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**Institutions as Determinants of Preference Change
– A One Way Relation?**

by

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Institutions as Determinants of Preference Change – A One Way Relation?

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Abstract:

In recent economic literature, there has been an increasing interest in modelling preferences as endogenous. Some arguments go along the lines that institutions shape preferences. This paper suggests that adopting a more substantive concept of preferences furthers our understanding of how they systematically shape institutions. We integrate social-psychological concepts and combine them with an account of learning. Thus, a model of the dynamic interrelation between preferences and institutions can be developed. While institutional change can certainly be partly explained in terms of changing incentives, we offer an approach that goes beyond the standard explanation.

Keywords: endogenous preferences, institutional change, learning, attitudes, wants, social instincts

JEL classifications: O 12, D 79, Z 00

1. Introduction

During the recent decades, there has been a growing interest of economists in relaxing some of the assumptions of neoclassical economic reasoning. One assumption, which has been discussed prominently, is that of static, exogenously given preferences. In the case of institutional economics, endogenizing preferences has been most prominently worked out by Bowles (1998, 2004). To our understanding, these attempts reflect economists' growing explanatory reservations concerning the standard assumptions on preferences (non-satiability, convexity, transitivity, etc.), economic decision making (assumption of perfect rationality, perfect information), and the optimization/maximization calculus.¹

In our paper, we follow a naturalistic approach and analyze changing preferences in a more "consilient" way (cf. Wilson 1998), i.e. concepts and explanations in the social sciences – economics being one of them – should in any case be compatible with findings in the natural sciences on more fundamental levels. Following Witt (1987, 1991, 1999), who has introduced this "naturalistic perspective", we feel that economists can learn a lot from other social sciences. Having more material conjectures and hypotheses about the content of preferences and the way they are formed and change *systematically* over time will improve economic reasoning on dynamic, long-term phenomena, such as new consumer markets or emerging institutions. Socio-biology and especially social psychology seem to be promising fields to gain insights from whence to try to establish a more substantive view of preferences. In particular, we want to focus on how an account of preference change could benefit our understanding of institutional change. Drawing on Bowles (1998) on how institutions affect preferences (cf. also Frey 2005) we want to present a conceptual framework in which this relationship is bi-directional.

The paper proceeds as follows: Section two gives an account of the "substantive" physiological and psychological underpinnings of preferences generally observed in situations of choice. In section three we turn to examine how learning affects these preference bases over time. The insights gained from this conceptual framework are then related to the dynamics of institutional change in section four. Section five concludes.

2. Substantive Preferences

Standard economic theorizing focuses on a very narrow picture of an individual's preferences. To fruitfully apply the mathematical calculus of constrained maximization in utility theory, several formal requirements for preferences are necessary (cf. Warke 2000, Witt 2005). Standard subjective preference orderings thus rely on several formal axioms (such as completeness, transitivity, etc.) which are *ad hoc* and do not conform to real-world situations. According to Witt (2001, p. 24), a theory of substantive preferences, on the contrary, wants to address several issues which are *expressis verbis* excluded from orthodox preference theory (in the clause of "given tastes and preferences"), namely such questions as: what is the content of our preferences (do we universally share some preferences across individuals), how do we

come to our preferences (are they innate, or learnt) and if preferences change, is there a systematic way to describe their change.

The present paper distinguishes between the well-known “revealed” preferences in a given situation, dealt with in economic decision theory, and a more “substantive” version of preferences that is more long-term oriented. Substantive preferences are grounded on physiological and psychological wants of the individual (cf. Witt 2001, pp. 25-7), on “social instincts” in the case of social interaction, as well as on attitudes (cf. Niederle 2006, pp. 81-3).

We argue that these three elements, namely wants and social instincts (as motives for behaviour), and attitudes (as beliefs and evaluation of outcomes), comprise the most important influencing factors of an individual’s preferences. While wants and social instincts belong to the more stable part of our preference basis, attitudes are more easily changeable but less persistent in their effect on our preferences. The three concepts will now be discussed in turn.

2.1. Wants

There have been already different attempts in economics at elaborating a theory of wants² (e.g. Menger 1950[1871] or Georgescu-Roegen 1954). However, those attempts often suffer from the *ad hoc* fashion in which wants (or hierarchies thereof) are introduced. We will rely therefore on Witt’s (2001) theory of wants, which draws on Menger’s theory but provides it with a behavioural foundation.

Witt (2001) defines a want as a behavioural disposition that arises out of a state of deprivation of the organism (e.g. hunger, thirst, the need for air, sociability, etc.). Our urge to satisfy a want motivates our actions, hence the use of the term “motive” in psychological literature (Reiss 2000b, Ch. 1). The satisfaction of a want gives an individual a pleasant sensory experience while deprivation is a (more or less) painful experience.

A key feature of all wants is that consumption of certain goods leads to their satiation for a certain period of time, during which excessive consumption would even lead to unpleasant sensory experiences. A prominent example is food, where after having eaten a certain amount, hunger is satiated, and “overconsumption” makes the individual feel worse off. But also in the case of cognitive and social needs, e.g. socializing with others, satiation takes place. Satiation in all these cases is, however, temporary so that after a period of time, deprivation occurs again.

Witt (2001) classifies wants on the one hand as *innate* and on the other hand as *acquired* or *learnt*. He claims that there exists a finite (and possibly very small) set of innate wants, which are physiologically determined (such as those mentioned above³; cf. also for example Millenson 1967, p. 368; see also Maslow 1987[1954] and Reiss 2000). These innate wants can be seen as synonymous to “needs” as used in psychology. Innate wants are a stable component of substantive preferences and are not subject to change.

The category of learnt or acquired wants is possibly the more important one for economic and behavioural analysis. Witt’s conjecture is that acquired wants are neither few nor finite in number. The argument in this case is based on innate learning dispositions which are common to all humans and which allow for the growth of very refined wants. Acquired wants can change over time. We will discuss the related learning mechanisms in section three. In any case, learnt wants also have their beginning in innate basic wants.

Now, what do wants have to do with institutions? Nothing directly, one should say, because there is no such thing as an individual want for a specific social institution. But technical progress and organizational developments to better satisfy wants (and combinations thereof) create conditions that necessitate new arrangements of coordination, hence new rules and institutions. Here, wants influence institutions latently via social needs like status contributing to the formation and diffusion or disapproval of rules. This connection, however, remains indirect and is more mediating in character.

The concrete means to satisfy wants are subject to attitude formation, but before elaborating this relation let us turn to social instincts as the invariant source of preference formation in social interaction.

2.2. Social Instincts

A second important influence on our preferences are social instincts.⁴ There seem to be clear biological underpinnings of behavioural expectations in social interaction, like a sense of reciprocity and fairness in cooperation (cf. Jones 2001, p. 1182).⁵ Such biological underpinnings of behaviour are adaptive in the sense that they have responded to and have enhanced survival and reproductive chances in a selective environment - for the individual herself and in the social group. In this way “evolutionary processes inevitably and importantly contribute to the *common origins* and ordering of some preferences” (Jones 2001, p. 1166, *emphasis added*). In this sense, people are no *tabula rasa*.

In the social context one might speak of social instincts as innate impulses to act. These social instincts, in the end, support the satisfaction of individual (basic) wants. For example, cooperating and reciprocating for gaining food ultimately serves satisfying not only bodily needs but also, by acting and being treated cooperatively, even serves social-psychological wants like social integrity.

A list of such instincts in social (or strategic) interaction should at least comprise the following five elements: reciprocity (in cooperation and retaliation)⁶, conformity⁷, commitment and loyalty,⁸ readiness to help others⁹ like giving and sharing, and possessiveness¹⁰. Since it is a tentative compilation, this list does not claim completeness. Single elements given in the list, however, are discussed in diverse contexts of social interaction in socio-biology and evolutionary psychology (for an exhaustive discussion of those social instincts, cf. Niederle 2006).

In the present context of tracing the influence of preferences on institutions (and *vice versa*) we will draw on social instincts as direct influencing factors. Instinctive behavioural impulses have to be controlled and channelled as well as supported by institutional arrangements for a small group as well as a great society to function. Otherwise no complex organization as has been observed all along human history would be possible. Nevertheless, concrete institutional rules are supported or refused on the basis of attitudes, which are examined in the next section.

2.3. Attitudes

In contrast to social instincts and basic wants, as rather unchanging substance of preferences, the more variable bases of preferences relate to changeable attitudes. Attitudes are “learned predispositions to respond in a consistently favorable or unfavorable manner with respect to a given object” (Fishbein / Ajzen 1975, p. 6, *emphasis omitted*). In other words, attitudes represent a person’s general feeling of

favourableness or unfavourableness toward some stimulus object¹¹, which can also consist of a means-end-relationship. As a person forms beliefs about such an object, she automatically and simultaneously acquires an attitude toward that object. The relation is such that each belief links the object to some attribute, and the person's attitude toward the object is a function of her evaluations of these attributes (Fishbein / Ajzen 1975, p. 216). Since attitudes are learnt, they are mouldable. They change with experience of the stimulus objects, i.e. they change with the experience of goods and services and with social rules or institutions. The evaluative part of 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. 1999, p. 206).

Attitude formation is also a function of the beliefs, i.e. subjective probability judgements about an object's or event's attributes or relation to other objects or events (cf. Albarracín et al. 2005, p. 3, and Fishbein / Ajzen 1975, p. 131). Briefly, the scheme is as follows:

[F]rom direct observation, other sources of information, and inference, a person forms beliefs about the attributes of an object. Beliefs are thus statements about whether or not, or in what ways, the object possesses certain attributes. Attributes are evaluated independently in terms of their "favourableness" or "unfavourableness". Both beliefs and evaluations are taken to be exogeneously [sic!] and independently determined. The person's attitude toward an object then depends on his beliefs about the attributes of that object together with his evaluations of those attributes. Attitudes, in turn, generate intentions, and intentions determine behaviour. (Katzner 1989, p. 136)

In the course of a person's life, her experiences lead to the formation of many different beliefs about various objects, actions, and events. These beliefs may result from direct observation or from inference processes as forms of social cognitive learning. Some beliefs may persist over time, others are less stable, and new beliefs may be formed. This is due to a growing body of experiences and knowledge accumulation.

Change of both positive and evaluative components of attitudes, namely beliefs and evaluations, depends upon (expected) experience of pleasure and pain from the stimulus objects. This experience is connected to primary reinforcers. As such, attitudes are underlying the same learning mechanisms as learnt wants (see below).

To sum up, social instincts and basic wants can account for invariants in institutional arrangements, whereas mechanisms of attitude change and the changing acquired wants may help to predict the variants. However, the mechanisms described above make it more ambiguous to predict social behaviour from attitudes than from social instincts, since the latter are more immediate, and even behavioural responses (to stimuli), whereas attitudes are valuations of mental representations with no immediate impulse to act. How social instincts, wants, and attitudes are moulded is discussed in the next section.

3. Learning What We Like

After having elaborated the three pillars of substantive preferences, namely individual wants, social instincts, and attitudes, we will now examine the mechanisms affecting the formation and change of them. We argue that innate behavioural learning mechanisms can be identified as the necessary “transition laws” (Witt 1996, p. 712) to account for the systematic change of preferences. Learning mechanisms are part of the human genetic inheritance, and while the objects of learning may vary, the processes of learning are quite stable.¹²

“Learning” characterizes the procedures and mechanisms via which animals and human beings acquire, retain and modify modes of behaviour. These mechanisms mostly elude direct observation and thus are hypothetical entities to explain observed phenomena. We can broadly distinguish between two kinds of learning, viz. cognitive (social) learning and non- (or sub-) cognitive reinforcement learning. We will see, however, that this distinction is only a conceptual aid, as for humans, reinforcement learning is partly also cognitively mediated (Bandura 1977, p. 38). While, on the one hand, primary reinforcers (e.g. pleasant experiences, pain, aggression) are genetically programmed and species-specific, and thus serve as a “guide to learning” (Pulliam / Dunford 1980, p. 25)¹³, learning mechanisms, on the other hand, allow for a wide variety of behaviours to emerge and to get associated with primary reinforcers. Especially in humans, our cognitive abilities seem to allow for wide ranges of learnt behaviours (which can, in the case of social learning, be even transmitted across generations). Both forms of learning will be discussed in more detail in the next subsections.

3.1 Classical and Operant Conditioning

Classical and operant conditioning both are classic and well-researched forms of sub-cognitive learning. Both forms have been intensively studied with animals and (to a certain degree) humans as well. Classical conditioning was discovered and studied by Ivan Pavlov in his famous experiments with dogs (Hilgard / Bower 1966, p. 48). Generally speaking, classical conditioning refers to involuntary behaviour that occurs whenever a certain stimulus induces a predetermined unconditioned response or reflex (UR). When such an unconditioned stimulus (US) is sufficiently often coupled with another stimulus (i.e. another stimulus precedes or coincides with the US), the new stimulus becomes a conditioned stimulus (CS), which elicits the same response as the US. This response is then called a conditioned reflex (CR). This form of conditioning works largely sub-cognitively and allows for previously neutral stimuli to become either conditioned as appetitive (positive relation, e.g. when a certain stimulus is associated with a rewarding experience) or aversive (negative relation, e.g. when a certain stimulus is associated with punishment). It only works when US and CS are temporally related (principle of contiguity, cf. Anderson 1995, pp. 56-8). The association of the CS with an US depends on the intensity of the stimuli and the number of repetitions in which CS and US are paired. If CS and US are decoupled after a while, “extinction” (or “unlearning”) begins and the CR does not occur anymore.¹⁴

It has to be noted that in the case of classical conditioning, there are some characteristics, which severely limit its scope: Unconditioned responses are part of our innate behaviour and not subject to change. Consider for example the increase of

our pulse in the case of pain or the reflex that closes the eyelids when something comes near our eyes. Such reactions are usually not subject to our control and such responses occur automatically (Franke / Kühlmann 1990, p. 122). Furthermore, in classical conditioning, no new modes of behaviour are learnt since innate responses are (merely) associated with different stimuli. Classical conditioning can thus not explain how humans acquire complex forms of behaviour. Although it is quite possible to associate chains of conditioned stimuli with an unconditioned stimulus, this does only partially work with very intensive unconditioned responses such as avoidance of pain. Classical conditioning has nonetheless been shown to be useful in advertising, where stimuli from such areas as eroticism or recreation (etc.) are associated with the products to be advertised (a classical example would be a girl in a bikini praising a brand of beer at the beach, cf. e.g. Kroeber-Riel 1992, pp. 124-35, Gorn 1982, Stuart et al. 1987, Shimp et al. 1991).

Similar to classical conditioning is operant conditioning (operant reinforcement), which is closely related with the work of B.F. Skinner (1953)¹⁵. Contrary to classical conditioning, which requires stimulus-linked behaviour in the first place, operant conditioning starts with a behavioural response. If such behaviour is followed by a rewarding experience (a stimulus), an individual learns to adjust her behaviour such that the shown response is more likely to occur in the future (this reversal was called the “law of effect” by Thorndike, cf. Anderson 1995, p. 15). The valuation of a sensory experience thus determines the probability of repetition of that response. The difference between classical conditioning (which is called respondent behaviour in Skinner’s terminology) and operant conditioning is that the former is a form of passive reaction while the latter is behaviour for which no conditioned or unconditioned stimulus is observable beforehand. Operant conditioning allows human beings to learn behaviour leading to certain behavioural consequences. This is the reason why it is also called ‘instrumental conditioning’. As for classical conditioning, operant learning requires a temporal vicinity of behaviour and its consequences (‘contingency’). Events that follow operant behaviour and increase the probability of its future repetition are called reinforcers (cf. Skinner 1953, pp. 72-5). There is a difference between ‘positive reinforcers’, such as food, whose presence increases future operant behaviour and ‘negative reinforcers’ (punishments such as electric shocks), which increase future operant behaviour when removed. It is also important to distinguish two classes of reinforcers, namely primary and secondary reinforcers. Primary reinforcers are generally reinforcing (this is often species-specific), such as food. Their reinforcing character wants not be learnt (or is genetically programmed in species). Secondary (conditioned) reinforcers acquire their reinforcing power via their association with another primary or some strong other secondary reinforcer (e.g. money, grades). Note, that in classical and operant conditioning, no assumptions about inner human processes are made (“black box models”).

While Skinner does not do so, reinforcers can be related to human wants: It can be argued that only these things are (positively) reinforcing that tend to satisfy human wants (cf. e.g. Hull 1943, Witt 2001). Since there is sufficient genetic variance in the weights individuals attach to the satisfaction of different wants (this is not so for the more physiological wants such as the need for air, warmth etc.), this accounts for the differences that are experienced in experiments about what is reinforcing for the individual (e.g. for some people, grades or status are more reinforcing than money, for others not).

Reinforcement learning has been shown to be effective in companies, e.g. for improving punctuality and other aspects of work (cf. Hamner / Hamner 1976 for a survey). However, due to the complexity of the business environment, it clearly has its limits. Another instance of operant conditioning would be the business practice of trial subscriptions where customers ideally learn to like the product due to its reinforcing characteristics (cf. Franke / Kühlmann 1990, p. 140). Another – institutional- example would clearly be ostracism and other sanctions for deviation from social rules, or some governmental campaigns to reward and reinforce courageous behaviour.

Some reinforcing processes clearly are not conscious to the individual, but often operant conditioning does depend on cognitive processes as well, e.g. concerning the attention processes: what we tend to notice can be experienced as reinforcing. The same is the true when learning depends on the individual's knowledge of means-ends-relationships. Thus, classifying operant conditioning as a form of sub-(non-)cognitive learning is somewhat problematic and should be seen as a conceptual aid inasmuch as it highlights the relative unimportance of (highly) cognitive activities in this form of learning compared to social learning. This will be discussed in the next subsection.

3.2 Cognitive (Social) Learning

It has become clear that new and complex ways of behaviour cannot be explained with the forms of learning discussed so far. For example, children do not learn language via continuous reinforcement by their parents. The same holds true for learning to behave correctly while driving a car. Trial-and-error reinforcement processes would soon reach their limits in such cases (cf. Franke / Kühlmann 1990, p. 141, Zimbardo / Gerrig 1996, p. 337). Psychologists have thus identified another important learning process. This process has been called social learning (synonymous: imitational learning, vicarious learning, observational learning) and is closely associated with A. Bandura (1977, 1986) who has made important contributions to it. He conjectures that most learning (especially in humans) is achieved in the form of imitational learning. Social learning means that a person learns behaviour by observing (and later on: by imitating) someone else performing that behaviour and being (more or less obviously) reinforced by its consequences. To understand the processes of observational learning, however, some assumptions about the underlying cognitive processes have to be made. This highlights an important difference to classical and operant conditioning, where the learner is seen as a black box and learning is solely interpreted in terms of his or her overt behaviour. Inner processes do not count in such black box models. With imitational learning, (cognitive) psychology opens this black box.

In social learning models, two broad phases of learning have to be distinguished, namely the acquisition phase, where behaviour is observed and learnt, and the performance phase, where such behaviour is exhibited after learning. Imitational learning thus can take place without the learner actually performing the behaviour she has learnt, since the learning takes place in the acquisition phase. This has been shown in empirical experiments (cf. Bandura 1965). While learning in the first place does not depend on actual reinforcement, performing learnt behaviour then does.¹⁶ The consequences of behaviour thus only play a role in the second phase of learning. "Vicarious reinforcement/punishment" (i.e. the reinforcement / punishment of the observed role model) influences the probability of displaying imitative

behaviour later (cf. Bandura 1986, pp. 301-3¹⁷). The more similar the observer is to the role model, the more readily such vicarious learning takes place (cf. also Paulus / Seta 1975).

Observational learning can be criticized for some of its assumptions: Though it has been proven fruitful in experimental research, the focus on internal (unobservable) processes is problematic.¹⁸ The same holds true for a sharp distinction of what processes are exactly engaged in a certain learning situation, since so many different characteristics of the modelled events and the observer can potentially play a role. And, finally, the sequential character of Bandura's model is very contestable and could not be shown to work linearly in experiments (Franke / Kühlmann 1990, p. 146). Nonetheless, imitational learning has been shown to be a very important form of human learning and has been fruitfully employed in "mental training", in business life or in marketing (think of the typical role models shown in commercials, cf. Franke / Kühlmann 1990, p. 148, Kroeber-Riel 1992, pp. 645-60).

We will argue in the following sections that imitational learning plays a crucial role in the formation and change of preferences and attitudes and their relationship to institutions. Before we link the psychological findings to institutions, we will discuss shortly how learning affects the triangle of substantive preferences.

3.3 How Learning Affects Preferences

From the previous sections we can conclude that preferences are shaped in a twofold way:

"We acquire preferences through genetic inheritance and cultural learning." (Bowles 2004, p. 372, see also Bowles 1998, pp. 77-9)

Differentiating the three components of substantive preferences also allows for differentiating between observed behaviour, the underlying motives to act (wants and social instincts) and evaluation of potential alternatives (attitudes). As has been discussed in section two, (basic) wants and social instincts are two innate bases of substantive preferences. Because of their genetic basis, they are more resistant to change than acquired wants and attitudes, which are generally (socially) learnt. Attitudes and acquired wants both are subject to the same processes of change, namely reinforcement and the more cognitive forms of learning.

Before we deal with how they change specifically, a few more words on the attitude-want relation are in order. At the same time that we acquire new wants we form a corresponding attitude toward the stimuli serving as means of satisfaction. Here, attitudes can be interpreted as an evaluative shortcut to learnt schemes of pleasure and pain generating events. In this way they connect some motive to act (a want or a behavioural impulse) to a positive aim, i.e. a means or situation giving pleasure, or to an aversion to avoid pain. These aims or aversions are mostly learnt and can be very specific and diverse across individuals depending on their history of learning, i.e. the presence of certain means of satisfaction when a motive is actually activated. People learn what to like and what to avoid through reinforcement on the described primary and secondary level. But this reflexive way is only valid to a certain extent. People are also capable of reflecting their wishes and expectations, and hence do change their likings or attitudes via more reflective cognitive mechanisms as will be seen. For example, people can refrain from impulse purchases¹⁹, and they

ponder on whom to vote for in elections, representing the course that institutions are going to take.

In the case of acquired wants, human beings are motivated to satisfy them because satisfaction produces pleasant sensory experiences. In essence, all goods, services, and interactions, serving to satisfy wants, can be primarily reinforcing. Also former neutral or unknown stimuli can become (secondary) reinforcers, when they are experienced with primary ones.²⁰ If certain behaviour is thus reinforced, new wants can emerge or existing wants can change. In other words: Reinforcement processes are at work as a basic learning mechanism. During an individual's lifetime, she acquires a plethora of associations between formerly neutral stimuli and primary reinforcers. In this way, multiple wants may emerge which give learned pleasurable sensory experiences to an individual. Consider for example how we may learn to associate pleasure with good grades, an accepted publication or other awards that increase one's status. The same holds true when we learn to enjoy rule conformity via the positive encouragement (reinforcement) of our relevant peer group. This can work the other way round as well, when we experience negative sanctioning during socialization for the deviation from norms and social rules. The same is true for change of both positive and evaluative components of attitudes, namely beliefs and evaluations. They, too, depend upon (expected) experience of pleasure and pain from the stimulus objects. This experience is also connected to primary reinforcers:

"Primary reinforcers imply genetically programmed neural pathways that classify some sensations as pleasant and others as unpleasant. In this sense the primary reinforcers correspond to [...] "innate, built-in values". Specific primary reinforcers arouse sensations that humans call feelings or emotions. [...] Emotions and the reinforcers that evoke them are indicators of comfort and, as such, are bases for evaluating experiences. (Pulliam / Dunford 1980, pp. 25-6)

Hence, because of reinforcement "attitudes may unwittingly be coloured by the context in which an object has been experienced" (Stroebe / Jonas 1996, p. 244). Furthermore,

"the plasticity of people's memories may turn unexpected consequences into conscious aims, and the malleability of their preferences may make formations they once feared or opposed desirable after the fact" (Kuran 1991, p. 269).

This mechanism helps to reduce cognitive dissonance, or regret. Mere exposure to the same - novel - stimuli effects a (positive) change in attitudes, whereas exposure to familiar stimuli does not have such an effect (Fishbein / Ajzen 1975, pp. 281-3).²¹ Thus, the same object may evoke different valuations depending on its description or framing and on the context in which it is evaluated (Kahneman et al. 1999, p. 206).

It becomes clear that such learned associations as discussed above do have some interesting features: First, they are based on a few innate motives that seem to be common to all humankind. But, as learning histories differ from culture to culture and even from individual to individual, their concrete specification can take many different forms. This means that the objects of encouragement are a matter of the social group we belong to. Secondly, acquired wants themselves shape the attention processes guiding our learning so that we may expect path-dependence in learning histories. Once one has acquired a want for award-specific status, the person will be more open and susceptible to information pertaining to such status enhancement thus

refining ever more this acquired want. But also in the opposite direction, our (often random) shifts in attention may well lead to the acquisition of new wants that are then reinforced.

As for social learning, for example, when we see that behaving such and such is associated with status and success, we imitate that behaviour if we consider the modelling person a role model. This can happen very consciously but also unbeknownst to the imitator. Such observational learning does play a vital role in the acquisition of new wants. The formation and change of attitudes in the sense discussed above is also something inherently social. To stress the social components in attitude change, the role of social interaction in learning mechanisms has to be re-emphasized. The process of attitude formation starts early in childhood with the acquisition of language and the identification of meaning and continues during lifetime with communication and socializing with others. The more frequent and intense the interactions between agents are, the more likely it is that tacit, socially shared commonalities emerge in their subjective interpretations and valuations (Bandura 1986, Ch. 2 and 4).

What we want to show now is how this triangle of substantive preferences changes in relation to social institutions.

4. A Model of Co-evolutionary Preferential and Institutional Change

In the preceding sections we have introduced the necessary elements allowing us to show how institutional change depends systematically on a change in preferences. We now would like to exemplify how the different elements of substantive preferences influence the dynamics of institutional evolution.

In his seminal paper, Bowles (1998) has examined how several effects of institutions determine preferences. He has identified five effects of how institutions influence values and motivations (*ibid.*, pp. 76-7), namely via framing (the framing of institutions influences preferences), extrinsic and intrinsic motivation (the nature of market rewards can induce preference changes), evolution of norms (institutions shape social interaction and thus influence preferences), task performance effects (institutions structure the task of everyday life and thus influence individuals' values) and effects on the process of cultural transmission (cultural learning processes are influenced by institutions and thus transmitted values are affected). It is evident that this one-way relationship is incomplete and can be complemented with a causal relationship in the other direction, once the black box of human preferences is opened.²² For example, Bowles (2004, part III) introduced a simulated agent-based model of multi-level selection for the early co-evolution of pro-social predispositions and institutions of resource sharing and segmentation. To begin with, in our understanding of the issue we fully agree with his view on institutions:

“Institutions [...] are the laws, informal rules, and conventions that give a durable structure to social interactions among the members of a population. Conformity to the behaviors prescribed by institutions may be secured by a combination of centrally deployed coercion (laws), social sanction (informal rules), and mutual expectations (conventions) that make conformity a best response for virtually all members of the relevant group. Institutions influence who meets whom, to do what tasks, with what

possible courses of action, and with what consequences of actions jointly taken.” (Bowles 2004, pp. 47-8, emphasis in original removed)

We want to follow this lead and focus on how the learning mechanisms for preferences affect the change of institutions. The difference to Bowles’ approach is that, for one thing, we interpret “co-evolution” more loosely as the interrelation between preferential and institutional change in our times, and, for the other, we focus on Witt’s (2001) naturalistic learning approach and not on a formal *a priori* account of this evolution.²³ In the following we would like to shed light on the interplay of motives (wants and social instincts) and attitudes (1, 2), attitudes and institutions (3) and the possibly direct connection between motives and institutions (4). This is a complicated interplay that is not yet well understood, but in our model we show how these relationships may change the elements interdependently and what role learning plays therein. We would like to give special attention to status and conformity as well as possessive behaviour in the example of changing institutions of the welfare state (especially unemployment and retirement).²⁴

(1) How Motives Shape Attitudes

We have seen in section two that motives are a strong pillar of substantive preferences. Whether they be divided into (basic) wants or social instincts in the isolated case is of no importance here, since the striving for status, the need for conformity, or security can equally be termed status defence, conformism, or possessive behaviour to use the more behavioural terms of instinctive impulse. In the present context it seems better to speak of a motive to act for both social instincts and wants than to try and analyse them separately, notwithstanding the differences mentioned in section two.

Humans possess more or less innate motives. We argue that they form the most basal and most stable influencing pillar of substantive preferences concerning institutions. Humans’ social instincts and basic needs are genetically coded and those parts, which can be learnt, are acquired during infancy, where at early developmental stages, the specifications of rule related preferences such as reciprocity, fairness, or helping (‘altruism’) are learnt. At later ages, we possess quite stable ideas about what we consider to be fair or not (the same is true for the other social instincts mentioned above). The same holds for basic inborn wants that might combine but do not change dramatically over time as has been argued above.

These motives mostly unconsciously influence our attitudes towards our environment and towards institutions in particular. As such, their influence on attitudes is much stronger than vice versa. Consider, for example, how the motive to gain or keep social status and possessions can influence an individual’s attitudes toward institutional rules concerning retirement regulation and pension payments. Assume a rule to freeze pensions for the next few years and to prolong working times within a lifetime. Although there are, of course, the usual economic reservations against such financial losses resentment might be greater than rationally justifiable. This may be due to basic motives of status and possessiveness. On a basic level, when an individual with a relatively strong quest for social status perceives that it is a sign thereof to see one’s income rise with those of others, his or her attitude toward freezing pensions will be negative. Note that this effect differs from the perception of commutative fairness of earning what one deserves in that rising pensions do not compensate work performance and hence achievement in this respect is not touched.

There is also a strong drive to try and keep and value more what one possesses. This effect of an innate motive of security is expressed in prospect theory. This has implications for how one assesses welfare reforms that seemingly cut back one's standard of living. It becomes clear that an individual's (genetically programmed) endowment is reflected in her attitudes towards rules (and other issues) that affect the satisfaction of her personal structure of motives.

(2) How Attitudes Influence Motives

Following from the argument above, attitudes cannot really change motives but they may help to qualify and put into perspective their importance. They might do so in the following way. Attitudes as learnt (un-)favourable predispositions towards objects play a role in guiding human attention processes. Those objects in the environment towards which an individual has a strong attitude (be it positive or negative) tend to be noticed much more easily. Thus, when one has a strong, accessible attitude towards an object that tends to reinforce a motive, it is quite possible to alter the motive via having acquired the attitude. This process, however, is not entirely independent of the strength of the basic motive initiating the attitude formation in the first place: Objects that are not related to the satisfaction of relatively intense parts of our motives usually escape our attention.

Generally, it can be possible that through the shaping of attitudes, individuals can exert influence over some of their motives. This, again, is conditional upon the strength of the motive and the weight an individual attaches to it. For example, if someone has an innate tendency to strive fervently for social status, then it will not be easy for that person to acquire attitudes that contain propositions contrary to that motive, e.g., give up increases in income or pension as an expression of status. If, however, status is not too important a motive, one can consciously adopt attitudes towards status and the means to satisfy this motive that demean the importance of the motive still further and thus exert some influence in decreasing the weight of the status-motive, or at least decrease the importance of certain means of satisfaction, like monetary income. This process can be supported by role models strengthening certain motives as opposed to others via imitation of their attitudes. This relation shows how the media could shift attitudes toward support of institutional rules that otherwise seem to attack basic motives of status and possessiveness. Also, a general positive attitude toward reform of the welfare state can make one think over security and status motives in this respect and reassess specific attitudes toward some cutback in pensions or prolonging working time.

(3) The Co-evolution of Attitudes and Institutions

Here we analyse the role of attitudes that translate into institutional change. What we want to answer is the question of how the attitudinal change does influence the variation of old and the acceptance of novel institutional rules.

Attitudes help categorizing incoming information, such as new experiences, along established evaluative dimensions (Stahlberg / Frey 1996). In that way, attitudes help to simplify and categorize, for example, the complex institutions of the welfare state.

When analysing institutional change, two attitudinal effects are at work. The first is changing positive attitudes toward old rules into negative ones. Here, two effects work in opposite directions. Dissatisfaction with the status quo works into the

negative direction of attitude change, while support of the existing status quo through habituation impedes this change of attitude. The second effect for institutional change is generating a positive attitude toward a new rule.

To show the role of the two effects in the process of attitudinal change towards institutional rules, let us consider the example of welfare reform and assume the status quo of the welfare state and some reform cutting back on pensions and prolonging work time. People not being advantaged by the old system, like people who had to privately ensure retirement payments via life insurance, probably hold a neutral to negative attitude toward the old expensive welfare system serving others but not themselves. Now, being dissatisfied with the old situation may trigger a positive attitude toward potential reform. Nevertheless, due to some habituation effect dissatisfied individuals might still value the old security system just for having it experienced in contrast to a reform whose outcome one cannot yet grasp. It is a simple fact that people often adapt their attitudes toward their situation rather than changing that situation to reduce cognitive dissonance springing from behaviour being incoherent with original attitudes (cf. Stroebe / Jonas 1996, *passim*). Hence, there exists some habituation effect of the status quo on attitudes towards the status quo. This connection impedes the change to negative attitudes towards the status quo of rules at the cost of formation of positive attitudes towards new rules. As for the actors being advantaged by the old welfare system, a change of attitudes in the negative direction is only to be expected, when they are outweighed by strong positive attitudes toward reform, which seems a foremost cognitively mediated process. Generally, “attitudes that are changed as a result of considerable mental effort tend to be stronger than those changed with little thought and thus are more persistent, resistant to counterpersuasion, and predictive of behaviour than attitudes that are changed by processes invoking little mental effort in assessing the central merits of the object” (Petty / Wegener 1998, p. 370).

The process of attitudinal change might include an effect of “mere exposure” to new stimuli (Zajonc 1968, 2001), e.g. frequent discussions on welfare reform, supporting the formation of a positive attitude towards the new system beside the obvious positive effect that positive expectations from a new welfare rule have. This is due to the role that reinforcement has to play in the process of attitude formation and change (cf. Stroebe / Jonas 1996). Being exposed to ever the same argument for a new rule (in the right situation) tends to be persuasive in character and may form a positive attitude toward it. In the same manner, discontent with the status quo of existing rules opens up the mind for new rules. Public agents or so-called ‘political entrepreneurs’ in the mass media play a role in this process of attitude change.

The other direction of the co-evolution of attitudes and institutions is quite clear. Once institutions have changed they exert the above-mentioned influence of mere exposure and habituation until forces of changing attitudes toward the existing institutions have become powerful enough again to support institutional change.

(4) The Interrelation of Motives and Institutions

As we have identified social instincts and (basic) wants as the most enduring and mostly unchanging pillar of substantive preferences, we will start with their impact on institutional reform for the example of the welfare state (see also Niederle 2006, pp. 133-9, for a static examination of the unilateral influence of social instincts on institutions in general).

It is our motives that shape the institutional setup of our societies. When we take again the motives for status and possession we can readily infer their powerful impact on welfare institutions. All rules supporting the personal standard of living and furthering social security serve these motives. Conversely, without these deeply ingrained motives no rules would have been created of such extremity like guaranteeing a payment after retirement almost equal to income during work times. Possessiveness and preserving status is also a strong motive for not agreeing to rule change in the direction of lesser payments in the future, even if they were economically necessary. In this way, basic motives shape institutional settings and make other institutions unfeasible in the long run, e.g. replacing familial support entirely for state-subsidies or publicly organizing a minimum support for the disadvantaged. There is no society where there is not a minimum support through family relationships. There is neither society where there is no voluntary help appreciated or propagated through religion (charity), suggesting being deeply ingrained in human nature.

The status motive is an important factor of propagating rules as well, which can also take the form of defecting from former, existing rules. Individuals with high status, e.g. political or religious leaders in stratified societies, have the power to bring new rules on the agenda and promote them.²⁵ In the process of welfare reform, political leaders with high reputation in the public can influence rule support among the voters. Whether new rules do actually disseminate is also determined by other motives, but promotion of rules by high status authorities serves to legitimize rules and furthers acceptance.

On the other hand there exist many social and legal rules as well as sanctions to exert an influence on human motives. There are, for example, specific rules limiting payment in the pension system and balancing the burden, contributing in a way to mitigate excess of possessiveness and income orientated status seeking along. So, our exposure to institutional rules and sanctions is likely to shape our motives (where they are not entirely invariant but mouldable in a limited fashion) since institutions define what motives (and the behaviour resulting from them) are positively reinforced and what motives and behaviours, respectively, are not.

5. Conclusion

In this paper, we have provided a conceptual framework to understand the co-evolution of preferences and institutions. We have used the naturalized concept of substantive preference bases, consisting of three pillars, viz. social instincts, (basic) wants, and attitudes. These concepts were derived from socio-psychological, socio-biological, and anthropological findings. To endogenize preferences, we have examined how innate learning mechanisms lead to a systematic change of the substantive preference bases. Here, it was argued that social instincts along with human wants, both being motives to act, account for the most resistant and difficult to change pillar of substantive preferences. Attitudes toward means of serving the motives were identified as the malleable part of human preference formation. An important contribution of a substantive theory of preference change is that it allows the identification of a meaningful mutual relationship between changing bases of preferences and changing institutions that cannot be given in standard theory where preferences are assumed to be given and where no conjectures regarding their content

and change exist. A co-evolutionary framework of preferential and institutional change has been developed with sketching out the specific interrelations between institutional rules, motives, and attitudes.

From our analysis, some tentative implications for the design of institutions may be derived in exemplary fashion. On the basis of our model, we can make the following five statements: Because of the importance of social learning (positive) role models can vicariously reinforce intended behaviour and thereby promote institutional arrangements. Attention processes must be ensured, e.g. by the media, so that role models could indeed set the agenda for pressing institutional topics (agenda-setting effect). It should be taken into account that the mere exposure effect can create support of institutional rules which otherwise would not be chosen. Since there is a negative learning bias for harmful effects (Fazio et al. 2004), reinforcement from negative sanctioning versus positive incentives should also be considered. Lastly, the powerful motives of possessiveness and status seeking and the resulting “rat race”-problems should be taken seriously, especially when thinking of the struggle for downplaying worldly possessions and propagating donations in the many religions.

The next step in our research would be to formalize the relationship between changing attitudes and institutions and the repercussions on wants and social instincts in order to get to a more rigorous analysis. This would have to be complemented with a case study for empirical foundation.

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¹ Of course, there have been attempts to keep the neoclassical assumptions, the most prominent of which is “De gustibus non est disputandum” (Stigler / Becker 1977), where the authors can take preferences as given because of an ingenious new argument in the utility function, catalysing all the change that would otherwise be understood as a change in preferences (see also more extensively Becker 1996).

² The idea of wants can already be found in Plato’s *Republic*.

³ A more elaborate list of basic wants may contain air, water or other drinkable liquid, sleep, means of maintaining body temperature, nutrition, sexual activity, maternal care, shelter, cognitive arousal or entertainment, social recognition or status, and others (cf. Witt 2001, pp. 26-7).

⁴ Cf. for the following two subsections Niederle (2006).

⁵ See also Henrich et al. (2001).

⁶ The (genetic) evolution of strong reciprocity, as a component in the repertoire of human preferences, in the sense of adhering to a social norm and punishing violators is shown in Bowles / Gintis (2000). The inclination to punish deviators is also termed “moralistic aggression”. (See also Cialdini / Trost 1998, pp. 175-7, for a discussion of reciprocation as a universal norm.) The coming about of these basic social preferences or instincts via natural evolution is not subject of this paper, however.

⁷ Cf. Cialdini / Trost (1998), p. 167.

⁸ See Richerson / Boyd (2001).

⁹ See for this social instinct Darwin (1981[1871]), p. 72. Altruism, when interpreted as an instinct and not as a motive, could be subsumed here (see Niederle 2006 for a discussion).

¹⁰ Cf. Niederle (2004) for an analysis.

¹¹ Of course, a stimulus object can also be of an abstract form, such as a concept or idea.

¹² On the genetic basis of learning behaviour cf. also more extensively Lumsden / Wilson (1981), Chs. 2&3.

¹³ The same can be conjectured for emotions as well.

¹⁴ On classical conditioning in general cf. e.g. Hilgard / Bower (1966), Ch. 3, Anderson (1995), Ch. 2.

¹⁵ On operant conditioning cf. e.g. Hilgard / Bower 1966, Ch. 5, Anderson 1995, Chs. 3&4.

¹⁶ In experiments with children, it was shown that they learned aggressive behaviour by observing it but only performed this behaviour when being reinforced for doing so (cf. Dubanoski / Parton 1971, Madsen, Jr. 1968).

¹⁷ This can encompass very long time spans until imitative behaviour is shown, cf. Hamilton (1970).

¹⁸ Bandura has identified four subprocesses governing observational learning (Bandura 1986, p. 52). In sequential order, these are *attentional processes*, *retention processes*, *production processes* and *motivational processes*. For this exposition, we will not go into detail on the relevance of these four subprocesses here.

¹⁹ Nevertheless, although not buying anything, a person may have a special liking for the available good, and this even more so than for another good.

²⁰ See also Witt (2001) for accounts of change via conditioning processes such as operant learning.

²¹ This seems to have something in common with an agenda setting effect in that, e.g., new behavioural rules may be eventually accepted simply because they are extensively propagated.

²² While Bowles (1998), p. 79, argues that it is important to divide the effects of the incentives and constraints of institutional setups on behaviour on the one hand and their effects on preferences *per se* on the other hand, we follow North (1994), pp. 4-5, that these two are closely related in the following way: While one could explain institutional change with changes in relative prices, our approach is more fundamental since a change in preferences leads to different mental models of an individual and thus to changed perceived relative prices.

²³ Thus, we agree with Sugden (2005) that the Bowlesian account neglects many of the findings of (European continental) evolutionary economics.

²⁴ See also the discussion of values and attitudes (solidarity) for the case of labour market institutions (e.g., unemployment benefits) in Argandoña (2002).

²⁵ For an example from anthropology see Ensminger / Knight (1997).