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Psychology for Economists

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Abstract

Orthodox economics focuses on the analysis of the way the economic force or motivation operates, thereby abstracting from the functioning of other primary forces or motivations, such as the social and the psychic motivation. By assuming perfect rationality psychic problems are ignored. This text discusses six approaches in psychology – cognitive, behaviourist, biological, psychodynamic, humanistic and social psychology - to find out what orthodox economics needs in order to extend its analysis with the more realistic idea of imperfect rationality. In this discussion the state of the art of behavioural economics is included.

Keywords: orthodox economics, psychology, behavioural economics, imperfect rationality

JEL classification: A11, A12, B13, B41

1. Introduction

Orthodox economics is a framework of interpretation and analysis, which is based on four axioms (Keizer, 2007). Firstly, it assumes that actors are economic in nature. Human beings live in a natural world and their interrelationship is characterised by scarcity of resources. Humans are assumed to be motivated to reduce the tension between needs and resources as much as possible. Secondly, it assumes that the relationships between humans are of an economic kind only. In other words, social relationships do not exist. By making this assumption, orthodox economists abstract from the problems that are at the core of sociology. Thirdly, actors are assumed to be perfectly rational. It means that people act according to their true preferences, which are well known and ranked in order of priority. By making this assumption, orthodox economists abstract from the problems that are at the core of psychology. Humans are not perfectly rational, which means that they are not perfectly integrated personalities. Psychologists study the mechanisms, which determine the degree to which persons are integrated. Fourthly, orthodox economics is based on the assumption that the laws of logic can be applied. Mathematics is based on logic and can be applied when drawing implications from analysis. When we take the four axioms together, we see that orthodox analysis represents the ideal-typical economic logic and abstracts from the ideal-typical social logic (sociology) and from the ideal-typical psychic logic (psychology).

This text investigates what psychology has to offer orthodox economists. What they need is an analysis of the psychic logic, in order to integrate it with the two other logics. In a different text we will investigate sociology in order to develop an analysis of the social logic. Our final goal is an integrated analysis of the three primary logics, namely the economic, the social and the psychic logic. It gives us a realistic theoretical instrument, which can function as a theoretical basis for applied research.

In the following section we will give a short sketch of the origin of psychology. Then we will discuss the main characteristics of a series of approaches or schools of thought in psychology. The focus will be on the methodological differences, since methodology is decisive when it comes to a thorough understanding of their differences. After the discussion of the different schools within psychology we will discuss the way behavioural economics has tried to link the two sciences so far.

Experiments and brain research has led to interesting results, and the question will be answered whether this field has already developed a sort of psychic logic. Then we will discuss this question in more detail, and sketch the contours of a psychic logic. Lastly we present a case about the German monetary trauma, and show how the different psychological interpretations explain this phenomenon.

2. The origin of psychology

Philosophers discuss the so-called mind-body problem for a very long time already. Aristotle advocated the method of introspection: become aware of the own inner world and observe the content of it. Feel the feelings and think about the thoughts, and analyse them. He considered thinking as a process; a chain of *associations* where one image follows the other. Idealists tend to consider the mind as a location for ideas, which shape the body. Religious idealists even assumed the mind being the place where god and devil struggle with each other for the soul of the person. Materialists, however, saw body and mind as one entity, where the mind is just consciousness of the material world. In the 17th century Descartes came with a nice interpretation of the mind-body relationship. He considered them as two aspects of one and the same phenomenon called 'human person'.¹

In the 19th century students in medicine with an interest in philosophy began to study the mind in more detail (Ketcher et al., 1982). We will discuss two scientists who are considered to be the founding fathers of psychology. The first is Wilhelm Wundt, who lived from 1832 until 1920. On the one hand, he criticised Aristotle whose method was just introspection. On the other hand, he rejected empiricism, which suggested as if empirical reality can be approached objectively and without theory. Wundt advocated a synthesis between introspection and empirical observation. First he developed an analysis of the structure of the mind, and especially of thought processes. Then he tested theories derived from his structural analysis by means of experiments.

The second is William James, who lived from 1842 until 1910. He made a grand tour through different fields of science, such as chemistry, biology and medicine. He became increasingly interested in philosophy and started a study of the mind, which hardly existed at that time. From biology he knew how Darwin dealt with the mind-body problem. He started his explanation of human behaviour with the body, and explained the existence of emotions in a functional way: they serve the interest of the person to survive. Humans are also inclined to strive for survival group-wise, and develop capacities to communicate with each other; by means of facial expressions, for instance. James considered this approach too materialistic and reductionist. To him emotions are not linked directly to sensory impressions. He developed the concept of *perception*, and stated that emotions result from *perceived* or *interpreted* sense-impressions. Some perceptions lead to reflex responses, such as sweating, and others lead to emotional feelings, such as fear. By constituting perception and placing it in between sensory input and human reaction

¹ Nowadays materialism rules the scientific world. Descartes is accused of dualism, which means the justification of a separation of mind and body. But Descartes was analytically distinguishing the two entities rather than suggesting that mind and body are two separate systems – in the same way as economists are analytically distinguishing between the economic world, the social world and the psychic world, which is the mind. Damasio (1994) is an important example of a materialist who is making this error. His approach is called monism.

James established psychology as an independent science. Or, to formulate it methodologically: he established the ontology of the mind, which implies that there is an interrelationship between body and mind rather than a one-way relationship, where bodily processes influence consciousness (Trigg, 2002). So, we must admit that:

- (1) There is no mind without a body;
- (2) There is no body without a mind.

In 1890 James published his *Principles of Psychology*; a textbook which is still used.

3. Perspectives in psychology

Perception is a core concept of psychology, making psychology to a distinguished science rather than a branch of biology. In the same period we see a comparable development in sociology. Weber advocated a research method called 'understanding' (in German: 'Verstehen') (Weber, 1949). When we want to explain human behaviour we must learn to understand the way people understand their situation. So knowledge of their worldview is necessary for a fruitful explanation of human behaviour. This holds true also for scientists. If we want to understand what scientists mean with particular theories and hypotheses, we must find out on the basis of which interpretation of the situation this theory has been developed. Some psychologists want to explain individual behaviour, while others aim at explaining the functioning of the psyche or mind, and find out which mechanisms determine the psychic logic. In both cases it is possible to place the human person or the human mind in its context. A human person consists of a body and a mind being two aspects of one and the same phenomenon. The body can be divided in a brain, being its control centre and the rest of the body. The environment of the mind consists of a physical and chemical part, and of a social and of a biological part. Our analysis is presented graphically in figure 1.

For our purpose the explanation of the functioning of the mind is the central goal rather than explaining individual behaviour. It consists of several entities, which interact with each other. There are flows of emotions, feelings and thoughts from one entity to another. But we will see that some approaches avoid the mind and link the environment directly with empirically observable behaviour. The following approaches will be discussed.

In the first place, *the cognitive approach*, which focuses on the human cognition. In the first period of its existence it focussed on thoughts, and studied especially flows of thoughts and their structure, and the way humans are storing information in their short-term and long-term memories. Later emotions began to play an important role as well. So the interpretation of the concept of cognition and of the cognitive approach changed: now it refers to knowing, whether in terms of thought, or in terms of emotion and intuition. When cognitive economists distinguish

between 'cognitive' and 'affective', the term cognitive refers to the early use of cognition, namely deliberate thinking rather than emotionally 'knowing'. By making this distinction it is possible to understand the relationship between the two and the problems of emotional conflict and the role of the ratio to solve it.

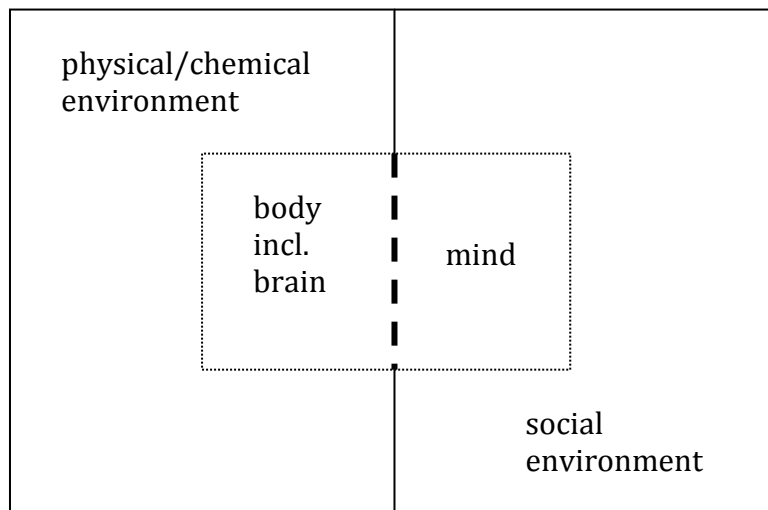


Figure 1: a human person and his environment

In the second place, we will discuss *the behaviourist approach*, which focuses on the relationship between the environment of a person and his behaviour. The processes within the human person, especially in the mind are difficult to observe. The results of introspection are so subjective and unreliable, that we must consider the mind as a black box. Therefore this approach tries to find stable relationships between stimuli coming from the environment and the responses of the individuals. Their findings show that human behaviour is conditioned in several ways.

In the third place, we will discuss the *psychodynamic approach*, in which the mind is the place where different entities find their habitat, and interact with each other, positively and negatively. Persons who are able to integrate the different emotional claims, and who are able to choose rationally which needs and desires can be satisfied and which must be blocked, function better and reach a high level of sustainable happiness. The main entities that play a role in the emotional conflicts are the ego or 'I' of a person, the actual self that must be controlled and a true self or intuition that advises the ego. So this approach is about the organisation of the mind being the control centre of the human person. What are the main emotional conflicts that must be solved? In answering this question two important features play an important role, which are interrelated. Firstly, does history play a role? A person's life has different stages, and each stage is characterised by a particular type of emotional conflict. Secondly, we can distinguish between two areas or locations in the mind, namely the conscious and the unconscious. In general we can say that

over time a person becomes increasingly aware of the content of his unconscious. In other words, he becomes increasingly aware of the principal emotional conflicts typical for a human person. Different analyses and theories will stress different elements that are decisive in this respect. As already said, a person who is able to solve his conscious and unconscious emotional conflicts that have become manifest, has a greater chance to live a happy life.

In the fourth place, *the humanistic approach* searches for an answer to the question of what makes a person to a *human* person. It has a strong historical element: human life consists of a series of stages of development. Historical development is a process of self-actualisation. The basic drive of a human being is the manifestation of the true self. Its step-by-step discovery might be a painful process, but ignoring the true aspects of some-one's personality might create more pain and difficult-to-interpret feelings of emptiness.

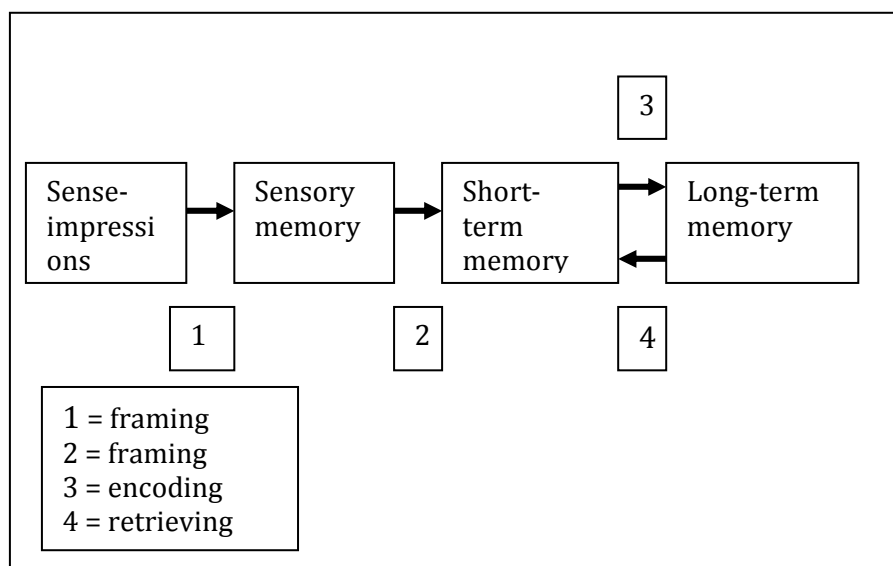
In the fifth place, *the biological approach* focuses on the body, and especially on the brain. We have seen that it is typical for the mind to interpret sense-impressions. But the transport of sense-impressions to the control centre and the activities of the control centre when making a decision, can only take place if physical-chemical processes accommodate these activities. Malfunctioning of the body and especially of the brain affects this accommodation and thereby the human response. Since this process of accommodation is complex and sensitive, the material side of the human person has a significant effect on the personality. The biological approach has an evolutionary bias, which means that the Darwinian idea of survival is accepted as the main human motivation. The body wants to survive and consciousness is a progressive step in its evolution to offer humans an instrument to understand their situation and to communicate with each other, so as to maximise the chance of survival.

Finally, we will pay attention to *the social psychological approach*. It aims at an understanding of the way culture influences a person's behaviour. Explicit attention is paid to pro-social behaviour such as altruism as well as to anti-social behaviour being an expression of aggression.

4. The cognitive approach

As we saw in the section about the origin of psychology Aristotle stated that knowledge structures develop by *association*. When people experience that in case of increasing demand for labour wages tend to increase as well, they are inclined to associate the two variables with each other. If new information is added to the existing structure, the whole of knowledge becomes more complex and sophisticated. In our example we can think of the experience that increasing demand for labour always follows after an increase in the demand for goods. Cognitive scientists try to find out how people store information. They distinguish between a short-term and a long-term memory. When students follow a course in organisation theory and learn the content of 20 theories, at the examination they might be able to retrieve most of the theories they have

learnt. After a while, however, most of the students are unable to memorise all the theories in detail, but some general structure of the course might be stored in the long-term memory, which can be retrieved. Cognitive psychology aims at a careful description and explanation of processes of encoding and retrieving information, and of processes of learning, unlearning and forgetting. Every transfer of 'information' implies selection. Limited cognitive capacity drives a person to select information that must be transported and stored, while other information is lost during the transport or not even noticed. In figure 2 we have presented a typical cognitive process.



The structure of knowledge stored in the memory is called *cognitive map*. We all have maps of many fields of study in mind. Some people store especially facts and correlations between facts. Other people are inclined to store more general knowledge or even meta-knowledge, which is philosophy. For example, when we look at a phenomenon such as liberalism, some people know a lot about various liberal political parties in Europe, and about liberal economic policies in terms of proposed deregulation and privatisation. Other people, however, have built hierarchical knowledge structures, and understand liberalism as an idea, on the basis of which an analysis of society can be made. In the literature of cognitive psychology a distinction is made between episodic, semantic and procedural knowledge. The first is historical, the second theoretical and the third is of a technical character. Research shows that theoretical knowledge, especially on the paradigmatic and analytical level, is the most difficult part to change. Information that doesn't fit the existing structure is suppressed. This phenomenon is called '*persistence of set*'. When discussing other approaches we come back to this very important human characteristic.

When thinking of the character of paradigms – ideas that lay at the basis of every analysis – cognitive theorists increasingly admitted that emotion plays an important role in accepting or rejecting particular ideas.

Heuristics are built on a belief, which is a cognitively expressed emotion, connected to strong feelings. Some people have developed negative feeling, while other people have developed positive feelings when hearing the term 'liberalism'. The financial crisis of 2008 and its economic and social consequences has definitely increased the number of people with negative feelings concerning the phenomenon 'liberalism', since many blame the neoliberal idea of deregulated markets for having caused this crisis.

So, beliefs are very important and if a person acts in a way that is not in line with his own beliefs, he feels bad. Festinger (1957) called this feeling *cognitive dissonance*.²

The cognitive approach is especially interested in the way people show systematic biases in their processing of information. Two errors are worth mentioning here. In the first place, there is the so-called *fundamental attribution error*. Attribution refers to the indication of what are the causes and consequences of particular behaviour. In other words, it is about the interpretation of a situation. The fundamental error concerns the inclination to underestimate the importance of situational factors, and the overestimation of person-internal factors. A second error is the *self-serving bias*. This bias concerns the inclination to attribute successes to personal factors, and failures to situational factors.

The biases result from distortions in the mental structure, and will be discussed in more detail in the text on the psychodynamic approach. It is remarkable that cognitive psychology has studied learning processes for so long without any reference to emotions and feelings.³ But now the insight that cognition and emotion are two sides of the same coin is broadly accepted. Although there are many emotions we are not aware of, our thinking is never without emotion and feeling.

5. The behaviourist approach

Methodologically speaking behaviourists are materialists, who want to reduce their research to empirically observable facts. It means that the mind must be considered as a black box. When ignoring all the information we get from introspection, we are left with information about the environment of a person and his behaviour. By means of experiments behaviourists try to establish regularities between a change in the environment (stimulus) and a consequent change in behaviour (response). In this way they discovered that behaviour is *strongly conditioned*. A famous example is the experiment done by Pavlov. A dog was given food on a regular basis. As soon as the dog saw the food,

² The economist-sociologist Parsons applied this theory to the level of society as a whole. His hypothesis was that the USA could not maintain his discriminatory legislation for a long time, since it was in dissonance with the typical American beliefs concerning the dignity of an individual human being.

³ Gagné, E.D. et al. (1993) has been a popular textbook for years, but the terms emotion, feeling and affect do not play any role in the analysis of learning processes.

it began to salivate. Then the experiment introduced a bell: first a bell rang, and after a short period the food was given to the dog. After a couple of times the dog began to salivate after hearing the bell already! In other words, the dog had learned that bell ringing is followed by the delivery of food. So he starts his preparation for eating food by producing saliva. This learning process is called conditioning, and the test presents an example of what is called *classical conditioning*.

When a bell is ringing there will be no response, except that the dog will look in the direction from which the sound comes. But when ringing the bell is followed by the delivery of food, and this connection takes place regularly the bell ringing transforms from an unconditioned into a *conditioned stimulus*.

These tests can be made more complex to see whether the subject of experiment is able to learn more complex structures of knowledge. In the world of advertising the principle of conditioning is applied very often. For instance, Mercedes is offering a very nice car and is able to gain a large market share. Then it broadens its assortment with different kinds of accessories, all with the brand 'Mercedes'. Then it enters the market of cloth and shoes, and offers high-quality products under the brand name 'Mercedes', and marked with the typical Mercedes sign. The company tries to condition the public! In first instance, the brand name and sign are not well known. But the public is excited about the beauty of the car with the brand name 'Mercedes'. Increasingly the typical Mercedes sign transforms from an unconditioned stimulus into a conditioned stimulus. By linking this sign to other products people look less to the genuine characteristics of the product, but the sign of Mercedes is enough for the public to 'salivate', thereby stimulating the purchase of shoes and cloth with this sign.⁴

Two phenomena are worth mentioning here. In the first place, we will discuss the incidence of *stimulus generalisation*. In the example of the Pavlov-experiment we can try another bell, or just a sound or a lamp switching on and off, to see whether the dog interprets the signs in the same way as he learned to interpret the ringing of the bell as a sign that food is coming. In the second place, and connected to the first phenomenon, we discuss *stimulus discrimination*. Imagine a person who is head of a department for already a long time. Regularly employees terminate their contract; so, new employees must be hired. As every job requires particular skills, applicants must send their curriculum vitae to show that they fulfil the necessary requirements. Sometimes applicants come from Germany, in other cases they come from Bulgaria or from Greece or Turkey. Without having any experience the head is neutral towards the countries the applicants come from. But after a number of bad experiences with Bulgarians the head develops a negative emotion towards Bulgarians. From now on applicants from Bulgaria – whatever

⁴ A few years ago I saw this example in Torino: a Mercedes show room with beautiful cars. In the next room all sorts of accessories of Mercedes, and in the third room just cloth and shoes, with the Mercedes sign of course.

their diplomas and records – become a conditioned stimulus triggering a negative conditioned response: no hiring of Bulgarians. The unconditioned stimulus 'diplomas and experience' is replaced by the negative conditioned stimulus 'Bulgarians'.⁵ This stimulus discrimination is also called *stereotyping*.

Now we go back to the Pavlov-experiment, and imagine that bell ringing is not followed by the delivery of food anymore. How long does it take for the dog to stop salivating when hearing a bell? In general, it takes a long time to *uncondition* particular stimuli and responses. Especially fear responses can hardly be extinguished. For instance, prisoners in a concentration camp, who were always beaten at twelve o'clock, might feel the fear for the rest of their life when the clock approaches twelve. Another example is about students who have bad experiences when doing mathematics. As soon as they see a couple of formulas they immediately feel bad, and are inclined to skip them. In this case formulas have become a negative conditioned stimulus. In case of drug use the body can prepare itself when entering the room where so often the drug is administered. In some cases the body shows typical drug symptoms already. In some other cases the conditioned response is opposite to the primary effect of the drug itself. Morphine, for instance, normally reduces the sensitivity to painful stimuli, but rats after conditioning showed increased sensitivity to pain when placed in the conditioned context. An explanation could be that the physiological processes, which correspond with the process of conditioning, interact with the body's natural mechanisms for maintaining equilibrium (homeostasis).

Besides classical conditioning we can distinguish operant conditioning. It concerns learning with respect to changes in voluntary rather than in involuntary responses, as is the case with classical conditioning. Operant conditioning plays a role in the study of how animals or humans solve problems. Thorndike did experiments with a hungry cat, which was confined in a cage. Inside the cage was a lever, and pressing the lever would open the cage. Outside the cage – visible for the cat – was food. Now the research question is how much time and effort it takes for the cat to discover that pressing the lever is the solution. Thorndike formulated a law, the so-called *law of effect*. When the cat discovers – may be by accident – that pressing the lever lead him to the food, he will be inclined to repeat this act of pressing.

Skinner (1904-1990) formulated a radical variant of behaviourism. According to him mental concepts such as free will and (psychic) force cannot be observed empirically and therefore do not contribute to our explanation. So scientists should leave them out of their language. He did also research in the field of learning in the sense of operant conditioning.

⁵ The example of the Bulgarian employees is just something made up. Personally I have just very positive experiences with students from Bulgaria.

The focus was on the effect of *reinforcers*, which are stimuli, which occur after the response and alter the probability of the response recurring. Primary reinforcers are based on an innate biological mechanism, while conditioned reinforcers are based on other types of mechanisms, such as money and praise. So if baby Benjamin cries when he feels hungry and his mother reacts immediately by giving him food, Benjamin learns to cry as soon as he feels hungry; crying operates as a primary reinforcer. But if a child of 16 years is doing his homework and is 'rewarded' for that by praise of his father, he might be inclined not to do his homework everyday. In this case the praise of his father operates as a negative conditioned reinforcer: the child likes to show his father his independence. The behaviour of the baby is assumed to be a matter of biological survival, while the behaviour of the adolescent is assumed to be a matter of psychic or social survival.

Economists prefer to use the term 'incentive' rather than reinforcer, and often they see just money as an effective incentive. The reason is that orthodox economics abstracts from the social and from the psychic world. In other words, there is just a problem of scarcity of natural resources, and the only one effective incentive to come into action is the offering of resources. If we were introducing the two other worlds into our analysis, we would understand why praise affects behaviour, sometimes in a positive, sometimes in a negative way. In the example of angry and violent young Moroccans in the streets of some Dutch cities it is important to see that a friendly attitude by the police might have a negative effect. An explanation could be that they perceive the police as a father figure to whom an adolescent shows his independence.

Unfortunately a behaviourist does not allow himself to study inner conflicts like the father-son authority conflict, and cannot understand why in some cases praise works out negatively. As long as we take the mind as a black box we can only correlate phenomena, and call some events stimulus and other events responses. But the question why a particular event is a stimulus while other events do not lead to any response is beyond the capacity of the behavioural approach. In the next section we will discuss the psychodynamic approach, which is deliberately opening the black box to see – introspectively - what is inside the box.

6. The psychodynamic approach

Literally psychology is about the logic of the psychic world, like sociology is about the logic of the social world and economics is about the logic of the economic world. Since orthodox economics is exactly analysing the mechanism of the economic logic, is it important for economists to integrate their analysis with an analysis of the mechanism of the psychic logic. To develop such an analysis we need to open the black box of the mind, and see what's in there. This method is called introspection, and is necessarily subjective. We can have a look in our own inside only; the minds of other people are really black boxes. To establish the ontology of the mind, we must first constitute the entities or elements of the psychic system. Then we must find out the essence of the relationships between

the various elements, which are distinguished. And at last we can distinguish between different areas or fields within the mind.

Body and mind have needs that must be satisfied. Emotions motivate a person in particular directions and drive him to behave in such a way that needs become satisfied. Emotions motivate people in particular directions. Economics analyses the behavioural consequences of the assumption of economic motivation, which means that a person is driven to reduce scarcity of natural resources as much as possible. Sociology analyses behaviour that results from social motivation; in other words, sociological analysis is based on the assumption that we are driven to maximise the status of our group. The psychodynamic approach tries to find out what is meant by psychic motivation. In other words, in which direction are we driven in order to solve the typical psychic problem? This section aims at answering this question.

When I look at my self, I assume an 'I' and a self. Freud distinguished between two different aspects of 'I', namely the Ego and the Superego. The self was called the Id. For him the Id is a bundle of emotions that are directed to the satisfaction of bodily needs, and has therefore a biological basis. The Superego represents the claims of society upon a person and let him adjust to the prevailing culture. The Ego has the task to solve the emotional conflicts between the Id and the Superego, and take decisions how to behave. Jung made a slightly different distinction between the entities in the mind: besides the Ego as the decision maker he distinguishes between the actual self and the ideal self. The actual self is the bundle of emotions as they manifest themselves at a particular moment. The ideal self, however, is the essence of the personality, who must be increasingly discovered over time. It is an expression of the notion: at every moment we are driven by emotions and inclined to behave in a particular way. But when we grow older we increasingly develop an intuition about who we truly are. The Ego must solve the conflicts between the ideal or true self on the one hand and the actual self on the other.

The various entities are related to each other, and it is relevant to establish the nature of their interrelationships. Let's distinguish between the actual self, the true self and the 'I'. The actual self is a bundle of emotions. Body and mind are full of tensions, triggering a force that aims at minimising the tension. On the one hand, these forces or emotions trigger physical-chemical processes within the body. These processes are beyond the control of the 'I'. But these bodily processes induce feelings, which tell the decision maker whether the situation is agreeable or not. On the other hand, these forces trigger thoughts, at least in the minds of literate people.⁶ The "I" can be interpreted as a decision making centre, who is advised by the true self as experienced by the 'I', and who is

⁶ Babies cannot think, and cannot take decisions. The 'I' is just a potential and has not developed yet. Therefore all control must come from instinctive actions and from the mother-figure.

seduced by the thoughts and pressure that comes from the emotions that constitute the actual self. Imagine a student goes to a café, and takes a couple of beers. Why? Because the body gives signals saying to the 'I': if you take another beer, it will create very agreeable feelings. But it is also possible that the student feels depressed because his girlfriend has dropped him a day ago. His mind needs unawareness of this fact and triggers the student to take another beer. But there is a true self 'under construction'. It functions as an intuition, which constantly advises the 'I', and suggests the decision maker that giving in to drinking lots of beer is not in the interest of the self when taking the long term perspective. Both Jung and Freud have made a distinction between two areas in the mind: the conscious and the unconscious. Jung has made a distinction between a collective and a personal unconscious (Stevens, 1998). The first area contains the so-called archetypes. These are potentials of a neural-psychic character representing the important themes in human life. From the very first day a person develops these potentials; so they become increasingly manifest. The personal manifestation of archetypes takes place in the second part of the unconscious: the personal unconscious. Important themes that require much energy are the relationship between mother and child, between parents and children, authority relations in school and on-the-job, and above all the relationship between man and woman. These themes are important sources of emotional conflict and a person who is able to solve these types of conflicts is a happy man or woman, and fitted to take responsibility in society.

Jung developed an analysis of personalities on the basis of the attitude or focus of a person. Some people are quite anxious, unless they have clear indications that they are safe. Others are curious about everything new, unless they have clear indications that there is something bad going on. Some people are quite introvert, while others are extravert in nature. During life people can change mentally, which means that they are able to weaken particular inclinations and strengthen other ones. But the characteristics of the true self determine the starting point and set the limits – it is the scope within which a person develops his attitudes, which influence the person's behaviour during the rest of his life. When people grow up and are sent to school to learn and to practice skills, another difference in character appears. Some people are quite intuitive and emotional in their learning, while others are quite intellectual in attitude and trust the results of deliberate thinking. Later we will come back to this issue; for now it is important to establish *that* there is a personality with potential attitudes towards the world, including attitudes towards the way of experiencing and learning about the self and his situation.

Nobody has solved his inner conflicts perfectly well. One of the possibilities to deal with the ongoing and difficult-to-solve conflicts is to project the problem on other people and to blame others for all the

misfortunes. This externalisation of inner conflicts is called *projection* and is one of the core elements of the social logic as discussed in sociology. When trying to understand culture sociologists interpret it as a set of rules that must limit this externalisation (Keizer, 1999). By developing a common view or understanding of the situation, expressed by common myths, and told by common heroes, social conflict based on projection can be limited.

We will finish this section on the psychic-dynamic approach by answering the question what is the psychic mechanism that determines the typical psychic logic. For now we assume that there are two important sorts of emotional conflict. The first is the conflict between different emotions within the actual self. A student wants to study hard, and spend time on a number of sports, and going out with his friends; it altogether takes more than 24 hours per day. So far this is a typical economic problem. The psychic problem now is that a person cannot choose. On the one hand, he considers himself as a hardworking person who has ambitions of having a great career. On the other, hand he has a very different idea of himself: having a relaxed attitude towards life, for instance. When he follows the first strategy he feels bad about it, since he misses so much enjoyment. When he follows the second strategy, he feels bad about it too, and condemns his own decisions. To a certain extent all people experience this *ambiguity*. Some people, however, experience their life as 'impossible to live', and switch to an imaginary world now and then. This is a very serious disease called *psychosis* and needs extensive medical and mental treatment (Nietzel, 1998). The second sort of emotional conflict is that between the actual self and the true self as experienced by the 'I'. His actual self is driving the person in a particular direction, and he lacks willpower to control it. He knows that he is doing the wrong thing, but cannot stop behaving in a way that contrasts his own long-term interest. The lack of willpower is related to the strength of particular drives. The stronger the drive, the more willpower is needed to control it. Such a strong drive is called *neurosis*, and is a very common phenomenon. Especially leaders of large organisations appear relatively neurotic, at the cost of the organisation (Kets de Vries, 2006).

Humans are equipped with the capacity to select information that confirms the choices made so far, and forget or even ignore information that shows the strategy chosen to be wrong. In case of the first type of emotional conflict it means that once chosen for a career in the scientific world, the person ignores information that makes clear that a career in the world of business is a very interesting option. In case of the second type of conflict a person knows his long-term interest but lacks the willpower to serve that own interest. In both cases information is suppressed to protect the true self as experienced by the 'I', once chosen. It means that important information about the true self is ignored. Since life is a process of discovery of the true self, the emotional problems might mean the end of this journey. In the next section about the humanistic approach we will

see that this approach continues with where this story about the psychodynamic approach ends.

7. The Humanistic approach

In the previous section we saw that for Freud the mind is a battlefield where the physiologically driven needs and desires, especially of a sexual kind, must be controlled by the constraints set by society. But in this materialist approach there is hardly any room for a typical psychic drive. In other words, there is no person or personality that is driven; just a body. Jung, in contrast, assumes the existence of a true self that is inspired to manifest itself.⁷

The humanistic approach places this true self in the centre of its analysis. In the course of a lifetime a person discovers his true self to an increasing extent. Some persons reach a high level, while others appear unable to make much progress. The concept of self is from James already, who distinguishes between self as a subject (ego or 'I' in the terminology of the psychodynamic approach) and the self as an object (actual self and true self in the terminology of the psychodynamic approach). Later Mead developed the idea that the self is increasingly discovered in interaction with other people. Only in the eyes of others we are able to discover who we are! So we might discover that we are extravert by meeting people who are less extravert or even very introvert. It means that all judgment of personality is relative – there is no absolute yardstick.

The humanistic approach is more of an existential nature, and must be seen as a reaction to the materialist variant of psychodynamics and to the behaviourists who completely ignore the inner world. According to materialists human interpretation is an expression of the material interests of a particular person. According to behaviourists there is no interpretation at all; there is just a stimulus and a response, and experimental research might show regularities, which reflect processes of conditioning. But humanist psychologists state that there is perception and interpretation, and that this is not completely determined by body and social environment. A human person *comes into existence* if a particular encounter between a sperm cell and an egg cell leads to the existence of an embodied spirit or soul.⁸ After his birth it develops in an ongoing interaction with others.⁹

⁷ Jung used the term ideal self, but I prefer the term true self to avoid the misunderstanding that the self is just an idea rather than an embodied 'idea'.

⁸ There are philosophies and religions, which assume the existence of an eternal soul, who is looking for embodiment during a particular period. After the combination has died - the soul has left the body - the soul searches for new embodiment. For our goal it is not necessary to speculate further about the soul. What we need is the idea that the psychic structure cannot completely be reduced to the physiological structure. In other words, there is a mind where the 'I' lives and freely decides whether or not to develop the unique personality. Without this idea humans are not different from machines, and is there no room for freedom and responsibility in our analysis. Even the notorious

Maslow and Rogers are the big men of the humanistic approach. Maslow (1908-1970) has become famous with his so-called hierarchy of needs. In this structure needs range from physiological needs to the need of self-actualisation. The most basic needs are food, drink and sleep – without it there is no survival. Then there is the level of the safety needs. Safety has a physiological as well as a psychological aspect. Physiologically we are in danger if we walk through a forest, and suddenly a tiger approaches us. Psychologically we are in danger if we lose all our relatives and friends in case of an earthquake, for instance. Our personality might fall apart making us mad. A third level can be distinguished consisting of needs such as love and belongingness. If these needs are satisfied esteem needs become manifest: feelings of being respected by relevant others and self-respect. At the highest level of needs we find the desire to actualise the self. According to Maslow the more basic the need, the more powerfully it is experienced, and the more difficult to suppress and ignore.

The hierarchy must not be taken too rigid. Different needs may vary in intensity across individuals. Experience shows that many poor people have a strong sense of self-respect. If a rich person would throw a piece of bread to a poor person, he might become angry rather than grateful. On the other hand, it is possible that rich people never leave the area of so-called deficiency motives: food, safety, love and esteem. In other words, they never enter the level of meta-needs, which is about the desire to grow as a person.

Rogers (1902-1987) approaches a person in an organicist way. A human being is a (living) organism, and develops his self in interaction with other human beings. The opposite of organicism is the mechanistic approach: the essence of the elements does not change when interacting with other elements. In orthodox economics, economic-rational actors trade with each other. This interaction leads to a change in the economic position of the traders; that's the reason why people trade with each other. But they keep their character of being economic-rational. In a biological-psychological-sociological approach we can assume that interactions really change the manifestation of a personality or of a group. In a love relationship this is quite obvious.¹⁰ The lovers help each other constantly to increasingly discover their identity. But members of a department of a particular firm, responsible for the marketing, for instance, can also

materialist Skinner stated that freedom is a valuable illusion. So let us live and work scientifically on the basis of this valuable 'illusion'.

⁹ See Nelson (1996) for an application to economics under the name feminist economics, and see Lutz et al. (1988) for an exposition of 'humanistic economics'.

¹⁰ But also on the level of countries can political relationships affect the identity of a nation significantly. In Europe the relationship between France and Germany affected the whole idea of being French and being German. At the moment the relationship between Israel and Palestine is an example of a very negative relationship that has harmed the Jewish as well as the Palestinian identity.

function in such a way that they become a well-functioning 'organ' in the whole of the firm. For all members organic interrelationships mean that their true selves, as experienced by the 'I', change over time, under the influence of the ongoing social interaction. Rogers calls this process '*actualising tendency*'. He assumes that a human person has the drive to search for his true self, and to develop its potentials. The step-by-step process is a painful process. Working on the solution to emotional conflicts is energy consuming. So persons who grow suffer from being tired all the time, and feel depressed regularly: the struggle seems without end. On the other hand, the incongruence between the true self and the actual self is the motor towards self-esteem. Acceptance of the true self gives much release and a deep feeling of satisfaction¹¹. Rogers distinguishes between different levels in this respect. A first level is the surface level, where people experience excitement and boredom, both of a short-term character. A second level is the deeper level, where people experience enduring satisfaction. A third level is the deepest level, where people experience to be part of the cosmic whole. This deepest sense of harmony is the core of Zen Buddhism, but also in Judaism and Christianity this cosmic whole plays an important role.

Now we will give two examples to illustrate why the humanistic approach is relevant for economists.

One of the most striking results in the happiness-literature is found by Easterlin (Easterlin, 1974). He discovered that people in countries with a relatively high real income per capita were hardly happier than people in countries with a significantly lower real income per capita. His explanation runs as follows: we all expect to become happier when earning a higher income. If we receive a higher wage we are excited about it. However, this feeling holds for just a short time. Then we get used to the higher wage level and fall back to the earlier level of happiness. In other words, people who are not poor can hardly increase their happiness by means of higher levels of scarce resources. Apparently the West did not discover the relevance of self-actualisation yet. The finding has become familiar under the term Easterlin paradox.

A second example is the following. If more people learn about the existence of their true self, and increasingly discover its characteristics and accept them, it leads to a release that weakens the economic force – less greed –, and the social force –less fear for being extorted from the group. It makes people more open-minded and able to really listen to the contributions of other people. It will lead to better functioning families, firms and other types of organisations, such as government agencies. More concretely: in fall 2008 the world faced a severe credit crunch, followed by a financial crisis and economic depression. Then many people involved came out and said that they had known of the increasing fragility of the financial system. Some of them rang the alarm bell but were

¹¹ In Chinese philosophy this process of self-discovery plays an important role. The Chinese word for 'the road' we have to go is: tao, and is a central concept in Taoism.

ignored or even fired. Many others, however, adjusted to the culture of the group, which stated that free markets were a self-regulating system, and that malfunctioning firms would go bankrupt and make room for the more successful firms. Had more people discovered their true self the debates within the relevant organisations would have been more rational and serving the long-term interests of the whole of the economic and societal system. Now they didn't want to give up their economic and social status, and kept their mouth shut.

The fact that there are hardly people with the courage and determination to stand up against obvious malpractices has a strong negative effect on the quality of the processes of decision-making in all organisations. More attention to the humanistic approach has the potential of improving human communication.

8. The biological approach

In section 3 we have explained that the body and the mind are two aspects of the same phenomenon. Without mind there is no body, but without body there is no mind. Some approaches focus on the aspect-system 'mind', such as the cognitive, the psychodynamic and the humanistic approach. They implicitly assume that the body, including the brain functions perfectly well, and can accommodate all emotions, feelings and thoughts. In reality perfect bodies and brains do not exist. So, all impressions coming from outside the human person trigger materially embedded mental processes. It means that the material properties influence the effect on mental processes significantly.

This section focuses on the role of the brain, being the control centre of the body. We can distinguish between different areas, for instance between the cortex and the primitive brain, for instance. The last mentioned area contains two regions, namely the brain stem and the limbic system, an area where the basic drives are located.

The areas that are distinguished all have a specialised function. The cortex is a layer at the surface of the brain, and locates planning and controller functions. Three parts can be distinguished: the frontal lobe, the occipital lobe and Wernicke's area. In the occipital lobe integration of what we sense into a vision takes place. If this lobe is damaged people can see without understanding what they actually see. Wernicke's area makes language meaningful. If this area does not function well, the person has difficulty in understanding text, although every word is clear in itself. The primitive brain contains a brain stem, which is responsible for the transport of signals from the body to the brain, and the limbic system is responsible for the connection with the cortex. It consists of four important areas, namely the thalamus, the hypothalamus, the hippocampus and the amygdala. The most important area is the hypothalamus, which hosts emotions such as hunger, thirst and sex. The hippocampus has an important memory function, and the amygdala is involved in emotions like fear and rage.

The brain is a piece of bone that hosts an extremely complex system of wires, called the nervous system. It is responsible for the 'communication' between the different areas and functions. It consists of a very large number of wires, which operate like electrical cords. The different wires communicate with each other chemically through so-called *neurotransmitters*. We can distinguish between two different parts, namely the peripheral system and the control system. The first part is responsible for the transport of the sense-impressions to the control centre, and the second part is responsible for the integration of all the 'information' that can be derived from all the messages. So, the organisation of the brain shows a separation between a part responsible for the delivery of inputs and the execution of the 'decisions' and a part responsible for the integration of the signals, the development of a strategy and the taking of decisions. In figure 3 we have presented a picture of the brain with a few important regions and functions.

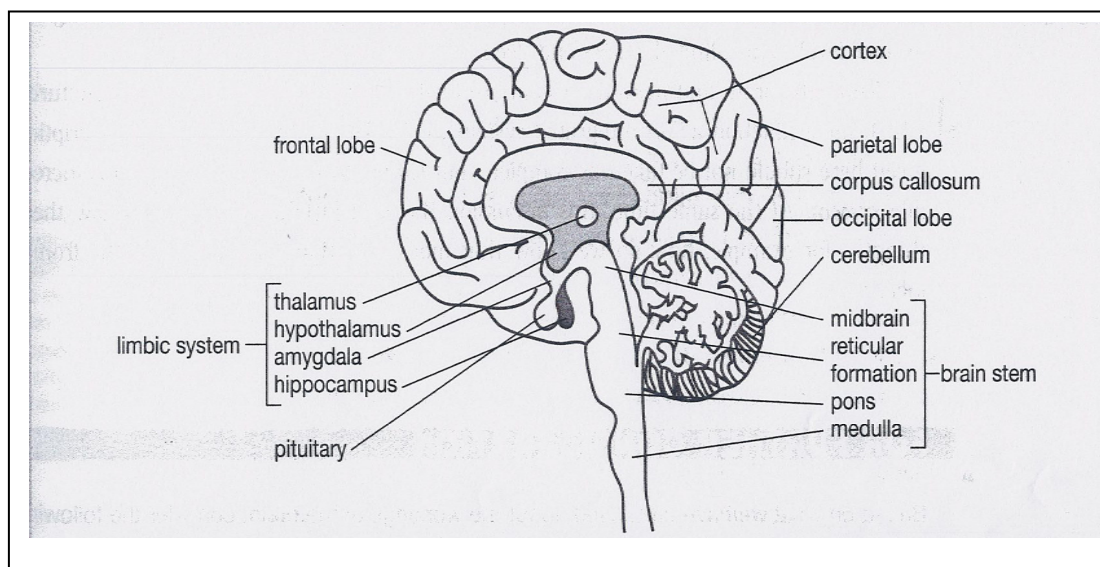


Figure 3:
Different

regions in the brain; source: Glassman, Hadad, 2004, p. 53

So, in the brain we find stocks and flows of an electro-chemical nature, which carries emotions and thoughts, both creating feelings. Now we can make two types of distinctions (Camerer et al., 2007). Firstly, a distinction between affective and cognitive and secondly, a distinction between automatic and controlled stocks and flows.

Affective stocks and flows reflect emotions, which are forces that result from tensions. These forces drive people in particular directions. If, for instance, there is an emotion called thirst, it drives people to search for drinks. Needs of a physiological as well as of a mental character trigger emotions, which are transported to the control centre (cortex) and this centre decides what to do. In case of a literate person who has learned a language emotions also trigger thoughts. The more literate a person, the more complex texts are triggered. These texts - so-called cognitive flows - are sent to the control centre, and later to the areas with a memory

function, where the texts are stored. So, cognitive flows, although different in category, are triggered by emotions rather than that they are opposites of each other. Emotions are first and some emotions are followed by cognitions. It means that cognitive processes are always linked to emotions; a fact that is very important to know in education.¹² A second distinction is between automatic and controlled processes. Automatic processes are unconscious processes in the body and in the mind. When a large dog is barking at you it makes you automatically a little scared. And when your house is on fire, many automatic processes take place in body and mind. They are immediate and uncontrollable. They have to do with physiological processes and with emotions stored in the primitive brain, such as fear and anger. Controlled processes, however, are the opposite: not immediate and controlled. It takes some time and the cortex, being the control centre, regulate flows of energy in a particular direction so as to reduce or stimulate particular chemical flows. While the automatic flows are unconscious most of the time, are the controlled flows of a conscious nature.

In figure 4 we have presented the two distinctions in a matrix. The four combinations express four types of flows.

	affective	cognitive
automatic	I	II
controlled	III	IV

Figure 4: Types of processes in the brain

Technological progress has made it possible to do experiments to find out which parts of the brain are active in case of particular activities. Our knowledge about the organisation of the brain has increased significantly. By means of computers we can carefully observe brain activities. Three methods are very popular at the moment: making an EEG, which is an electroencephalograph, which registers electrical activities in the different

¹² If students think they are bad in macroeconomics they tend to hate this sub-discipline, and have increasing difficulties in learning and understanding it. When trying to improve the performance the emotional aspect must be taken into account. The student must build up confidence that macroeconomics is doable, also for him. Then he must tell himself that more practicing makes macroeconomics more agreeable. Finally the student discovers that mastering a 'difficult' discipline creates much fun.

areas (1), electrical stimulation of particular neurons by means of an implanted electrode (2), and computerised imaging techniques such as the PET-scan and the MRI-scan by means of radio-active tracers injected in the bloodstream and by means of electrical charges in cells in a rapidly changing magnetic field (3).

Brain research has led to a number of interesting results. We will discuss shortly a couple of them.

In the first place, when confronted with a new problem we use especially flows from category IV. But the more we learn and practice particular skills, the more we shift from category IV to category I. Since flows from category IV take much physical and mental energy, this shift releases resources, and makes it possible for the student to use more energy in a different direction.

In the second place, preferences are state-contingent, which means that the situation influences which brain areas become active, and therefore affect what people prefer. Imagine a man, who invests much money, but is inclined to reduce risk as much as possible. Then he decides to buy a very fast car, and drives along the highways in a quite risky way. This example illustrates the fact that a particular person is a risk averter in some circumstances, while being a risk lover in other situations. So with many other preferences: in some contexts a person is an altruist, while in other contexts he is an outright egoist, for instance.

A third finding is about discrimination. Tests show that discrimination uses areas in the brain that are cognitively inaccessible. It means that persons are not aware that they are discriminating. Confronted with a person with a very different ethnicity the amygdala signals: be careful! This affective reaction has an effect on the cognitive judgments that follow. Much deliberation is needed to counter these affective and cognitive automatic reactions.

A fourth finding is about the difference between risk and uncertainty. While risk can be calculated and expressed in a percentage of probability, is uncertainty a phenomenon that cannot be approached cognitively.

When a person is confronted with this uncertainty a brain area is used that hosts especially flows from category I, while being placed in a situation where risks can be calculated brain areas are used which are specialised in processing flows from category IV. It shows that risk and uncertainty are psychologically speaking very different phenomena.

A fifth finding is about myopia. By assuming perfect rationality economic analysis assumes that economic actors serve the long-term interest of the self. Brain research shows, however, that the fast-operating affective system focuses on short-term survival, and we all need much education to develop a cognitive and controlled system, and investment in willpower, to operate as a countervailing power

A last finding shows that information is grouped and that there is competition between groups of information. The choice of the group of information that is accepted rather than ignored is based on the winner-take-all principle: all the information that belongs to the winning group is accepted, while all the information that belongs to the losing group is

ignored. Brain research observes this battle in terms of neurons, of course. Groups of neurons conveying particular information are winning battles from other groups of neurons. The winning group of neurons gets access to the control centre, affecting the decisions taken by the control centre. The losing groups of neurons are thrown into the dustbin.

The organisation of the brain shows a functional organisation. If – by accident – a person's brain is hurt, the damaged areas become dysfunctional. A person cannot move his left leg, or cannot smell, or cannot understand what he observes, for instance. Fortunately *substitution* is possible, at least to a certain extent. It means that some areas can take over some functions, if necessary. It goes without saying – for an economist at least – that substitution is a costly affair. The new function must be practised, before the activities become automatised. This finding shows that there is something like an *economics of the brain*. The energy that is needed to execute all the activities is the scarce factor. Energy is a force that makes activities possible; physical as well as mental activities. The more skilled a person is to execute a particular task, the less energy is needed. Automatic processes are not only very fast, but also take less energy than processes, which need much deliberation and self control. When at a particular meeting the first issue on the agenda takes much energy from the participants, they are inclined to pay less attention to the second issue, which implies less scarce resources are spend on the discussion about this second issue.

9. The social-psychological approach

Psychology is about the psyche, which is embodied, and the brain plays a crucial role in materially accompanying mental processes. However, a human person cannot live alone; he is the result of an intimate being together of a man and a woman, and in his first period he is almost inseparable from the mother figure. In other words, the social aspect plays a very important role in the growth of an individual person. From the very first moment he is part of a group and its culture. Mental processes, emotions as well as thoughts, are shaped by the way the very young are taught. In some cultures more than in others there is a strong influence, and a message saying: 'conform to the group', 'obey the authorities of the group'.

Thinking about reality always takes place in categories, establishing identities versus differences, and substances versus properties. Culture affects which categories must be distinguished: in some cultures the difference between white and black people is crucial while in other cultures children discover this difference just after many years.

We can make a distinction between positive and negative social action. Positive action is called pro-social behaviour, and altruism, which means any behaviour to help other people, is an example. Negative action is called aggression, which means any behaviour causing intentional physical or mental harm to another person.

In social psychology there is an ongoing debate between scientists who consider pro- and antisocial behaviour as innate and natural and scientists who consider this behaviour as learned and a matter of nurture. Is it the person or is it the situation that makes a person to an altruistic person or to an aggressive person?

The different approaches give a different answer to these questions.

The biological approach considers aggressive responses to unpleasant stimuli as an innate drive with an important evolutionary function: physically and mentally strong people survive at the cost of the weaker people. Responses are cognitively mediated, reflecting the person's history with respect to the interpretation of situations in terms of dangerous or safe. Altruistic responses, especially directed to kin, enhance reproductive success. Not only kin altruism, but also reciprocal altruism can be explained, as is nicely expressed by the Dutch saying: 'wie goed doet, goed ontmoet' ("Good things come to those who do good"). The saying suggests that the golden rule of the United Nations, meant as a normative statement, can also be considered as a positive statement¹³. The behaviourist approach considers aggression and altruism as learned behaviour. It means that behaviour is a voluntary response acquired by reinforcement. So, aggression as well as altruism is instrumental: it pays! People can learn that robbing a rich man is a profitable activity, while other people can learn that giving money to the poor feels good: ethical hedonism. Aggression can also result from frustration, which blocks goal-directed responses. There are different types of aggression. If a vendor machine is not working properly, aggressive persons can kick the machine, or write an angry letter to the owner, or get depressed (Camerer et al. 2007). Another strategy is called *displacement*: the release of frustration is postponed and expressed in an 'easier' environment. A good example is the typical sergeant behaviour in a military army. If things go wrong officers blame the sergeants for the mistakes, and as soon as the officers are gone, the sergeants go to the rank-and-file and shout and blame and punish them, irrespective the question of who is actually to be blamed.

The cognitive approach also considers altruism and aggression as learned behaviour rather than the result of innate drives. The difference between the behaviourists and the cognitive psychologists is that the last mentioned group stresses the role of cognitive learning and the development of cognitive schemata and judgment, while behaviourists stress the (unconscious and affective) processes of conditioning. So, in case of aggression by young people hanging around in the streets a behaviourist tends to stress the carrot and the stick: punish aggressive behaviour, and reward the non-aggressive youngsters. The cognitive scientists might agree with this policy but consider a change in the codes of the street as a necessary condition: parents must teach their children

¹³ The Golden Rule of the United Nations states: "Do Unto Others As You Would Have Them Do Unto You".

well, and society must offer the teenagers a perspective so as to change their views and interpretations of 'them'.

The psychodynamic approach assumes the existence of a set of innate drives (the so-called id), and if the social environment does not accept the expression of some emotions, there is a conflict. It creates a tension, which must be released. If not, frustrations grow, and look for an outlet. The battle between the id and the superego must be solved by the ego, who is taking the decisions. The ego disposes of several defence-mechanisms, so as to reduce aggression. Firstly, the ego is able to block conscious awareness of the underlying conflicts. Secondly, the ego is able to ameliorate the tensions in different ways. Besides displacement, as mentioned earlier, there is the possibility of *sublimation*: by playing music or making pieces of art. A last possibility is the release of drive energy in indirect form, and is called *catharsis*. It takes place through a process of recalling emotionally charged experiences or through involvement in symbolic activity. But sceptics say that catharsis might release in the short term, but it might be addictive: the more catharsis, the more a person needs it to keep the degree of release on the same level.

The humanistic approach considers aggression and altruism as personal characteristics rather than something that is learned and determined by the situation. Everyone is somewhere on his road to discover the ideal or true self, and feels the pain of incongruence between the ideal self and the self. Imagine a teenager with parents who are wise persons, and punish him for breaking the rules of the family. Then the aggression felt by the teenager is a frustration about his incongruence, as he knows his parents, representing his ideal self, are right. Imagine a teenager with parents who are unwise persons, and are constantly irritated about his independence. The behaviour of the parents is aggressive and reflects their incongruence. The independence of the teenager creates a priming effect by reminding the parents that they were not that independent in their youth and did not work on the actualisation of their self. The example of the teenager and the parent stands for many boss-subordinate relationships in our organisations, firms as well as government agencies. With respect to altruism it is clear that this behaviour adds to the self-actualisation of the altruist, and is genuine rather than instrumental in nature.

The question whether pro-social and anti-social behaviour is based on innate drives (nature) or is learned (nurture) needs more sophistication. It is better to ask how nature and nurture play their respective roles. If there is no drive towards particular behaviour, not any situation can trigger it. If the situation never triggers particular behaviour, why should a person behave as such? It is better to see the drives as latent potential, which can be developed under the influence of particular circumstances. To get to a more sophisticated analysis we make a distinction between favourable versus unfavourable circumstances (1), between a personal character that is curious and trustful versus a personal character that is anxious and full of distrust (2), and between a sensitive versus an

insensitive body (3). The first is about the situation, the second about the mind and the third about the body. Now we can construct 8 combinations, and some of them mean outright altruistic behaviour, and some others mean outright aggressive behaviour. Sensitive, trustful people in favourable circumstances show altruism, and sensitive, fearful people in unfavourable circumstances show aggression. Most people show some altruism, but only in particular circumstances. Their behaviour is quite conditioned, and they have learned to give money if there is an emergency situation and the TV spends a whole evening to promote donations. In case of other 'emergencies' they never give money. With respect to aggression we can imagine that a father who has been beaten by his father beats his son regularly, although in many other occasions he is not that aggressive. In other words, altruistic and aggressive behaviour is very state-contingent in most cases.

Psychology shows a quite pluralistic picture. There are several approaches, and not anyone is dominating the scene. There is competition, and there is cooperation. The last decades there is growing cooperation between cognitive and behaviourist psychologists. With the rise of new techniques of brain research the biological approach has become more popular. There is even a growing cooperation between behavioural, cognitive and neuroscientists: cognitive neuroscience. Moreover, there is growing integration of the results of subjective experiences (humanistic approach) with the 'objective' results of cognitive neuroscience, which is called positive psychology.

When reviewing current trends, there is less attention for the psychodynamic approach, and the idea of innate negative drives. (Glassman, Hadad, 2004). For orthodox economists, having built their core analysis on an innate drive this is bad news. Human motivation is the motor, and without a clear view on the direction of the different drives, it becomes impossible to understand the mental processes that are distinguished and described. In the next section we will see what the import of psychological knowledge into the body of economic knowledge has brought us so far.

10. Behavioural economics

Orthodox economics shows under which conditions scarce resources are optimally allocated so as to reach a maximum of efficiency (Keizer, 2007). The ideal economic structure is the perfectly competitive market. Perfect competition is defined in such a way that all goods have just one price, which is a perfect reflection of its natural scarcity. One of the necessary conditions is the existence of perfect information. Economic actors are assumed to be well informed about their own preferences (needs and desires) and about the prices and satisfaction generating capacities of the

goods that are on offer. Even the future is known – we all know exactly what will happen during the rest of our life. This makes it possible to assume that all inter-temporal choice problems can be solved.

Every economist ought to know that this is an ideal-typical construction rather than a serious attempt to describe and explain reality. Economic analysis, as we know it from textbooks is an ongoing attempt to relax one or a number of constraints as set by the simplest version of the ideal-typical model. The introduction of the assumption of imperfect information has led to important adjustments to economic theory. The typical economics of information considers information as a scarce good, making the analysis more consistent! Economic and rational actors buy an optimal amount of information, on the basis of which they decide to allocate the remaining resources.

Simon (1957) considered this solution to the problem of imperfect information as unsatisfactory. His alternative approach runs as follows:

- (1) Cognitive capacities are limited; so people can never collect all the information that is available somewhere.
- (2) People who spend resources in searching for relevant information continue their search until they are satisfied rather than keep searching until their calculations of costs and benefits of the additional information tell them that they have reached their optimum.
- (3) Since it is impossible to calculate the costs and benefits of information not-yet-found, it is better not to speak of maximisation of utilities and of optimisation anymore. It is better to characterise the human drive as *satisficing behaviour*, and *bounded rationality* must be substituted for perfect rationality.

The divide between the orthodox approach, expressed in terms of utility maximisation and optimal amounts of information on the one hand, and the cognitive approach, expressed in terms of satisficing behaviour and bounded rationality, still exists. The orthodox people stick to the idea of perfect rationality and optimality. They apply the so-called *expected utility theory*, which says that the future can be predicted in terms of probabilities. It means that we can extrapolate regularities in the past into the future and calculate the risks that are always involved. Perfect rationality means that actors maximise the expected utility that can be derived from particular outcomes. A perfectly rational actor is indifferent between the following two options:

- (1) the reward for a particular effort is 100
- (2) 50% probability of receiving nothing and 50% probability of receiving 200¹⁴.

¹⁴ In other words, a rational actor is risk-neutral. If we were considering risk-aversion as a preference, it would be perfectly in line with orthodox economics.

Cognitive scientists stick to their idea that choices are not based on explicit calculation when searching for information. Given the information available people can make calculations of a few options. But the decision to choose between option A and option B, and not between an *unknown* numbers of other and different options, is not an economic-rational one. People are uncertain about the realism of their interpretations of the situations and the options available. Therefore they develop *rules* on the basis of tradition and experience, which *frame* their situation. Within a particular framework it is easier to make a calculation that function as a satisfactory basis for decisions. Experiments of behavioural economists and cognitive psychologists show, however, that people are risk-seeking or risk-averting, dependent on how the situation is framed! Imagine an organisation advisor has a one-man's business and operates in the health care sector. She regularly participates in a public tender, which takes a week of preparation. Her situation can be framed in two different ways. Frame 1: she is used to calculate her own labour costs on 4000 euro per month, and transfers this money to her private account. Now for next week there are two tenders, and our organisation advisor must choose which one is to be preferred. One tender gives a reward of 500, and the other gives a reward of 800 with a probability of 25% and 400 with a probability of 75%.

Frame 2: she has not developed the habit of separating her labour costs, and calculate in each tender calculation also her labour costs – 1000 per week. Then the options are: the first tender gives 500-1000 for sure, and the second tender gives $0.25 \cdot 800 + 0.75 \cdot 400 - 1000$. Experiments show that people always try to avoid losses as much as possible, and are risk averse when different levels of gains are compared. In our example it means that the organisation advisor is inclined to go for tender 1 in frame 1, and for tender 2 in frame 2. The approach just set out is called *prospect theory* and is meant to offer an alternative to the neoclassical expected utility theory.

The work by Simon was the start of what is called *behavioural economics*. In the beginning the cognitive approach stressed the limited cognitive capacities of the human mind. Attention moved increasingly to the role of emotions, however. In Greek philosophy already the imperfect control of emotions by reason was the essence of the moral problem. Where Plato saw the task of reason to oppress the emotions saw Aristotle reason as the capacity that must select emotions that contribute to human well being from emotions that are not serving the own interest. The art of life was to find a balance (Norman, 1994).

This Aristotelian idea began to play an important role in behavioural economics. Under the influence of modern psychological research *self control*, expressing the relationship between emotions and the capacity to control them, became a central concept (Tiemeijer et al., 2009). The analysis describing the important psychic relationships runs as follows: a human person is permanently exposed to a flow of impressions, which are framed in such a way that they become understandable. Understanding

triggers emotions, which set a person in motion; in other words, framed impressions trigger emotions that drive people to act. Many emotions are linked to needs and desires of an immediate character: feelings of hunger and thirst, of anger or sorrow, of lack of safety and of cold. Many desires might, if immediately satisfied, evolve into addiction: alcohol, gambling, or sex. There is, fortunately, one emotion that says: 'wait a minute; let's find out whether the satisfaction of this need or desire is really serving the own interest'. Some persons have a strong will and can control themselves relatively easy; others, however, have difficulty in controlling their immediate desires and needs. Now we can call a person with a lack of self control *imperfectly rational* or even outright *irrational*: by satisfying all immediate needs that pop up, he is not serving the own long term interest.

After this exposition of the shift in meaning of the concept of rationality, we will give a short overview of the main results of empirical and experimental research that has been executed on the basis of behavioural economic theory.

Neuroeconomics

Neuroscientists distinguish between two processes, which have a very different function (McClure, 2004). The first takes place in the limbic system, associated with the midbrain dopamine system. It processes information about immediate costs and benefits of a particular phenomenon. They are of an affective and automatic character, run very fast and do not take much energy. The second is located in the lateral prefrontal and in the posterior parietal cortex. It processes information about delayed benefits and costs of a particular phenomenon. They are of a cognitive and controlled character, run more slowly and take much energy. Romer (2000) discusses the example of the eating of peanuts. Many people like the taste of peanuts and often eat them. But some people are allergic for it. They have the problem that the assessment of the taste is a matter of affection; it takes place automatic and fast. But the assessment of peanuts in terms of health effects is a cognitive affair and takes time and energy. So, if a person does not establish a rule of the type "I never eat peanuts", he is always seduced to eat peanuts, while regretting it later.

A second neuroeconomic finding is the fact that groups of neurons compete with each other (Camerer et al., 2007). Groups of neurons transport bundles of information – units of information that belong to the same category. Information of an affective character, which is unfamiliar to the person, is transported to the cortex for a deliberate and cognitive treatment. But familiar information is processed automatically and is not sent to the cortex – it is already integrated in the existing vision of the person. So familiar groups win the battle from unfamiliar groups, and behaviour, is primarily determined by information that fits the existing framework. This process can be illustrated by the following example. A person is economist, and received training in neoclassical economics. He reads in articles and in newspapers that the financial crisis of 2008 is

caused by expansionary monetary policies by the American Federal Reserve System. Since this analysis fits nicely the neoclassical framework, he uncritically consumes this information. In other newspapers he reads about the irrationality of banks and clients being the cause of the crisis. However, in neoclassical economics every actor is assumed to be perfectly rational, and he has never been trained in the meaning of the concept of rationality. So this information needs elaborate cognitive processing, which takes time and energy. Therefore our person has a strong interest in ignoring this information.

The two systems and the fact that affective processes run faster through the system is often explained in an evolutionary way: survival required instinctive reaction – no time for deliberation. It explains why many people are quite myopic.¹⁵

A last discovery is the fact that pain experience is heavier, and triggers more reaction than the experience of pleasure. It might also have an evolutionary function: danger requires alertness, while pleasure suggests a safe environment, which makes relaxation possible. Phenomena like loss aversion, to be discussed in the next subsection, can be explained in this way.

Cognitive science

In the text on neuroeconomics we talked about groups of neurons, not of separate individual neurons. They operate group wise because the mind always approaches reality that comes to the mind by means of sense-impressions categorically. In a life-long process we learn to categorise reality and create some order; otherwise we won't understand it. So we have our perceptions of the world rather than the one and only objective picture. This idea of *perception* or *interpretation* can also be called framing (Kahneman, Tversky, 1979). It shapes our intuition, and is primarily of an immediate and affective character. The framework gives us scope in understanding what's going on, but it also limits us. If we had learned that there are two groups in society, one with chances and another group without any chance to climb the ladder and make career, it is impossible to see that many people of the second group did not even try to make a career. If a member of the second group – 60 years old – discovers that he had good opportunities in the past, but simply was not open to it, this person has a strong interest to deny this discovery. It would be too painful to realise that he had missed so many opportunities, and that his actual opportunity costs taken over his whole lifetime, were very high. The drive to ignore this sort of information is called *self-serving bias*. This doesn't hold for persons only, but also for organisations. Imperfectly rational chief executive officers going for the own interest develop strategies for their companies, which turn out to be bad. Then it is a hell of a job for these

¹⁵ See Shiller (2002) for an example from investor theory, and see Frey (1978) for an example from voter theory.

leaders to acknowledge that they were the cause of the problem, not “the situation” (Kets de Vries, 2006).

Which factors do determine which frames are constructed? The first factor is called *stimulus salience*. Parent-figures are very important in this respect. They are constantly bombarding their very young child with sentences such as: Benjamin, look, this is a table, and this is a chair. Benjamin: now you are a good boy. So upbringing is a major determinant of the way we look at the world. A second source is education. Professionals are trained to interpret particular phenomena in a particular way. They see things a non-expert cannot see. They know how to tackle particular problems, and have routinised their operations. A heart surgeon, for instance, knows without much thinking what to do. This is exactly the characteristic of an expert: sense-impressions about ‘their’ problem are processed by the immediate, affective and effortless system, which create room for deliberate attention to the particulars in each individual case. A person perceives sense-impressions in such a way that he understands it, and ‘knows’ how to react. It leads to fast, automated affective reactions, mostly in the unconscious. But if the situation is not completely familiar, controlled and cognitive reactions are triggered: thoughts about the situation: “what shall I do”? May be the affective reaction has already led to some behaviour, and must the cognitive part consider whether the first and immediate reaction was correct or not. The quality of this so-called *corrective thought* can be improved by education; life-long learning can make a person more rational, although he needs enough willpower to block if necessary particular affective reactions.

Corrective thought leads to an analysis of the situation within the framework once intuitively adopted. Especially professional training teaches the student how to solve particular problems. Truly academic education, however, teaches the student which frameworks of interpretation can be used to understand particular types of problems, and therefore it is an important factor determining frames. So, an academic student will increasingly discover his own intuition, and is offered the chance to change it. But we all have a strong interest in not changing a paradigm, since the psychic and social costs are perceived as terribly high. There is (emotional) aversion to move from a liberal to a conservative paradigm, for instance. When the financial crisis 2008 started, and everyone began to blame the American central bank for having caused this crisis, the previous chairman of this bank, the famous Alan Greenspan, came out and blamed himself for being so foolishly liberal. He had the guts to come out and blame himself but he was in a relatively easy position as retiree. The current chairman, Ben Bernanke, was in a more difficult position. He was an acknowledged expert in the field of financial crashes and depressions, especially of the economic history of the thirties of the previous century. If he had admitted to be blind, it would have been at the cost of his position, economically as well as socially. So, he simply denied to have made big policy mistakes.

A third and last factor that influences the perception of a particular situation is *selective attention*: some elements are stressed on purpose to attract attention. A person is dressed in a red gown, in an environment where everybody else is dressed in white and black, for instance. The colour red attracts all the attention of the people in the neighbourhood. Later people remember the situation and think of the person with the red gown!

When framing a particular situation we need *anchors* as points of reference. Neoclassical economists frame the world in terms of economic and perfectly rational actors, who meet each other in markets. If a particular economy shows increasing unemployment, the idea of a free-market economy which is always close to general equilibrium can function as a point of reference or anchor. It is a benchmark, which shows in which direction we must go in order to decrease unemployment. Imagine the country has institutionalised a system of collective wage bargaining. Models are developed that introduce a system of collective wage bargaining into a model of general equilibrium. Given the anchor the model shows unavoidably that union influence on the level of wages is the cause of unemployment (Keizer, 1992).

Frames and anchors are very important elements in the knowledge that is used when taking important decisions. They are of an intuitive kind and automatized, affective and effortless. Frames are like shelters: they create emotions of safety and being at home. They must be developed into more sophisticated analyses, and specified models, although it almost never happens in this way. Most of the time people have an intuition and dispose of some statistical information, which shows some development: a positive or negative trend, for instance. If the intuition suggests a negative trend, while the statistical information suggests a positive trend, most people trust their intuition (Shiller, 2002). The problem of safety in the streets of large cities is a good example. In Dutch cities such as Rotterdam and Almere many people have the idea that criminality is growing, especially the number of violent incidents. For politicians it is difficult to convince the public of the opposite by showing statistics with a positive trend. Why? People trust their intuition, which functions as their personal advisor who is always there. They live in these unsafe areas, and see violent action regularly: "how dare politicians say that their statistics know better". Many experts in social science are specialised in empirical research, which is based on a particular paradigm. Most of the time these researchers are not questioning their paradigms and do not bother about the limitative character of their work. There are also experts who are statisticians, like econometricians who hardly have any framework of interpretation. They correlate and calculate probabilities. Their problem is that most people are not open to their information and ignore results of calculations that cannot be understood intuitively.

The evolutionary approach explains the primacy of the affective system by referring to the necessity of a quick reaction in case of danger. This has made living creatures, including humans myopic. In the literature on voter behaviour voters are supposed to be myopic, which means that they look at the current situation when judging whether the ruling parties have done a good job or not. Politicians use this fact by stimulating the economy about a year before the elections, thereby creating a so-called political cycle (Frey, 1978). Financial investors can be very myopic by assuming that particular rises in the price of stocks will continue. Many investors think that they can foresee when the price rise stops and turns into a decline. In practice almost all people are too late in selling their assets (Akerlof, Shiller, 2009).

The assessment of developments in the near future takes place in a different part of the brain compared with the assessment of developments in the far future, which makes it difficult for a person to be perfectly *time-consistent*. In an experiment people were asked for their preference: 100 euro now or 110 euro a day later. Then they are asked for their preference: 100 euro about a year or 110 euro about a year and one day. It appeared that people assessed the costs of waiting a day differently: one day of waiting now is more costly than waiting one day about a year. In other words, the difference between zero and one is larger than the difference between 365 and 366.

A last consequence of the different processing of affection and cognition is related to the difference between risk and uncertainty. Risks can be expressed in terms of probabilities, calculated by means of statistical methods. Suppose that a times series of the rates of return on investments in the AEX-assets can be presented as a cycle, and we just left the lowest point: 2%, for instance. Extrapolation leads to an estimated 3% for the next year with a certain probability, which can be calculated. The affective system in our mind approaches the same problem differently. We experience not risk but uncertainty. It triggers emotions of fear and anxiety, leading to panic or to apathy, dependent on the characteristics of the personality. Uncertainty can also lead to strong positive reactions: in a climate of optimism many people become over-optimistic and invest a lot in risky assets: "no problem, we live in a new era, an era of ever-growing wealth". The fact that the affective system and the cognitive system are not perfectly coordinated makes it necessary to develop rules of behaviour to control the uncontrolled emotions of the affective system. Within a framework of rules people feel safe and quiet. Within these institutions the cognitive part can make calculations to support the decision making process. The Post-Keynesian plea for financial regulation to avoid financial crises is derived from this type of analysis of the financial world (Minsky, 1982).

The social factor

Social psychology is an important part of psychology. Its paradigm says that processes in the mind are significantly affected by or even completely determined by the characteristics of the social world of the individual person. It starts with the parent-figures who shape their child's emotional and cognitive structure. Later the school and the neighbourhood, and even later the organisation where our person has a job, are shaping the way a person approaches his world. The social world is characterised by group structures: we belong to the rich or to the poor, to the skilled or to the unskilled, to the Christian believers or to the atheists. All these groups are characterised by a subculture, which defines the way group members interpret the world. The group's worldview determines the common values and norms, and group members are supposed to stick to the rules. All together these groups form society, which is integrated to a certain extent. Groups can only function as such if the members attach authority to leading figures, who specify daily practices. A well-functioning group puts pressure upon its members to conform to the rules of the club. Now we will give a few examples, which illustrate the relevance of the social factor for our understanding of the functioning of economies.

In the first place, we will discuss the problem of blood donation. In the past, volunteers regularly delivered blood. The reward was something very small such as a book token or an extra day off for privates. Later the organisations that were demanding for blood began to pay the suppliers. They assumed a positive effect on the quantity supplied, but the opposite appeared to be the case. How can we explain this effect? One explanation says that the pricing did the good transfer from the social to the economic world. Before the pricing the volunteers saw it as pro-social behaviour, creating and maintaining a particular level of self-respect. But the introduction of pricing made the good to an economic good, which can be offered as long as the economic benefits are higher than the economic costs. The lower level suggests that the price was simply too low to create a market equilibrium. Moreover, in case of voluntarism people with low-quality blood does not participate in the delivery. But now it has become an economic market the blood supplied must be checked to see whether the quality meets minimum standards.

A second example is about tip giving. Experience shows that people give tips to waiters in restaurants, even if it is very clear that the tip giver will never return. So, there cannot be any economic motivation. But also a social motivation is problematic as explanation. In the example the tip giver has never met the waiter, and has no company to whom he wants to show his attitude. The only reason we can think of is self-respect. Particular behaviours have become part of the tip giver's identity. He would despise himself if he were not giving a tip. By sticking to this good habit, he maintains his self-respect. If many people derive respect from pro-social behaviour, positive social relationships are stable.

In general we can say that culture has a significant effect on the performance of the economy. If it promotes pro-social behaviour and creates trust among producers and consumers, the economy will grow.

Culture gives an answer to the question of what is justice and what is fair, a core item in sociology. The effects of culture can be illustrated by experiments (Henrich et al., 2004). In an ultimatum game there is a proposer, who divides a sum of money between himself and a responder, who can accept the offer or reject it. In case of rejection neither the proposer nor the responder receives anything. An economically motivated proposer, who assumes that the responder is also an economically motivated actor, offers the responder just one euro, since he assumes that the other prefers one euro to zero euro. The experiment was held in 15 non-Western countries with much cultural variety. The modal offer appeared to be about 50%, while the mean was 40-45%. About 20% of the responders rejected the offer. In the dictators game, which is the ultimatum game without the opportunity to reject, the modal offers were zero and the mean was 20-30%. In a public goods game people were asked to give voluntarily a contribution to a fund that would be used to finance a particular public good. Every player received a particular amount of money, and was asked to put some money in the common fund. The result was that most people gave 40-50% of their money, but in case of repetition of the game the offers declined to almost zero. Apparently people were disappointed about the payments of the others, and decided to stop being altruist.

11. Psychology as the logic of the psyche

Our exposition of the different approaches in psychology has led to the following picture.

The biological approach distinguishes between two neurological processes. The first is responsible for the transmission of automated, uncontrolled and affective processes, and is located in the limbic system. The second is responsible for the transmission of deliberate, controlled and cognitive processes, which is located in the cortex. The first process takes hardly energy, while the second is energy consuming. When processing sense-impressions groups of neurons compete with each other; those impressions that are familiar to the person win, and the information carried by the losers is ignored (winner-take-all-principle).

The behavioural approach is essentially about the process of conditioning: we learn by association, store the information in the affective memory (intuition), and use it automatically without much effort. The cognitive approach distinguishes between two systems: one is responsible for the perception of the situation: the categorization or framing, including the anchoring. It functions as an affect and can be called intuition. A second system processes incoming sense-impressions deliberately and cognitively. It leads to an analysis of the situation on the basis of the framework that constitutes the intuition, which is called the cognitive map.

The psychodynamic approach makes an analysis of the mind. According to Freud the mind is the battlefield between the Id representing the genetically determined needs of the person and the Superego, representing the societal needs. The Ego must solve the emotional conflict

by reconciling the different needs. Jung, however, makes a distinction between the self and the ideal self. The self represents the way the person actually manifests himself, while the ideal self is the way the person should manifest himself, according to his own ideas.

At last the humanistic approach offers a type of growth theory. What is the goal of a person when all so-called deficiency needs are satisfied? The answer is: discover the true self and manifest him to the world, including the own Ego or 'I'. Humanist psychologists call it self-actualisation.

The biological psychologists analyse stocks and flows in the brain, whereas the cognitive psychologists analyse the same processes in the mind. Brain and mind are two sides of the same coin, or two aspect-systems of one and the same phenomenon, which is the human person. But if we want to understand these processes, we need to know what are the prime movers or drives that keep the neurons and emotions moving. This is where the psychodynamic and the humanistic approach come in: there is an ongoing emotional conflict and we need all our energy to solve these conflicts in such a way, that "we grow". It means that we increasingly discover our true self, and learn how to live our life accordingly.

Now we can call the first brain process and the first mind system the material and the mental aspect of the actual self respectively. The second brain process and the second mind system are the material and the mental aspect of the Ego or 'I' and its true self as experienced by the 'I' respectively. The true self as experienced by the 'I' can only manifest itself if important emotional conflicts are solved. Conflict resolution requires energy, which means that very poor persons have difficulty in resolving their problems because of a lack of resources to satisfy basic needs such as food, drink and shelter. Conflict resolution requires also a minimum of recognition by relevant others. If the economic and the social problem are not very severe, there is room for a person to become aware of the self, and to see whether this discovery leads to self-respect. If this respect is below a particular minimum it might lead to an aggressive attitude towards the self. As a matter of survival a human person is equipped with the capacity to protect the true self from being discovered. This self-serving bias is reflected materially in the winner-take-all principle in the neuron competition, and is reflected mentally by the so-called cognitive pathology. So, our drive to discover and to develop the true self is constrained by the self-serving bias.

Now we can fully answer the question of what we mean by the psychic logic, reflecting the behaviour of a typical psychic and imperfectly rational actor.

The psychic imperfectly rational actor is maximising his true-self respect under the constraint of

- (1) A belt that protects the true self from discovery of its shadow sides;¹⁶
- (2) Limited energy available for the execution of decisions taken by the ego or 'I' (limited willpower).

The mechanism operates as follows: sense-impressions are framed in a particular way, which leads to emotions. These emotions, called the actual self (AS), are automatically and effortlessly transported to the brain and leads to behaviour. The emotions also trigger more elaborate and controlled processes, which are transported to the true self as experienced by the 'I' (TSE) as well as to the 'I'. This centre takes decisions and gives orders to the executive management (willpower), which influences behaviour. In figure 5 we have pictured this process.

If sense-impressions give a negative message about the true self, the TSE adjusts a little bit and the executive management receives new orders to change behaviour in a direction that leads to more self-respect. The more impermeable the protective belt around the TSE and the more willpower, the higher the respect for the TSE. But impermeability of the belt makes it impossible for the person to grow, thereby maintaining a permanent emotion of emptiness.

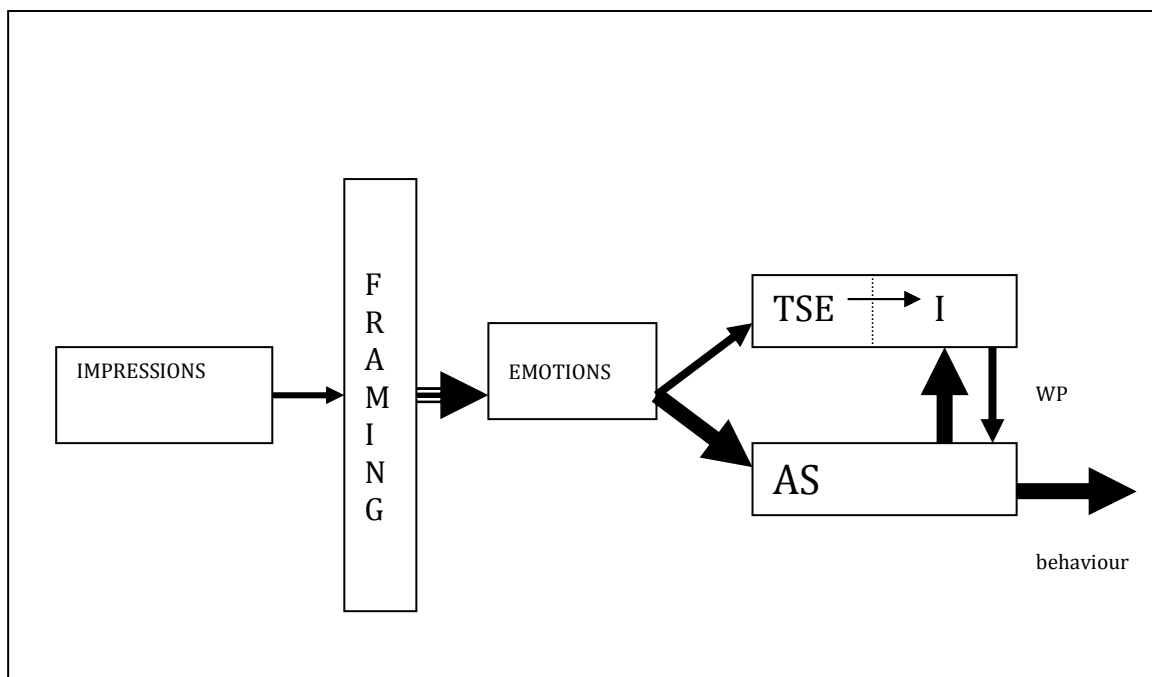


Figure 5: the principle of psychic logic

The analysis of the mind is of a partial nature, as is typical for economic analysis. The typical economic force is also analysed in isolation.

¹⁶ There is a striking parallel with the scientific-philosophical approach of Imre Lakatos here. He has developed his theory of the protective belt, which protects the paradigm of a research programme against easy refutation (Lakatos, 1970).

Therefore we have analysed the typical psychic force in isolation. Now we need an integration of the two analyses. When developing a typical social analysis, reflecting social logic this analysis should also be integrated with the psychic and the economic analysis. If we succeed in this project, we would have developed a unified paradigm and framework of interpretation and analysis that can function as a theoretical basis for social science. A lot of work needs to be done before we reach this goal.

To illustrate the relevance of the different psychological approaches to a proper understanding of economic phenomena we end our text with a case study, in which we sketch ideal-typical psychological solutions to economic problems. These solutions are, as is the case with typical economic solutions, of a partial character.

Do the Germans have a monetary trauma? A case study

Introduction

At the moment the EU faces a financial-economic problem: many EU-countries, including those who have the euro as their currency, have a budget deficit in % of GDP that is higher than is allowed according to the Stability and Growth Pact. Some countries state that this is due to the severe economic crisis. All EU-countries had negative growth rates in 2009, and the cause of this depression was a lack of effective demand. So, governments should stimulate their economies by increasing their investments, and the resulting growth of production will lead to increasing tax and social premium payments, and to lower unemployment benefits. This development means lower deficits within a couple of years. Other countries like Germany, however, advocate significant cuts in government expenditures. Lower deficits lead to lower governmental debts, which create trust among the financial investors. Lower interest rates are the result, which stimulate private investments. At the moment countries who advocate this policy show surpluses on the current account of their balance of payments: they hope to recover through increasing exports. In this debate the Germans play a remarkable role. In an interview in the NRC of March 20, 2010 a former German central banker, Otmar Issing, explains the German attitude by referring to German history. When Germans talk about monetary management they immediately react very emotionally. They are so traumatised by their economic history that an intellectual debate about the advantages and disadvantages of various monetary policy options is hardly possible. Otmar Issing: "The roots of our fear for monetary instability lie in our history". To explain this fear in more detail we discuss this history shortly.

German financial-economic history

When the Germans lost WWI they had to pay the winners for their destructive activities, which was a severe burden for the Germans. The government tried to reconcile the necessity of improving the living of the Germans with the necessity of paying-off the external debts. In 1923 the government could not coordinate the two claims any longer and printed so much money that it became worthless. Hyperinflation led to a lower real value of their debts, but also to impoverishment of the middle class. When a few years later a crash on the New York Stock Exchange led to global depression and to impoverishment of the German labour class, the seeds of the next World War were sown.

Mainstream German economists have learned to interpret these events in a monetarist way: governments must strive for budget balance, and central banks must manage money creation by private banks in such a way that inflation is prevented. The German Constitution (!) guarantees monetary stability, which was a hot issue in the period that the Germans introduced the euro at the cost of the strong Deutsch-Mark. The almost-impossibility for German economists to discuss different policy options is a psychological phenomenon with far-reaching economic consequences. Therefore it is interesting to see how the different psychological approaches interpret this "cognitive pathology".

Six psychological interpretations of the German trauma¹⁷

The *behaviourist approach* interprets German behaviour in terms of conditioning. The Pavlov-experiment with a dog shows that bell-ringing – in itself a neutral thing – becomes a conditioned stimulus, when it appears to be connected with the delivery of food. Germans have connected the monetary crises of 1923 and the period just before October 1929 with the disasters that followed. So in their unconscious, uncontrolled and automatic part of the mind there is an association between money creation, government and crisis, which means that they immediately – without elaborately thinking about the relationships – react negatively in case of large budget deficits. They 'know' how to reduce this deficit, namely through expenditure cuts. Everyone who opposes triggers German irritation. Otmar Issing: "I'm embarrassed about the fact that so many economists simply don't understand that our democracy is at stake". A behaviourist solution to this problem is focussed on a process of unconditioning, like the Pavlovian dog, who hears the bell but is not offered any food. The Germans must try to detect typical Keynesian situations and learn to accept not too large budget deficits, and discover that this does not lead to monetary chaos at all.

The *cognitive approach* interprets German behaviour in terms of cognitive mapping. The German mind is framed in a monetarist way. History has taught them that macroeconomic disequilibrium is caused by inflation,

¹⁷ The text is meant to illustrate ideal-typical solutions rather than offering solutions based on specific analysis, theory and empirical testing. Psychology is meant to explain individual behaviour, but can be applied to groups and to whole nations as well.

which is always and everywhere a monetary phenomenon. Since private bank activities are tightly monitored and controlled by central banks, only monetary financing of government expenditures can cause inflation. Governments should aim at a balanced budget; fortunately the EU has adopted the Stability and Growth Pact, which allows budget deficits of maximally 3% in times of recession. The cognitive solution to this problem aims at offering different cognitive maps. If German economics students are going to participate increasingly in foreign exchange programmes, and discover that different approaches within economics and social science are offering serious alternatives to the monetarist views, a new and more sophisticated generation can take over the leading positions within 20 years.

The *biological approach* analyses brain processes, thereby making a distinction between brain processes that are automatic and uncontrolled on the one hand, and those that are deliberate and controlled on the other hand. If German economists talk with French economists, for instance, the bundles of neurons that are triggered by French information are ignored since they are anomalies for the German brain. So the French are approached negatively, and are confronted with the information that is transported by winning neurons in the automatic and uncontrolled part of the German brain. The biological solution to the problem searches for a change in the physiological circumstances under which important monetary experts take their decisions. Germans are used to long days of working in a hierarchical atmosphere. Individual Germans should try to shape their environment differently: less hours of work in a more open and relaxed context. The younger generation might even change their food habits: less meat and beer. It could release them, making them more sensitive to contributions of people who are perceived as different.

The *psychodynamic approach* focuses on the psychic mechanisms that solve the emotional conflicts in the human mind. In the first place, lack of willpower leads to behaviour that is not in the long-term interest of the actor. This is definitely not the case with the monetary emotions of the Germans, who excel in matters of willpower. In the second place, lack of rationality is based on cognitive pathology. Traumatic events have triggered a strong sense of fear when it comes to monetary matters, and their automatic reaction – discipline, government retreat – cannot be corrected by meaningful analysis offered by people with a different view on monetary management. The psychodynamic solution focuses on therapeutic sessions with leading figures, to let them discover their true motives, which concerns the suppression of fear. Rather than constantly recapitulating typical German texts about discipline and making long hours, leaders could show the results of their reflection to their fellow-economists and to the people in general. The typical German map is based on fear and is not effective in many situations. So, the Germans must break through the cognitive and emotional barriers and apply willpower to get to intellectually more satisfying analyses.

The *humanistic approach* stresses that history shows that the German identity as experienced by the Germans have developed over a long period of antagonistic relationships in Europe. In order to break through the protective belt surrounding the true self, German economists need positive confrontations with economists who are different, in a power-free environment. Then we can expect them to become more open-minded when it comes to discussions about monetary management. Step-by-step German monetary economists discover their true self, and advocate more effective public finance policies without fear.

The *social-psychological approach* stresses that it is social environment that shapes the self of people. For our problem it means that the German attitude can be explained by an analysis of the history of social interaction between Germany and his neighbours. Being a large and powerful nation in the middle of Europe their neighbours have been enemies for a very long time. Time and again German re-action was negative and violent. Now they are very reluctant to really get involved in a positive interaction and conversation with other important nations in Europe. Lack of trust in each other, and in each other's worldview is a barrier, which cannot be lowered, also because of ongoing German economic success. German culture is primarily about organisation, order and discipline. Germans have made serious mistakes in the past, which has created severe traumas, and has strengthened their sense of responsibility, but also of reluctance in taking leading positions. This is a new source of frustration. The problem of the Greek budget deficits led Germans to react in panic: "please, Greeks, discipline your self", which created Greek irritation and reminding the Germans of their Nazi-past.

How can we stop these interactions full of aggression? Can we organise psycho-therapy for a whole nation – or even better, for a whole group of neighbouring nations, in our case the European Union? The best idea is to organise meetings on a regular basis, where important figures from the different nations meet each other in a power-free context, and talk about the important problems and increasingly discover the own cognitive pathologies (Habermas, 2002).

Epilogue

This case is about a German trauma – recognised as such by the Germans themselves. *All people have trauma's, of different kinds and in different degrees.* When advising Germans to open up, and accept the confrontation with people who are different, we must be honest and admit that not only Germans will learn. May be the others will learn a lot from the Germans. We can even imagine that other Europeans adopt German views and attitudes, since they have discovered these to be superior! Therefore the title of this text is a question rather than a statement.

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