 30, proposes as ‘levels of intentionality’ in his perspective of evolutionary bases of economic behaviour can be made compatible with social psychological findings in the intention part $z = g(a,s,c_p)$ of the action function.

In summary, if put to the test the three-partite model of action allows taking into account: i) identity (the tension between own attitudes and social norms), ii) personal traits (in evaluation, motivation to comply, perceived and actual behavioural control), iii) affective cues (in all elements of intention), iv) motivation (beliefs and affective evaluation), v) aspiration (sum total at which behaviour is taken) and vi) systematic distortion of perception
(by looking at background factors). This can be done in a population perspective in which frequencies of expected behaviour and sub-groups matter. Predicting institutional outcomes from these details should be more accurate than relying on cognition centred expert descriptions of strategic situations in institutional analysis (see Ostrom (2005), ch. 4).

6. Conclusion

The paper has contributed to a new and more realistic behavioural model in the (evolutionary) economics of institutional change. It is based more firmly on cognitive and social psychological, socio-biological as well as anthropological findings. Starting with an account of how institutional theory has tried to incorporate perception and preference content into institutional explanations as well as it has tried to extend the utility function, the paper has also matched the utility function in the Stigler and Becker (1977) style with empirically based theory from social psychology.

A formal three-partite action function has been put forward which rests on a social psychological model of intention and behaviour that has been advocated by Ajzen and Fishbein (2005) and others. Several aspects of the three terms of attitudes, subjective norms and perceived as well as actual behavioural control were discussed. The tension between cognition and emotion in the formation of beliefs and evaluations within attitudes has been addressed as well as the tension between attitudes versus norms. Critical points of behavioural control in intention formation were analysed and the influence of human motivation and background factors. Some dynamics of attitude formation and change at different levels, i.e. reinforcement plus more elaborate cognitive mechanisms, have also been depicted.

Within potential applications to institutional reform six human characteristics have been discerned that the model of the action function is able to deal with in order to come to more realistic explanations of real world institutional phenomena. These characteristics are identity, motivation, aspiration, perceptive distortions, affective cues and personal traits from genetic dispositions together with specific cultural socialization. The great advantage of the proposed form of an action function is that it is an economically unbiased model that can cope with aspiration levels, the individual-social tension, the “sour grapes phenomenon” of perceived control, and the middle layer of intention before decision. More work has to be done on this, however.

Specifically for game theory, testing and controlling for personality traits in experimental settings would be much more relevant than has been accounted for so far. Typifying people in a strategic situation, then, seems an obvious procedure by individual actors. Bayesian updating of these strategic beliefs concerning types, however, seems an odd procedure for human beings, since economic interaction involves abstract, complex, long-term trade-offs (Camerer, Loewenstein and Prelec (2005), p. 55). Here, the influence of affect on choices is much more prominent than has been acknowledged so far. Affect influence is a very general kind of state-dependence, where the affective state is influenced by external cues and also by internal deliberation and restraint. In game theoretic terms, for example, reward structures are only incentive compatible if measured against motives and if they reflect the perceived ‘seriousness’ of the situation and decision, all this being related to certain affective cues. Likewise, attitudes toward risk reflect current affect of future expectations and should be taken into account more on that basis.

Several lessons can be drawn for institutional design from incorporating social psychological models of action into economics. One lesson is realizing that man is indeed a social animal and that subjective norms seem to be a much stronger influence on behaviour
than is usually included in a utility function. Another lesson is the central role of affect in all thinking and acting. Since the action function relies on certain (individual) aspiration levels rather than utility maximization for generating behaviour it is much more realistic. Whether the three-partite model of action can indeed achieve this goal of being more precise and realistic combined with formal rigour remains to be proven in further research. In line with Muramatsu and Hanoch (2005), p. 216, this paper contends that one cannot know about tractability and parsimony in the generation of behavioural decision or action models without trying them out.

REFERENCES


Binder, Martin and Niederle, Uta-Maria (2006), 'Institutions as Determinants of Preference Change - A One Way Relation?', in Wolfram Elsner and Hardy Hanappi (eds.) Advances


