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Piet Keizer

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*A multidisciplinary-economic
framework of analysis*

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Abstract. Human motivation offers energy, and circumstances offer possibilities. Only in combination, human motivation and circumstance yield action. Over time, desires and opportunities, to satisfy them closely, interact with one another. Orthodox economics analyzes economic motivation in interaction with scarce natural resources. It assumes that perfect rationality and non-sociality create a so-called economic world and analyzes the economic mechanism of allocation of scarce resources. Neoclassical economists use this world as a theoretical foundation for their empirical research. Heterodox economics rejects this strategy of isolating one motivation, a strategy that ignores the psychic and the social problem. However, the heterodox idea of human motivation, being variable and endogenous, is badly analyzed. This leads the author to construct a psychic and a social world that is completely comparable with the agent-structure model of the economic world. The three isolated worlds are integrated by analyzing the interactions between the three worlds. In the integrated world, the economic structure, the psychic structure and the social structure are one another's foundations. This human world gives familiar economic concepts such as utility, efficiency, rationality, price, value, cost and benefit, a different meaning. Similarly, psychic concepts such as Self, willpower and personality and social concepts such as status, power, culture and morality, are given different meanings. To make the model more realistic, it should be made dynamic and historical and be placed in the context of the world as an open system.

Keywords: orthodox economics, status, self-respect, irrationality, immorality

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Open economies require open minds.

Introduction

After 40 years of immersion in economics, sociology, psychology and philosophy, it has been founded an answer to the question of the relationship between economics as an aspect-system and economics as a subsystem. [1] One of the core issues in economic history is the orthodox economic construction of an economic world, in which the economic aspect of human behavior is analyzed in isolation from other primary aspects. Heterodox economists are united in the idea that isolated abstractions are meaningless: 'we will never empirically observe the effects of this type of economic behavior'.

One of the first schools of economic thought, Classical Political Economy, was an indistinct combination of orthodoxy and heterodoxy. The real-life economy was the object of research, whereas explanations were mostly of an economic (aspect) nature. Later, many economists developed aspect-analyses in an attempt to find universal laws: the law of diminishing marginal returns and the law of comparative advantage, for instance. This genuine form of economics – orthodox economics – was not meant to function as a theoretical basis for empirical research. Therefore, it should have been extended with other relevant aspect-analyses. However, from the beginning, many economists applied the economic-aspect system to real-life economic phenomena, which must be interpreted as a subsystem.

After the Second World War, a consensus emerged among economists that can be summarized as follows:

- The neoclassical methodology says that orthodox economics offers a good micro-economic theoretical foundation for empirical research.
- Mainstream economists add non-economic factors to the explanation on an ad-hoc basis, if the econometric results are not acceptable.
- Because the theoretical basis is the same for all research, it makes no sense to discuss this foundation extensively and repeatedly. The focus should be on the empirical specification of theoretical relationships, derived from the typical economic analysis.
- Institutions are of an endogenous nature – free economic actors automatically develop economically efficient rules of behavior. Private property rights are an important example of such development.

In the margin, it is a large number of groups organized around different research programs. They do barely have a place in the textbooks that dominate academic education. Scientifically speaking, however, they contribute significantly to a better understanding of the functioning of economies and societies. Post-Keynesians and radical economists have developed analyses of economies from a macro-perspective – the first stressing uncertainty and irrationality and the second focusing on the existence of social-economic conflicts. Behavioral economics imports cognitive, behaviorist and biological psychology into economics. Social economics imports economic sociology into the economics of the economy. Finally, the evolutionary economic approach rejects the idea of reality as a closed system that is ruled by one or a few mechanisms. It assumes that reality is an open system; mutations and novelties, competition and entrepreneurial activities are decisive elements in an explanation of the functioning of economic subsystems.

All of these heterodox approaches have in common a lack of a well-defined motivational structure. It is considered endogenous and determined by changes in the situation of the actors. When there are different types of motivations, however, they might change in (relative) strength and duration. Therefore, the concepts 'economic', 'rational' and 'social' should be defined first. It is then possible to analyze and model the relationships between the motivational structure and economic performance.

In the next section, the study provides a concise methodological review of the history of economics. It is presented then the core of a typical orthodox economic analysis. Heterodox economic approaches apply different methodologies. In a following section, it will be discussed the evolutionary and the post-Keynesian programs in particular. The conclusion will be that a bridge between orthodox and heterodox economics requires the construction of two isolated abstractions, one showing the functioning of a typical psychic, and the other showing the functioning of a typical social mechanism. A series of psychological research programs and the development of a so-called psychic world will be discussed. A separate section does the same for the social aspect, thereby developing a so-called social world. The paper shows how the three isolated mechanisms can be integrated. In this integrated multidisciplinary economic world (MDE-world), concepts, such as economic, social, rational, institution and technology, have a meaning that is much broader than neoclassical economists are accustomed to.

A concise methodological review of the history of economics

Mainstream economics considers Adam Smith the Founding Father of economics as an independent science. The term 'independent' can be interpreted in different ways. Economics has become independent of moral philosophy, independent of other social sciences, or independent of vested interests such as those of traders and the nobility rather than the general interest. All three interpretations are illusions, however. It will never be possible to develop analyses of human behavior without any philosophical foundation. It is even undesirable to strive for it. Similarly, the second interpretation is impossible and undesirable. The third interpretation is different – although desirable, it is also impossible. There is a continuing interaction between a person's interests and how he frames the world. Knowledge appears always and everywhere subjective and social. Scientists can never abstract from their own presumptions with respect to their object – human individuals and human groups. The position they take in society creates an unavoidable bias. [2]

Adam Smith was a moral philosopher, social scientist and economist. His work on psychology and sociology (Smith 1759) cannot be separated from his work on markets and the wealth of nations (Smith 1776). When analyzing markets, he assumes economic actors are prudent, not only economic and rational. His positive attitude toward free trade was based on the assumption of a reasonable society. Thus, Adam Smith was a true multidisciplinary economist *avant la lettre*.

In the beginning of the 19th century, a number of economists, such as Ricardo, Marx, and Malthus, began to study real-life economies. We now call their program Classical Political Economy. Other economists, such as Durkheim, Weber and Parsons, placed their analyses of real-life economies in their societal context. This approach is now called Classical Sociology. [3] In the second half of the 19th century, economists like John Neville Keynes and John Stuart Mill launched the idea of analytical specialization. Economists should focus on the economic aspect of human behavior, whereas other social sciences should develop their own aspect-analyses. In a later stage, attempts could be made to integrate them. Famous economists who worked on the construction of what they saw as typical economics include Mill (1848), Walras (1874), Menger (1883) and Pareto (1909). They analyzed the mechanism that rules the economic world, in which the economic problem is the only one. The concept 'economic' refers to the scarcity of natural resources, which creates a tension inside humans. They must rank their needs in order of priority and can only satisfy their needs to a certain extent. By closing

this economic world, other types of factors cannot influence the typical economic processes.

At the end of the 19th century, the first scientists took the human mind as their principal object of research; psychology was born. William James (1890) took the concept 'perception' as the start of a typical psychological approach. Famous psychodynamic psychologists include Freud, Jung and Adler. Because Freud linked the mind with biological factors and Adler tended to stress social factors, Jung was the closest to an orthodox psychology. He searched for mind-internal mechanisms, which address the typical psychic problem, thereby ignoring the typical economic and the typical social problem (Stevens, 1994). [4]

In the beginning of the 20th century, some sociologists began to work on a micro-sociological foundation of macro-sociological explanations. Max Weber distinguished several aspects of human behavior, among them the human drive to status. Talcott Parsons worked on a paradigm for an integrated social science. He distinguished among four aspects: the economic aspect (1), the psychic aspect (2), the social aspect (3) and the political aspect (4). [5] Systems that fail to satisfy these four 'needs' (sufficient natural resources, a minimum degree of integration, cohesion and control over the system as a whole, respectively) tend to fall apart. Therefore, if a person, organization, country, or political alliance, such as the euro zone or the EU, does not meet these requirements, that particular system's survival is problematic. Parsons (1934, 1940) discusses the relationship between economics and other social sciences in reaction to Robbins (1932). Parsons's methodology was ignored by other economists. He became a very prestigious sociologist, and the American Sociological Association called him the greatest sociologist of the 20th century.

Quite soon, some economists began to apply the orthodox analysis of supply, demand, market, equilibrium, price and value to the so-called empirical world. Non-orthodox groups such as the American Institutionalists had developed many statistics about micro- and macroeconomic phenomena, and they were used to test orthodox economic theories empirically – the quantity theory of money, the production function of Cobb and Douglas and post-Wicksellian business cycle theories, for instance. According to Jevons, orthodox economics could be used in explaining the behavior of economic actors in a competitive economy. Those who are irrational and social would be out-competed. This practice led to the neoclassical economic research program. Marshall agreed, but warned that application to the labor market, for instance, would be a bad idea. According to him, collective

arrangements on labor conditions could never be understood if social variables were not considered.

Later neoclassical economists began to ignore the axioms that constitute the neoclassical paradigm. Why always repeat the obvious? The meaning of the term 'explanation' was increasingly reduced to 'correlation' – for example, correlation between two economic factors, such as the quantity sold of a particular good and its price. Whether empirical variables could predict one another became the decisive question. Samuelson (1938, 1950) introduced the term 'revealed preferences' to remove non-empirical variables such as rationality, need and satisfaction. Friedman (1953) defended the aim of prediction rather than explanation and understanding, thereby turning back to the empiricist philosophy and away from the critical rationalist ideas of Popper, Lakatos and Kuhn (Keizer, 2015a). [6] Because the Western economies showed a long period of stable growth, mainstream econometrics produced a few relatively stable empirical relationships. After 2008, however, the empirical strategy to support governments in designing effective policies to fight economies in depression failed dramatically.

The Great Depression of the 1930s stimulated macroeconomic research. Keynes (1936) offered a serious alternative to the neoclassical micro-methodology. Hicks (1937) 'integrated' Keynes into the neoclassical framework, thereby ignoring important methodological differences. In Hicks' IS-LM analysis, Keynes' analysis of employment, interest and money is reduced to a special case rather than offering a different general theory.

From the fifties on, neoclassical economists increasingly applied their framework to the public sector. Public choice and new institutional economics became growing branches in which the economic and rational individual functioned as a paradigm. This research increasingly showed the lack of realism of this paradigm. Arrow (1951) discovered that a democratic decision-making structure creates insurmountable problems if the members of the organization or country do not have a common culture. North (1981, 2005) discovered that institutions could not be explained by orthodox economics. In the course of time, he increasingly admitted that culture and social institutions are important variables in the explanation of economic performance.

Under the influence of Hodgson (1988), a resurrection of original institutional economics occurred. The founding father of this current is Thorstein Veblen, who used the evolutionary approach to explain economic processes. In the next section,

it will be demonstrated that this approach is essentially of a multidisciplinary character. Simon (1957) used cognitive psychology to show that the orthodox-economic assumption of imperfect information makes it impossible to reach optimal positions. A searcher for relevant information can never calculate the marginal benefits of another unit of search; he stops searching when he has the (subjective) expectation that further search is not profitable. Simon's work was the beginning of behavioral economics, which is based on the idea that humans are, to a certain degree, at least, irrational.

The Great Crisis of 2008 shocked the world, particularly the world of academic economists. Suddenly, there is more focus on phenomena such as irrationality and immorality, on institutions and on the different types of power. The most important issue might be the discovery that markets and market economies are fragile and unstable systems, whereas governance systems systematically fail to manage the whole. How should economic problems be tackled in the case of market and governance failure? This does shift the attention to the psychic-social context in which problems occur.

In the next section, the focus will be placed on the orthodox economic world.

The economic world

As already explained, the economic world is an isolated abstraction – the economic mechanism is isolated from the operation of the psychic and the social mechanisms. This world is based on a few axioms: the actors are economic, rational and non-social or atomistic. The concept 'economic' refers to the assumption that natural resources are scarce. In other words, complete satiation is impossible. Everything of value has a price. The typical economic analysis has provided a whole series of universal theoretical laws: the law of diminishing marginal utility, the law of demand, the law of diminishing marginal returns, the law of supply and the law of one price, for example. In a simple version, perfect competition is assumed. This concept is defined by a combination of assumptions, such as a very large number of demanders and suppliers, no barriers of entry and exit and perfect information (Keizer 2015a). Free markets can solve the problem of the optimal allocation of natural resources. There are a few exceptions, however: free markets cannot produce sufficient protection of private property rights and cannot prevent the incidence of externalities and public goods. In these cases, a government is needed. Public choice offers typical economic analyses of democratic and bureaucratic government

behavior. As said earlier, this research exhibits severe problems that cannot be solved within the economic world.

The macroeconomic world consists of a very large number of free markets, all too small to be able to influence other markets. The money market is the only exception; this market is involved in all transactions and must be considered as a true macro market. In more-sophisticated versions, more markets can be considered important for the whole of the economy: the oil market, the housing market and the food market, for instance. By assumption, there are no problems of addiction and other forms of irrationality. Moreover, there are no social problems – all conflicts between people are of an economic nature. Inequality is no problem; orthodox economics is only about allocation. Discrimination and morality do not exist, and slavery is only a matter of voluntary contracts between a master and his slave. In the next section, a few heterodox approaches will be discussed, in order to see how the reality of economics is approached as subsystem, not as aspect-system.

Heterodox economics

Heterodox economics rejects the strategy of the isolated abstraction. Reality is considered dynamic, historical, organic, open and reflexive. A human individual is not a Robinson Crusoe; he is a social being. Social science should be about the empirical world and not based on meta-physical axioms. When considering reality as a system, it is important to be aware that this system is open to all sorts of shocks from outside the system. It makes the whole idea of reliable mechanisms an illusion. The different currents within the heterodoxy are characterized by particular combinations of the methodological characteristics just mentioned. The Austrians offer an individualistic version of the evolutionary approach; social relationships do not exist. The evolutionists assume that the adjustment processes as sketched by Darwin can be applied to economic processes. Post-Keynesians have adopted a typical macro-perspective; they consider reality organic more than mechanical, the economic system an open system and human nature irrational (Eichner and Kregel 1975, Jespersen 2009, Keizer 2015a). Radical economics assumes human actors to be rational and social beings whose interests are determined by their position in the production system (Bowles, Gintis 2011, Keizer 2015a). Finally, the social-economic approach stresses the social embeddedness of economic action (Davis 2008, Giddens 1986, Granovetter 1985). Like the other currents, it does not clearly define its concepts and does not offer an explicit account of the endogenous motivational

structure. The present study will elaborate on two heterodox perspectives, evolutionary and post-Keynesian economics.

Veblen (1899) was among the first economists to apply Darwinian concepts to economic processes. His work is quite unknown; only because Camic, Hodgson (2011) re-discovered the significance of this research strategy has Veblen become popular in evolutionary-economic circles. Darwin discovered that selection of the fittest does not occur through continuous change in properties and behavior of individual actors. It is primarily a matter of changing circumstances that makes some individuals better fit to survive than others are. In orthodox economics, it is the firm, which constantly adjusts to changing circumstances. Those who fail go bankrupt, thereby making room for others. Thus, the free market offers a selection mechanism. Evolutionary economics, however, is also focused on the question of why some succeed, whereas others fail. Nelson and Winter (1982) became well known because of their idea that the development of routines makes many firms quite inflexible to changing circumstances. Procedures, which are developed to economize on production costs, cannot be changed every minute – that is their nature. Suppose an investment fund has developed a routine to examine Wall Street prices once per hour. Other investment funds might out-compete this fund by watching the prices continuously, although their monitoring costs would be much higher. In the heterodox approach, institutions, such as routines, are not only of an economic nature. The social embeddedness of economic processes mean that rules also have a social and therefore moral connotation – 'Thou shall stick to the rules.' Imagine that a large bank has developed its own econometric model that makes predictions about the economic performance of a series of countries that are important for the bank's business. The model might primarily be motivated economically. However, after some time, the bank increasingly experiences the model as a social necessity; it produces status in the eyes of (potential) clients. Although the results are never used, there is a strong incentive to continue the econometric work. Institutions tend to improve stability but reduce flexibility. Social institutions are less flexible than are rules that are only economically motivated. This is how Darwinian economics explains the selection process. Circumstances are changing all of the time. In particular, the ongoing flow of technological innovations functions as an executioner. Those who do not apply the latest technology as soon as possible lose the competition.

The main problem with the evolutionary perspective is the lack of clear-cut definitions of the concepts 'economic', 'social' and 'rational'. In the above example

of the econometric model, the distinction between economic motivation and social motivation was used. However, evolutionary economists are very reluctant to talk about human motivation. In earlier stages, the drive to survive was pivotal in the evolutionary type of explanation, but non-empirical variables currently are avoided as much as possible. We are all animals and react to incentives. This is the essential weakness of this approach; without an explicitly formulated motivational structure, it can't be known what type of events trigger humans to react. If Greek workers strike, demonstrate and occupy factories, is it because of the announced income decline (economic motivation), or is it because of the perceived injustice in the decline of income, relative to the incomes of the top managers of the firm (social motivation)?

The second example of a heterodox economic approach is the post-Keynesian perspective. It does not start with a series of axioms but with an empirical description of the situation of a macro economy. Keynes characterized the structure of Western economies in the 1930s as 'managed capitalism'. If through the operation of 'animal spirits' the system crashes, it does not have the mechanisms that should bring the system back to equilibrium. In that case, the government should step in by increasing its investments, which must be financed monetarily. Leijonhufvud (1968, 2009) distinguishes a high and a low corridor. If consumers and investors are optimistic and spend a large part of their income, the level of production and income will be close to the potential of the economy. Employment levels are relatively high and unemployment low. If consumers and investors are pessimistic, spending a relatively small part of their income, the level of production, income and employment will drop and stay relatively low. Everyone is pessimistic because all other people are pessimistic and act accordingly. Only the government is sufficiently large to provide the economy an impulse sufficiently strong to move the economy from the low to the high corridor. Because of the widespread pessimism, the typical neoclassical solution – lower wages, goods prices and interest rates – makes the situation even worse (Keynes, 1936, chapter 19).

Post-Keynesian economics takes disequilibrium on all markets as its starting point, whereas Walrasian equilibrium is the exception. This has far-reaching consequences for microeconomic and institutional analysis. Imagine a macro-economy that is in disequilibrium. In other words, many markets are in disequilibrium. If interest groups make an analysis of 'their' market, they all advise firms to lower their demand and supply prices. Unfortunately, this policy makes the situation worse. Moreover, they develop ideas about how to change the institutional

structure of their market to make it more flexible and adaptable to changed circumstances. However, a market economy in disequilibrium does not provide to politicians reliable signals about the desirable institutional design. For neoclassical economists, there is only one efficient institutional design; thus, governments should limit their intervention to the protection of property rights. In a multidisciplinary approach, however, institutions function to channel more forces than only the economic one.

Many prevailing market institutions have been developed to form stable institutions for the economy as a whole, the labor market being a good example. By changing the pensionable age when so many older people are unemployed, the government fuels moral resentments among the elderly. An implication is that institutional reforms should not be implemented in times of disequilibrium. The liberalization of the financial markets in the 1990s might also be a good example. That action made the overall economy unstable. Although reregulation is a good policy, we should first help the economy out of the crisis before 'straitjacketing' banks and other financial institutions.

Having discussed two heterodox economic schools, a few methodological conclusions can be drawn. In the first place, the main obstacle to a synthesis with the orthodoxy is its focus on the economic aspect. In the second place, neoclassical economists use the orthodox analysis for empirical application, also in its simple forms: closed, static and mechanical. Methodologically speaking, there is no neoclassical macroeconomics; there is micro-foundation, and at the macro level of analysis, there is aggregation. Heterodox economics does not offer an unambiguous theoretical foundation, however – neither a micro- nor a macro-foundation. It only states that reality is historical, open and organic. Therefore, empirical studies are difficult to interpret. If knowledge is difficult to understand, people do not know how to react to it. In the neoclassical economic approach, actors never face a problem of understanding; they all understand the world as the economic world. The ultimate cause of everything is the economic, rational and non-social actor; therefore, explanations can focus on the search for immediate causes. Does the change of a particular variable 'cause' the change of the variable to be explained?

The analysis of the differences between orthodox and heterodox economics leads to the following strategy. It starts with the development of an explicitly formulated motivational structure in which three primary motives are distinguished, namely the economic, the psychic and the social motives. The economic motive is about the relationship between an individual actor and his natural environment. This

relationship is characterized by scarcity. The section on the methodological review showed that this analytical starting point has led to the orthodox economic structure, familiar from the Anglo-Saxon textbooks. The second motive is about the relationship between a person and his Self. Parallel to economic orthodoxy, it will be developed a psychological orthodoxy, which is about the logic of the psyche. A third primary motive is the social motive, which is about the relationship between human actors, who recognize one another as such – in the positive and in the negative sense of the word.

Based on an analysis of intra- and intergroup relationships, an orthodox sociology can be developed.

The next step is the analysis of the interactions between the economic, the psychic and the social world. A first attempt already shows that the economic mechanism of the free market is strongly affected by a combination of the psychic and the social logic in particular. In the case of rational actors, who live in solidarity with other, the economic mechanism works fine. However, if irrational actors form their own subcultures and rival with other groups of irrational actors, the typical economic market mechanism will be seriously frustrated. A third step is focused on the transformation of a static analysis into a dynamic and historical one. Moreover, the framework should analyze the interrelationship between the micro- and the macro-level carefully. It should thus not only formulate a micro-foundation for a macroeconomic analysis but also a macro-foundation for a microeconomic analysis; this would not be a luxury in our time of crisis and depression. A dynamic motivational structure implies that the relative strength of the three motivations might change over time. Different situations trigger different motivations. In Keynes' view, a boom triggers animal spirits, which make people (overly) optimistic, whereas in a depression, people become (overly) pessimistic. Their interpretation of the situation is constantly biased by the emotional state of their minds. This affects macroeconomic developments significantly. Uncertainty affects self-respect negatively, making most people uncertainty averse. They become less active and more apathetic. In the analysis by Keynes, a government has the power to change the state of the 'collective mind' by investing in public services. Another example of a combined psychic-social factor references the Mediterranean societies. People are negatively socially motivated in the case of wage decline, which is quite understandable when we realize that their societies are divided by serious social conflict. A different state of their minds – virtue rather than vice – could lead to the

end of social conflict, a process seen in Northern Europe in the second half of the 20th century (Keizer, 2015a).

A fourth step in the research procedure is the opening up of the system. At every moment, the system is bombarded by smaller or larger shocks. If we also introduce the idea of organic rather than mechanical systems, we have reached the highest level of complexity. In an organic system, no one element has constant characteristics – every unit is permanently adjusting to the other units. In such a case, the system can only reduce chaos by building buffers at every level of the system.

The psychic world

The mind, as an object of research, was part of medicine. James was more than usually interested in the mental part of a human person and made an analysis of it (James, 1890). His main concept was 'perception', which fulfilled an important role in the transformation of sense-impressions into thoughts, emotions and feelings, which are located in the mind. It can be analytically distinguished, but not empirically separated from the body. [7] In particular, the brain functions as the material embeddedness of the mind. The first psychologists, such as Freud, Jung and Adler, analyzed the dynamics of the mind or psyche. Later cognitive psychologists analyzed thought processes, thereby abstracting emotions. Under the influence of the empiricist methodology mainstream, psychologists increasingly characterized the mind as a black box. The dog of Pavlov has become famous: after the ringing of a bell, he is offered some food. After some repetitions, he starts salivating after only hearing a bell ringing, already 'knowing' that his food is coming. This approach is called behaviorism, and it claims to have discovered that animals behave automatically – behavior that is based on regular empirical stimulus-response relationships. Some people consider humans part of the animal world, thereby assuming that behavioral science will produce many stable empirical relationships. People can use these regularities to their advantage.

In what concerns the essential problem of the psyche, it is done by modeling the mind using an approach highly comparable to how orthodox economics has modeled the relationship between a person and his natural environment. The psychic system must address inner tensions. Therefore, the construction of a very simple, static and closed system starts. Following Jung, a distinction between the 'I' of a person, his actual Self (AS) and his true Self (TS) [8] is needed. The 'I' is the decision-maker,

the actual Self is a bundle of immediate needs and desires that drives the person to act, and the true Self is an inner voice that feels responsible for the long-term interests of a person. The decision maker has some willpower, necessary for the control of the actual Self. Now that we have established the ontology of the psyche, we provide the system a principal goal, comparable to orthodox economics, which assumes that a person is driven to maximize his utility under the constraint of resources available. For the mind, we assume that the 'I' is motivated to maximize self-respect under the constraint of limited willpower. Now, the psychic mechanism operates as follows. The 'I' uses its willpower to minimize the absolute value of the difference between the AS and the TS. Because our information about the identity of the true Self is imperfect, the model is about the true Self as experienced by the 'I' (TSE). The respect for the actual Self as experienced and controlled by the 'I' (ASEC) is influenced by the judgment of the TSE. The 'I' has a strong interest in protecting the respect from a sudden decline. All sorts of experiences can influence behavior, which is aimed at maintaining self-respect. However, some experiences might mean that the person's framework of interpretation is unrealistic. The 'I' is then inclined to ignore this dangerous information and simply deny matters that are obvious to many others. In this second case, willpower is used to protect the unrealistic frame.

This analysis shows two forms of irrationality: lack of willpower (1) and the use of willpower to protect the experienced true self from being unmasked (2). The second form is called 'cognitive closure' or 'cognitive capture' (Stiglitz, 2013). [9] In Goudzwaard (1979) we find an analysis of modern tunnel visions already.

Neuroscience research has shown that this model of the mind has its material counterpart in the brain. The cortex appears to fulfil a leading role in the transformation of pieces of information into a whole, which is a view of the true needs of a person. This view corresponds with the true Self and the ratio of a person. The brain stem transports signals about resources, which can function as the input, necessary for action. This process corresponds to the system of communication between the true Self, the actual Self and the 'I' of a person, who is equipped with willpower. The limbic system is involved in the satisfaction of the immediate needs, which corresponds with the actual Self.

The results of brain researchers appear very interesting (Kahneman, 2011). Neurons, which are involved in the processing of information, are inclined to group together. Information that belongs to a common paradigm is accepted as a whole, or is rejected as a whole – rejected by the controller of the memory. For a neo-

classically framed economist, the discovery that the wage rate is increasing but the unemployment rate is also increasing is a difficult-to-accept 'fact'. Apparently, there are free-market-opposing elements such as government-supported union monopoly power. For a social-economically framed mind, however, the finding is not odd at all. Apparently, there is a social process operating that creates an increasing difference between persons with tenure and persons who lack it. The first group is offered a wage increase every year, irrespective of labor market developments. Some members of the second group keep their wage, whereas other members are fired if necessary – and hired again if beneficial for the company. Their wage is very flexible – in the current situation in Europe, these wages drop. The macro result is increasing unemployment, increasing macro wage rate and increasing inequality.

Researchers make a distinction between fast and automatic versus slow and controlled physiological processes (Camerer et al., 2007, Kahneman, 2011). The first category can easily be understood by the behaviorist approach; the second category, however, assumes the existence of a controller who starts a discussion between the various elements in the mind. Economists need in particular an analysis of this type of interaction. They assume an 'I', who takes decisions rationally. Therefore, the 'I' registers all of the needs, which compete with one another, and ranks them according to their priority for the person as a whole. This process occurs in the mind and is not empirical. Without a mind, a person cannot store information about experiences; he cannot learn and is an a-historical person.

The axioms of the psychic world are the following: actors are non-economic (1), non-social (2) and irrational (3). 'Non-economic' means that natural resources are abundant. 'Non-social' means that relationships between people don't have a social aspect. In this world, these relationships imply market exchanges wherein all prices are zero. 'Irrational' means that the strength of willpower is insufficient to live according to the claims of the true self as experienced by the 'I'. More-sophisticated analyses introduce the possibility of the 'I', who is protecting himself from the discovery that the TS is different from the TSE. Perfect rationality does not exist – it is only an ideal-typical construct, such as democracy and bureaucracy. In more-sophisticated versions, typical Jungian elements, such as different types of personality and life themes, can be included (Stevens, 1994, De Vries, 1993).

The social world

As seen in the section on 'the economic world', orthodox economics is based on the axiom that individuals are like atoms – atoms that are not inclined to cluster into molecules. In typical economic relationships, actors remain only economic in nature. Social relationships do not emerge from economic relationships; exchanges only improve the situation of our economic actors.

Sociology is based on the opposite axiom. Relationships between humans are social, and frequent contact does change human nature. When economic cooperation is successful over a relatively long period, people also develop social relationships with one another. If they have bad experiences with particular types of cooperation, they might build up negative social relationships. Whereas we describe economic relationships as being of an atomic nature, we can describe psychic relationships as being of a sub-atomic nature and see social relationships as have a molecular nature.

The first sociologists developed a type of macro-sociology, mostly of a historical character. Marx, Durkheim, Weber and Parsons are the prominent men of Classical Sociology. Marx' analysis was not only macro and historical, but also closed and mechanic. He foresaw the end of capitalism – for him, it was a 'historical necessity'. Durkheim considered ongoing specialization as the source of prosperity and the source of social conflict. Weber considered human societies too complex to be approached by logical positivist principles. Empiricism assumes that the empirical world contains many stable relationships. Unfortunately, this is not true. Therefore, he advocated a method of understanding: if social scientists want to understand the behavior of a particular group of people, they should discover the framework of interpretation that unites those people. By observing their behavior through people's own eyes, the observer increasingly understands the reasons why the group behaves as it does. Weber offers a surprisingly 'modern' view on the nature of knowledge. Influenced by Kantian ideas, he says that empirical observation is only meaningful if people use a framework of interpretation. [10] As a sociologist, he adds to this notion the fact that processes of framing are essentially of a social nature. The most important stage is the first years of a child: parent figures teach the child how to see the world. Later, friends and teachers become influential. When young adults apply for their first job, they discover that this process of framing does not stop. Moreover, it is clear from the very first moment that freshmen are not free to decide what is meant by effective functioning. The adage is always 'adjust or leave'.

Macro sociology is about relationships between large and important groups; it studies how changes in these relationships affect the functioning of society as a whole. In economics, the function of the economy is to offer prosperity to the participants. In sociology, however, the functioning of society as a whole is to offer all people stability, justice and individual freedom. In particular, Parsons has laid the foundation for the construction of sets of interrelationships between macro- and micro phenomena (Parsons, 1937). Micro-sociology is about small groups of people; some are organized quite hierarchically, whereas others are organized more democratically. As discussed, Parsons distinguishes the following four aspects of human behavior: the economic aspect, the psychic aspect, the social aspect and the political aspect (Parsons, 1951). The social aspect is about the process of grouping and of ranking these groups in terms of status. When combining orthodox economics with other aspects of human behavior, the ideas of Parsons are very important.

The sociological rational choice is not essentially different from orthodox economics (Coleman, 1994). In particular circumstances, moral phenomena develop. However, on the ontological level, these sociologists never formulate the existence of moral capacities. Moreover, they do not accept that human nature might change under the influence of long-term human cooperation. Social norms might be accepted as a restriction, but they do not enter the utility function. In other words, if the monitoring of behavior is very costly, social actors will evade these rules. These matters can only be solved if sociology formulates a realistic psychological foundation.

For the formulation of a social world that is completely isolated from the other aspects, it is assumed that the actors are non-economic, perfectly rational and social. The meaning of the concept 'social' refers to the process of grouping and ranking. Actors are in solidarity with members of the same group and rival with members of another group. Abundant resources are spent on the permanent status battle. Whether it is the battle between cardiologists versus heart surgeons or the battle between the Western world and radical Islam, the pattern is the same. Other important battles are the rivalry between men and women, between children and parents, between bosses and subordinates and between capitalists and workers. In every corner of society – in families, at schools, in firms and government agencies, for instance – the fight goes on forever. These are all universal rivalries. Of course, the heat is context-dependent. In Northern Europe, the battle of the sexes is less severe than in Latin America. The battle between capitalists and workers has

increased over the last decade in some Mediterranean countries because of the economic crisis.

Girard (1978) made a careful study of primitive societies. According to him primitivity means that people see their own group as superior to other relevant groups. They want to show their superiority by permanently challenging their rivals. Primitive religion offers people a reason to rival with people from a different group: the others are bedeviled. 'Our gods want us the attack our rivals, which are bedeviled by their rivals. If we kill enemies, and if we sacrifice important resources or even our children, they will bless us'. Additionally, today our world is full of primitivity. Civilization is only a thin layer that covers our aggression, which is inside all of us: anger about the lack of economic prosperity and social status and strong dissatisfaction about our Selves. Girard considers the development of morality an evolutionary answer to the enormous threat of total destruction whereby groups have the power to destroy one another.

Now we come to the formulation of the mechanism that determines the outcome of the permanent 'Us' versus 'Them' conflict, as sociologists call it. Imagine a particular ranking of a number of relevant groups. This ranking is the result of a series of power games, and every group accepts the prevailing order. Then, new resources are found, or new techniques of production are developed. It changes the relative power of the groups involved in the battle and makes the conflict manifest again. If the hostility between the groups is growing, leaders try to improve internal cohesion to be united in the struggle against the others. Having a common enemy is the most powerful instrument to encourage members to adjust to the core principles of the group and to ensure that those who deviate too much are exorcised. The choice of a motor car, a computer, how people cloth themselves – everything can become subject to the grouping and ranking process. In the simple social world – static, closed, mechanical – the battles lead to a new equilibrium in the status distribution. In more-sophisticated versions, there is no equilibrium; reality consists of adjustment processes whereby the final goal is permanently moving. In these organic processes, constraints might become part of the preference functions, and vice versa.

The integration of the three worlds

Orthodox economics offers a picture of the economic world. The market and democracy are the two principal mechanisms that should allocate scarce resources optimally.

Orthodox psychology offers a picture of the psychic world. The mind mechanism determines how a human person addresses his typical psychic problem; that is, how does one maximize self-respect when the resources available for the execution of willpower are limited?

Orthodox sociology offers a picture of the social world. The arena mechanism determines how groups improve their social power, thereby maximizing their status. To prevent total destruction, humans have developed moral capital. In other words, status battles are constrained by the existence of moral rules.

In the multidisciplinary-economic world (MDE-world), human actors have a utility function with three elements: economic utility or well-being, social utility or status and psychic utility or self-respect. They face three types of constraints: the amount of natural resources, the energy available for the use of willpower, and the existence of moral rules, which makes particular social actions impossible.

The mechanisms can also be expressed in terms of equations, as following:

$$\begin{array}{lll} P = f(D - S) & \dots (1) & P = \text{price of a good} \\ WP = f(\text{ASEC} - \text{TSE}) & \dots (2) & D = \text{quantity demanded} \\ ID = f(\text{SD}) & \dots (3) & S = \text{quantity supplied} \\ & & WP = \text{willpower energy} \end{array}$$

ASEC = actual Self as experienced and controlled by the 'I'

TSE = true Self as experienced by the 'I'

ID = maximum ideological distance between members' ideological position and the ideological position of the group leadership

SD = status difference between the rivalling groups

The integration of the three worlds occurs in a few steps. First, we describe the psychic-economic world. Actors are supposed to be economic, irrational to a certain degree and non-social or atomistic. In other words, the representative consumer, investor, worker or civil servant lacks willpower. He might become addicted to alcohol, work or sex. He might develop views on his situation that are quite fixed and barely subject to change in the event of severe anomalies. In case of failure, it is always the others who must be blamed; he is always the victim and never the offender. Neoclassical economists do not see this irrationality as a reason to argue

that markets, market economies and democracies are functioning badly. The more rational people out-compete the less rational people. When discussing the psychic-social-economic world, we come back to this argument.

The second combination of worlds is the social-economic world. Actors are supposed to be economic, social and rational. Thus, the representative actor is inclined to develop relationships with a social and an economic aspect. Groups and networks are formed. Economic networks – networks in which the economic aspect dominates – operate as a market, an exchange of information. Social networks – in which the social aspect dominates – operate as arenas. Members of the same network signal solidarity to one another, whereas actors who are members of different groups signal rivalry to one another. Both solidarity and rivalry have a moral connotation. 'Thou shall support thine own people, and thou shall fight against the enemy'. Families, firms and government agencies can be occupied by a particular group; anyone applying for a position but not a member of the dominant club will face discrimination.

The economy in this world results from the simultaneous operation of economic markets and social arenas. Fligstein (2001) offers a large number of examples, showing how combinations of economic and social motivation lead to empirically observable market structures and market cultures. Firms and networks of firms are inclined to stabilize their markets such that they are well protected against too much competition. Civil servants, who play an important role in the institutionalization of particular markets, are invited to the firms' networks to 'teach' these servants how to understand the situation correctly. Unions and leftist political parties inform one another based on solidarity. Thus, actions in parliament can be coordinated with actions in the streets. In a social-economic world, elites might run economies and societies (Acemoglu, Robinson 2012). The history of labor relations in Northern Europe shows that social-economic analyses can also explain the emergence of more egalitarian societies. The Dutch Polder model is a good example of an institution that has the potential to overcome serious social conflicts. Mediterranean Europe is an example of how particular social conflicts may endure for a very long time.

The third combination of worlds is the psychic-social world. The psychic world is characterized by the 'I' of a person, who tries to maximize self-respect by investing in willpower and uses it to control actual behavior. Some persons have a strong personality, whereas others are weak in this respect. The social world consists of fighting groups, who all want to maximize their status, under the constraint of

a set of moral rules. These rules are derived from the prevailing culture of the group whereby culture is defined as the common understanding with respect to the situation of the group. The availability of natural resources is unlimited. In other words, actors are non-economic, social and irrational. Imagine a number of personalities working together in a factory. In the course of time, the individuals form a group characterized by a particular culture. Then, the leadership changes its strategy, invests in new machines and hires new workers, among them a number of foreigners. The insiders see this as a threat and develop strategies to prevent the hiring of strangers. They know friends who are searching for a job, and the insiders consider the friends perfect candidates. They put pressure on the leadership and make clear what might happen if the leadership attracts strangers. The leadership, consisting of weak personalities, yields and hires the candidates as proposed by the insiders.

It can be imagined that these types of processes – clientelism in this case – once more or less accepted, become stronger over time. Bad practices influence the character of the persons who are behaving badly. They increasingly go for the short-term satisfaction of the ASE, thereby using their willpower to convince the 'I' that this is no problem at all – 'productivity of the insiders increases', 'most people are acting this way', 'it is natural to serve the interests of the people who are closest'. We can also imagine a process that promotes another morality. Under the influence of the Bible, Kant and Western ideas about reasonability, a morality has developed based on the idea of essential equality of human persons. Every individual is considered to have a series of inalienable rights and duties: 'thou shall not discriminate based on characteristics that are not linked to the requirements of a particular position'. Fevre (2003) calls this genuine morality, whereas moralities that serve the interests of a particular group are called 'ersatz' moralities. [11]

Therefore, the irrational persons can form subcultures that serve the interests of a particular group. Morality functions as a disciplining device. In the current discussion about the Greek position within the euro zone, both sides express their moral resentments with respect to the behavior of the other party. Greece is considered a deviant that must be punished for its misbehavior: adjust or leave! The leadership of the euro zone operates irrationally; they are unwilling to recognize that their own axioms, or prejudices, are subject to severe criticism. The situation is now quite problematic – Greece is internally divided, but toward their common enemy, which is the Troika, they are surprisingly united. To solve the problems, Greece and the euro zone need strong personalities who can break through group

loyalties and formulate euro zone policies that are beneficial for all its members and for its global economic context.

The last combination of worlds is the psychic-social-economic world. If we use the psychic-social world as our starting point and add the typical economic constraint of scarce resources to it, we have constructed our integrated world, in which the three primary motivations are explicitly analyzed and related to one another. Discoveries of natural resources regularly fuel latent psychic and social conflicts – within and between families, dynasties, firms and government agencies and countries. Large companies take over small companies under the threat of expensive lawsuits. Rich persons serve their interests by bribing civil servants, rich companies invest in media to manipulate public opinion, and both operate as donors of universities to influence education and research programs. In particular, the combination of irrational personality and 'ersatz' morality is poison for a reasonable society in which individual freedom, self-control and social justice are combined into a well-ordered whole. When the Anglo-Saxon world decided to deregulate the financial world and norms of prudent banking behavior were put aside, exceptional leveraging practices gave large financial institutions an incredibly large amount of money. In 2008, the system exploded and governments had to step in to save the financial system, including the unreasonable managers who functioned so badly. The European economic system remains in disarray. Unfortunately, the rules of the game – the Growth and Stability Pact of the EU – are unable to address economies out of balance. The same persons who designed these inefficient rules are very much against a government role in the process of money creation. The result is a depression that to date has lasted approximately six years, an almost perfect example of irrational behavior of leading economists and politicians. Neo-classically educated economists cannot understand these processes because they are used to observing reality based on the perfect rationality axiom. The current deflation is one large anomaly for them. They now call the current situation 'the new standard', as though the problem is solved by giving it a new name.

Increasing scarcity of natural resources can fuel or dampen severe conflicts. The former Soviet Union broke down in part because it was unable to keep up technologically with the Americans. Currently, we face the effects of the deep frustrations of many Russians resulting from the large status decline in 1989. In poor countries, many unions are poor as well and cannot afford to organize strikes and occupations on a useful scale. Brilliant and independent scientists and artists cannot compete with the prevailing institutions. Reasonable politicians are not

interesting to the media, and virtuous whistleblower workers are fired and exorcised from society; they do not have the resources to make their case. Latin America already has shown severe inequalities over a very long period. There remains much primitivity in its culture, which makes it difficult for independent and virtuous persons to take the initiative. A psychic-social-economic world that finds itself in a downward spiral or is stable on a low level of reasonability and prosperity can only progress if strong and reasonable personalities take the lead, and, particularly in the case of extreme events, set an example that might be followed by many others.

Meaning and context of principal concepts

The meaning of a concept is determined by its context. This statement implies that concepts, such as rationality, institutions, technology and openness, when used in an MDE-framework, differ in meaning compared with the same concepts when used in an orthodox economic frame. In psychology, rationality is about a person and refers to the degree of self-control. When applied to the MDE-world, it also refers to the degree of self-control of a group or society. In the economic world, technological progress refers to the increase in β -knowledge. In the MDE-world, however, it also refers to α - and γ -knowledge. Persons, groups and society can profit from innovations in the areas of languages, sociology and psychology. Growing understanding makes it increasingly possible to control these processes or at least to build effective shock absorbers into the different types of systems. Originally, the concept 'institutions' was used by sociologists only. The American Institutionalists were economists who used the concept of institutions sociologically (Hodgson, 2006). In the 1980s and 1990s, neoclassical economists developed a typical economic concept of 'institutions' (North, 1981; Williamson, 1975). In the MDE-world, institutions do not only have an economic and a social aspect. It also uses institutions psychologically; persons develop rules of thinking in their mind. According to Veblen, human habits of thought are the most powerful and sticky rules. This idea fits nicely our analyses about irrationality. Particular ideas that dominate the behavior of persons and groups have the function of protecting the vulnerable true Self as experienced by the 'I'. Loss of self-respect creates so much (psychic) disutility that it must be prevented at all costs.

The idea of openness is closely linked to the idea of irrationality. Open economies trade goods, labor and capital services on a relatively large scale. This is only possible if the traders are not too narrow-minded. If narrow-mindedness leads to

a radical rejection of any contact with the 'enemy', it threatens the openness of the economy. The opposite is also true; if 'enemies' are beginning to trade with one another, they might not be enemies anymore after some time (Keynes, 1920). If many people have closed minds, it is problematic to allow high rates of immigration [12]; social-cultural conflicts might run out of control. Integration can be improved if all groups involved in the battle are prepared to learn from one another. [13]

Conclusion

This article presents orthodox economics as an isolated abstraction that is a model of the economic-aspect system. Heterodox economics, however, is about the economy, being a subsystem of real-life society. Orthodox economics is mono-disciplinary; that is, it focuses on the economic aspect, leaving aside the other two primary aspects of human behavior, which are the psychic and social aspects. Heterodox economics offers theory and empirical research without an explicit treatment of the motivational structure. Human motivations are assumed endogenous and dependent on the societal context.

We have presented an analysis of an MDE-world in which the three primary motives are interrelated. The analysis reflects the idea of the psychic-social-economic embeddedness of economic action. This model is a first step toward an integration of orthodox and heterodox economics, being a combination of the strong characteristics of each of the two approaches. The analysis can be improved by making it – step by step – more sophisticated. Then, the methodology of our MDE-model changes from static to dynamic and historical, from closed and mechanical to open and organic and from a strict micro-oriented approach to a model that shows explicitly the interaction between events on the micro- and events on the macro-level.

A few changes in the methodology have already made the analysis very complicated. However, increasing complexity must be accepted only if the subject matter requires it. If an economist makes an analysis of a relatively simple problem, the model must be simple. The researcher should focus on the problem of how to simplify his analysis. Economists should not automatically fall back on the analysis of the economic world. There is a great deal of work to do.

Endnotes

[1] The article contains the theoretical hard core of the book: Piet Keizer (2015a), *Multidisciplinary Economics, a Methodological Account*, Oxford: Oxford University Press. An earlier version is published as a discussion paper (2015b). A whole system can be seen as an integration of several aspect-systems or as an integration of several subsystems. An aspect system has the same set of elements, but approaches the relationships between the elements only from one or a few aspects. We can distinguish three primary aspects. The economic aspect is about the relationship between a human person and his natural environment. The social aspect is about the relationship between human persons, who recognize one another as such. The psychic aspect is about the relationship between a person and his Self. Orthodox economics studies human behavior only from the economic perspective, leaving aside the typical social aspect (sociology) and the typical psychic aspect (psychology). A subsystem differs from its whole system only because its elements are a subset of the elements of the whole system. When the euro zone is the whole system, the dutch economy is a subsystem of this whole system. Keizer (2015a) offers an extensive treatment of all these problems, which should be solved to construct an effective alternative paradigm.

[2] This is a strong argument against non-democratic and quasi-technocratic policies.

[3] Famous economists of the Classical Sociology School included Karl Marx, Émile Durkheim, Max Weber and Talcott Parsons. Now, we call these scientists social economists or economic sociologists. We should not confuse social economics with socio-economics, which is orthodox economics plus some sociology.

[4] Economists use the concept 'ceteris paribus' ('other factors do not change'). Psychologists and sociologists should also use this phrase.

[5] Parsons used different concepts. He used the aspects of adaptation, of goal-attainment, of integration and of latency. Close reading of his texts leads to the conclusion that these concepts can be translated into economic, psychic, social and political aspects, respectively.

[6] In his own empirical work, Friedman always used the orthodox economic theory as his foundation.

[7] Damasio (1994) blames Descartes for making the error of dualism. However, Damasio actually confuses theoretical analysis with empirical analysis. See Kant (1781, chapter 1) for a careful explanation of the difference between the two. We can call this confusion Damasio's error.

[8] Jung uses the concept 'ideal Self'. We prefer the concept 'true Self', because the term 'ideal' has a connotation of 'morally good'. The term 'true' is related to rationality, not morality.

[9] Stiglitz refers to the straight application of typical orthodox economic principles to the economic crisis as a matter of 'cognitive capture'. Keizer (2015) suggests that the German monetary trauma results from a dramatic event, which was explained in a monetarist context, thereby ignoring other perspectives.

[10] There is a striking parallel between how non-scientists interpret their situation and the scientific approach. According to Lakatos, every scientist operates based on a hard core, which is irrefutable. This core is protected by a belt of auxiliary assumptions, which is called the protective belt (Lakatos, 1970).

[11] The term 'ersatz' refers to the instrumental character of moral rules. The term 'genuine' refers to the universal character of the idea of reasonability. We call the second type orthodox morality.

[12] In case of immigration, it is important that not only indigenous people but also immigrants have open minds and are prepared to adjust to the core values of their new society.

[13] The comparison with the situation in economic science is striking. Research and education are strongly dominated by mainstream economics. Bachelor's students are barely taught in the methodology of alternative research programs. In the Netherlands, there are hardly economists to be found who can teach the methodology of heterodox economics and of economic sociology. Fortunately, focus on the research by behavioral economists is growing. The analysis of the concept 'irrationality' in this article is intended to significantly improve the theoretical foundation of this perspective.

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Piet Keizer is associate professor of economic methodology at Utrecht University School of Economics (the Netherlands) (p.k.keizer@uu.nl; pietkeizer46@gmail.com).