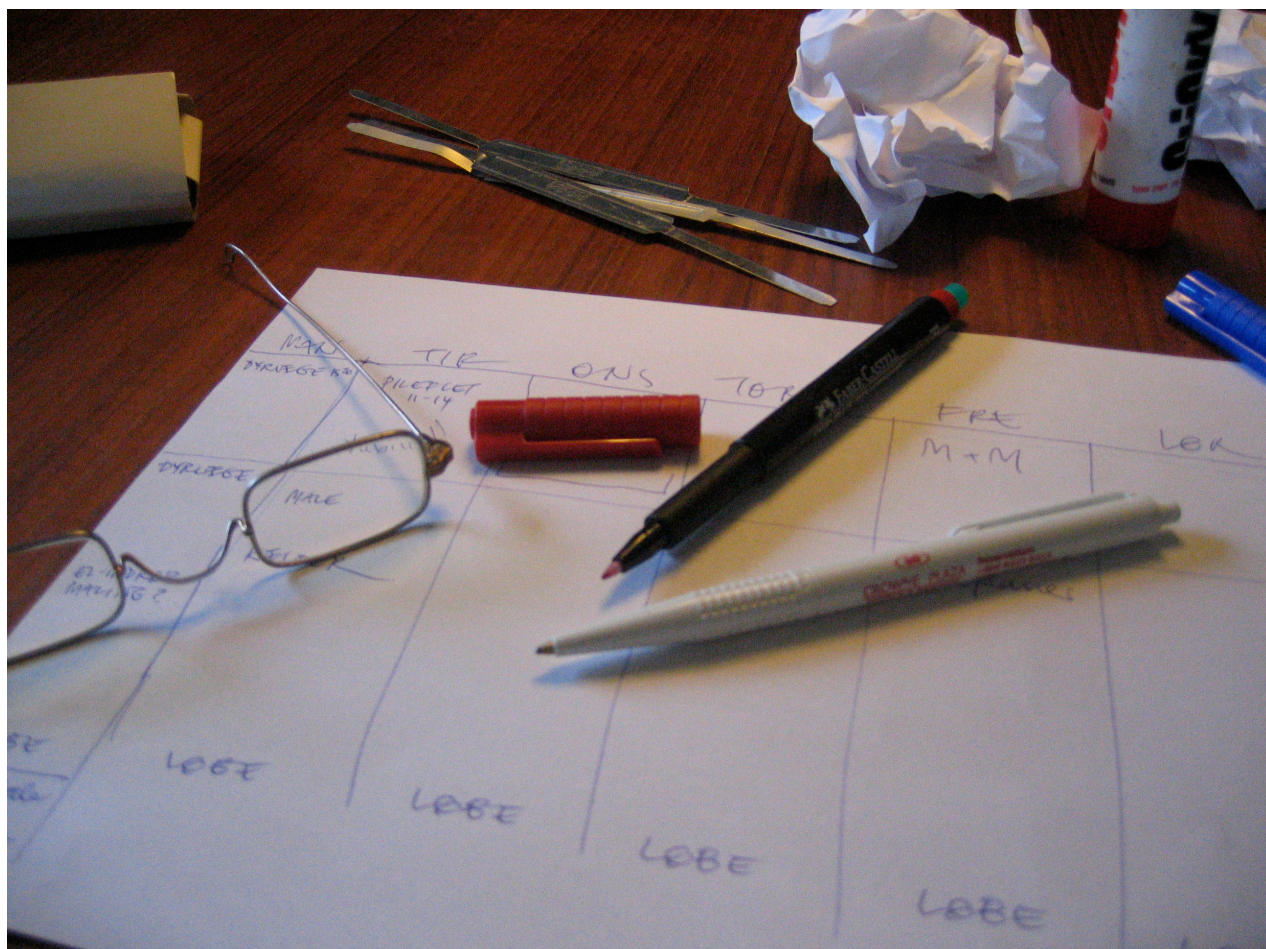


# TURNINGPOINTS

## Sustainability, Justice, Creativity, and...



### 1. Preface

A central right in the United Nations Human Rights Declaration of 1948 is the Article 23 regarding the right to work and that the work has the qualities of human work, ie. that you can live by it and that you can support your family, and also that you have the right to rest and spend time with your family.

This is not a human right, often mentioned during political conferences; on the contrary, it is a fundamental right, which is very neglected. In the near future, the world will need to create at least 600 million jobs for the growing world population. This figure is probably much higher as many existing jobs do not meet the above mentioned standards of the United Nations Human Rights Declaration, which defines 'human work'.

Planning, creating, working and experiencing are all key in human lives, without which human beings can not live without severe suffering.



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At the same time as we have to create a minimum of 600 million jobs, we also face two gigantic challenges: that this extra consumption creates global warming and drastic reduction in biodiversity.

So the challenge humanity faces is to create real jobs. Jobs that create value for both the company, the workers and their families. And jobs that are sustainable in terms of both nature and human life. How do we do that?

## 2. Introduction

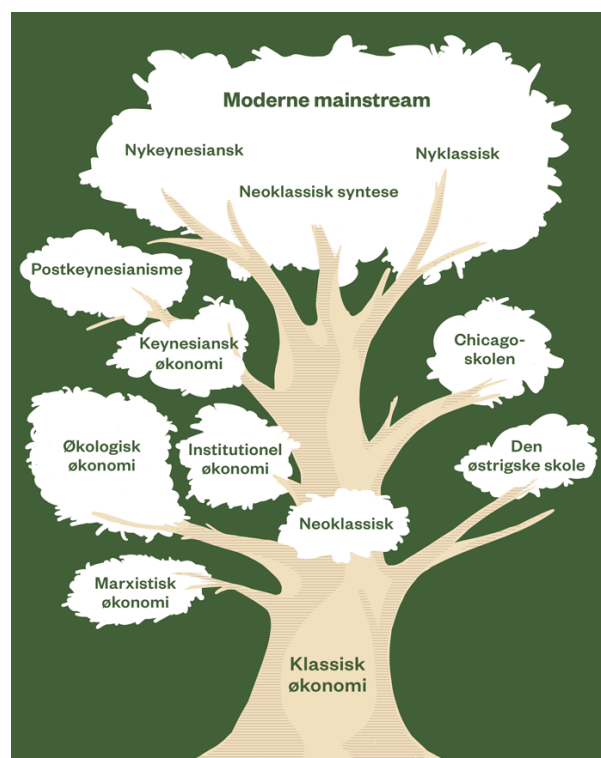
A key reason why we do not create a sustainable economy seems to consist of being locked up in an economic-political system created in the 17th century. A system that over time has grown very large. So big and intertwined with our concepts, our language, our family life, schools and education that we no longer perceive it as a human-created system, but rather perceive it as nature. The global economy is perceived by economists, politicians and journalists in line with physics as a given nature, which can not be changed. The rules of play that govern people's economic behavior are naively interpreted as 'human nature'.

The problem with challenges of such a comprehensive nature - ie. in both time, space and depth (psyche, culture, language, structure, etc.) is that we end up with 'not being able to see the forest for only trees'. We do not realise that it is a cultural-historical-human made system we are facing. At the same time, the problem is so extensive that no single person, group or state has the capacity to change such a global system on their own.

*"A system problem - as opposed to your usual garden-variety political problem - is one that isn't going to go away through politics as usual. It will require somehow changing the way things are rigged deeper down in the machinery of institutions, corporations, bureaucracy, and all the other elements of the system that produce the outcomes we experience."* <sup>1</sup>

In the above text, the economist, Gar Alperovitz, points out all the insurmountability of detecting system failures, and why we often try to adjust the system's consequences - keeping at the political level only. Or, as philosopher and physicist Danah Zohar describes below, many companies realise that things are skewed but that they try to change behavior in their own organization only:

*"... getting from business-as-usual to business-as-it-could-be is no simple matter. A little talk about corporate social responsibility, some discussion of 'vision and values,' and giving employees little plastic 'values' cards to carry around in their wallets are not going to change very much. What is required is a whole new business paradigm, a paradigm shift that embraces our basic concepts of wealth and capital themselves and that brings on board a new, living understanding of what a business system is, and how such systems can be managed intelligently. These in turn require that we look in some depth at the nature of both business systems and human intelligence."* <sup>2</sup>



The various theoretical schools of economy.

Drawing by Sofie Holm Larsen



What kind of a system crisis, is it that we're locked up in, then? That's what I will review in the following pages. After a desk-study of the last 400 years of economic theory formation and how it has affected both society, businesses, work, family life and the individual, I will try to show why we are locked up in a particular economic thinking and how this economical thinking can be changed by a few central and non-violent change of concepts.

### 3. The Newtonian-economical paradigm

Today's capitalism is *not* nature. It was *created* by a small inner circle of British enlightenment philosophers, strongly inspired by Newton's new mechanical physics.<sup>3</sup>

*"The triumph of Newtonian mechanics in the eighteenth and nineteenth centuries established physics as the prototype of science against which all other sciences were measured. The closer scientists could come to emulating the methods of physics, and the more of its concepts they were able to use, the higher the standing of their discipline in the scientific community. In our century this tendency to model scientific concepts and theories after those of Newtonian physics has become a severe handicap in many fields, but more than anywhere else, perhaps, in the social sciences. (The social sciences deal with the social and cultural aspects of human behaviour. They include the disciplines of economics, political science, sociology, social anthropology, and - in the view of many of its practitioners - history.) These have been traditionally regarded as the 'softest' among the sciences, and social scientists have tried very hard to gain respectability by adopting the Cartesian paradigm and the methods of Newtonian physics. However, the Cartesian framework is often quite inappropriate for the phenomena they are describing, and consequently their models have become increasingly unrealistic. This is now especially apparent in economics."*<sup>4</sup>

Newtonian physical science is itself a product of the Western thinking tradition. Newton developed many of the ideas that the early Greek philosophy and the Jewish-Christian monotheism created and build on. More specifically, Newtonian science reflects the cultural shift that shook European thinking during the Reformation, the thinking of Rationalism, Enlightenment and Cartesian thought about mind, body and rationality.<sup>5</sup>

*"On the historical side, substantial scholarship has been done showing that from their origins in the seventeenth century to their consolidation in the late nineteenth the social sciences were deeply influenced by (classical) physics, the most successful and prestigious science of the day.<sup>40</sup> For both intellectual and political reasons, our Founders — Hobbes, Hume, Smith, Comte, Jevons, Walras, Marshall, Pareto, and others - borrowed frequently from physics in their thinking about society. Bernard Cohen shows that this took various forms — analogies, metaphors, homologies, and identities — and argues that efforts to establish homologies and identities usually failed, leaving the overt impact of physics on the social sciences mostly on the analogical and metaphorical level.<sup>41</sup> But even if classical physics was not fruitful for substantive theorizing about social life, at a deeper level its impact was profound. By the early twentieth century the metaphysical assumptions of the classical worldview — materialism, determinism, locality, and so on — were deeply ingrained in the minds of social scientists. These assumptions were taken to be true of reality as a Whole, and thus fundamental constraints on social scientific inquiry."*<sup>6</sup>

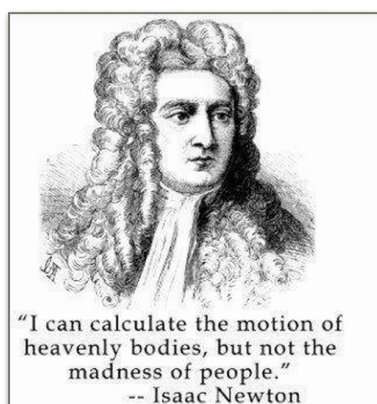
The French philosopher, Rene Descartes, in his philosophy separated body and mind by saying "I know that I have a mind and I know I have a body. And I know that the two are completely separate. I *am* my mind. I *have* a body." Isaac Newton made this division the foundation of his



new physics, which excluded everything mentally or psychologically from the physical laws of the universe. The subsequent mechanical culture that this physique gave rise to is the culture that still dominates the mindset of most of us today and which uses the Newtonian machine categories on anti-human organizations.<sup>7</sup> Therefore, politics, economics, leadership and organizations look like they do.

Whereas Newton formulated the basic laws applicable to physical reality, the philosophers and sociologists in his wake hoped to discover and formulate the basic axioms and laws of social life. Newton's universal excavator became the model that was used to compare the state with a precise statutory mechanism and depict human beings as 'living machines'. Both without 'built-in' ethical-moral purpose and superstructure.

The basic building blocks in Newton's new physical world were defined as isolated and impenetrable atoms that were moving about in the empty space, colliding with each other like small billiard balls. The only actors in Newton's space-time drama were these particles, and there were only gravitation or repulsive forces working between them.



Although Newton himself did not think he could calculate the motions of human minds, his contemporaries used his theories to produce theories in other scientific fields: biology, psychology, sociology and economics.

Political philosophers of the time compared these colliding atoms and their interacting forces with individuals' behavior and interactions in society when these collided with each other in pursuing their own interests. In his book, 'Leviathan,' Thomas Hobbes described human actions as "the war of every human being against every human being."

Today, economists and sociologists who follow the 'Rational Choice' theory argue that individuals always choose the rational action that satisfies their own interests. Finding a way to balance all these contradictory interests in society has been the basis of the conflicting democracy and thus forms the foundation of the confrontational style of modern political parties.

Thomas Hobbs, Adam Smith, John Stuart Mill and even John Locke used the new mechanical physics as inspiration and examples in their thinking about state and society. Locke described himself as "a mere under-labourer to the incomparable Mr. Newton." Adam Smith was very impressed with the new Mechanical Science and built both his ideas about a free market economy and the division of labor on Newton's methods. Marx's deterministic historical views and Darwin's mechanical and reductionist theory of evolution are also both derived from the same source. Also the theorist, Carl von Clausewitz, used the Newtonian concepts in his book, 'On War,' where he uses concepts such as "center of gravity," "friction," etc. Today's "realistic school" in International Relations theory resembles nations with billiard balls that collide into each other in a mechanical pattern of action and response, power-balances, and describe areas where there is no political-military power, as a political 'vacuum.' Among the early pioneers of modern sociology, Vilfredo Pareto also took on the mechanical and thermal metaphors when he described the dynamics of society. And August Comte, who invented the word 'sociology,' initially called this new science a 'social physique.'

Even the later, Sigmund Freud searched for 'laws and dynamics' that governed the psyche, and here he insisted that human behavior was fully determined by such laws and that their interaction was a product of childhood experiences. Freud used Newton's atomism as the basis for his psychology. Freud's scientific model of 'the Self' is described by him as a complex hydraulic



system (- just like the economist, Samuelson, who later described society's economy as a closed hydraulic system). In his theory about 'Object Relations' Freud stated that consequently each of us is isolated. He also perceived the limits of 'the Self' as hard and impenetrable. You are an 'object' to me and I am an 'object' to you. We can never really know each other in any basic way. I create a picture of you in my own mind, 'a projection,' and I can only relate to that. Thus, true love and intimacy are impossible. The command, to love your neighbour like yourself, wrote Freud, is the most impossible command ever written.<sup>8</sup>

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## 4. Excursion 1

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### - Without God, society becomes visible

The new social theories - including the new theories of economics - could not be established before the very moment when many people or populations became visible to the political science theory: that it was the many and dispersed actions of humans that led to the production and reproduction of society. The key to this insight was the recognition that there was no longer any single will or any central purpose that governed and regulated the entire society.<sup>9</sup>

Modernity thus began to think about society as an unintended result of thousands of people's activities.<sup>10</sup> This was a breach with the earlier idea, that rested in the thinking that all public and sovereignty were placed only in the King; just as all meaning and explanation should be sought in the King.

Thus, the feudal medieval society consisted of an all embracing cosmology. It was from this cosmology that the basic standards of social order were obtained. The Kings gained their religiously-traditionally founded power from the Pope, who in turn had his power from God. This way, the power of the King was legitimized by an ultimately divine power. In this 'embedding', the King constituted all power, all legitimacy and all publicity. However, with some philosophers and liberals resistance gradually grew to become the idea that legitimacy could only come from 'the People' who possess the actual legitimate power. Only the People can insert or accept a King, and only the People should therefore have the right to remove the King if he violates 'the Will of the People'.

With this construction, however, a new problem arose, because if the people had rights in relation to the King, society would be divided, which in turn would lead to a terrible brutality - everyone's struggle against all. Thomas Hobbes's solution to this problem was that there could only be one Sovereign power! Consequently all power should be transferred to a 'sovereign', who then would protect them by maintaining peace and monopolising violence. The condition for Peace was that the People unconditionally surrendered all power to the Sovereign - without the right to criticise or free themselves. The construction was problematic, because if the King was both legislative and executive, how then could he violate the law? The king could make and change the law himself. John Locke therefore proposed splitting up Thomas Hobbes's Sovereign into two Powers that would out-balance each other - a legislative and executive power. He did this in the book, 'Two Treatises of Civil Government.' Montesquieu shares Locke's point of view of the Power distribution, but then asks how the Government could be prevented from abusing its power towards the citizens? His proposal was an additional division of the division of powers into the a third part of the state's structure - into what we have today: the legislative, executive and judicial power.<sup>11</sup>

The new social theories that began to develop were characterised by a 'lagging behind' as



they were still tied to the ancient pattern of thought, and so society was still perceived as a teleologically result of the will and actions of one single ruler.<sup>12</sup>

Thus, modern social theory was established on the idea of a discussion about the 'Social Contract,' between citizens who, with this discussion, become a 'People.' Another contractual relationship developed between People and Kings, as the King was tasked with maintaining a legal order and an economic order.<sup>13</sup>

This social development was a long and unstable development where law enforcement and law making was characterised by great arbitrariness. The societies in Europe, however, gradually developed towards more stable organisational forms. Thus, there is a long history from the break up of the Late Middle Ages and up to our time, which is characterised by a number of different highs, for example, the Renaissance and the Reformation. It is, however, the French Revolution, which marks the ultimate breakthrough of modern society. That it is the French Revolution, which marks this highlight, is found in the fact that, with the French Revolution, politics is becoming the constituent center of society's life. This puts democracy as a form of leadership on the agenda.<sup>14</sup>

This shift meant that the Renaissance-man had to 'take control over' himself - gradually and without any reference to God. However, at the same time as the individual is created this individual must have a 'place' to start, and therefor an independent worldly sphere, a public space is created in and on which modern society is established. Released and without reference to God, it becomes a problem for the individual and the Ruler of these individual human beings, what purpose, which ethics and what morale they and society should be referred to when Politics is to justify its many choices - what values, norms and actions? What is True, Just and Beautiful in this construction?

This exemption laid the foundation for the reflexivity of the early bourgeois. The ideal was to create an ability in the citizen for self-reflection, so that s/he could process experiences consciously, independently and individually. Simultaneously with the individualisation process, a public space with associated reflexivity and demand for reflexivity was established. Only with this establishment of reflexivity, publicity and politics it has been possible to move the representation and political power from the King to the People.<sup>15</sup>

With Representation placed in the People, it became a problem what would replace the religious and metaphysical power? With the down fall and subsequent absence of God and the King, a space of power-vacuum is created, a 'nothingness' of power. This nothingness became central to modernity as it would form the center of modern society. The modern society is centred around the empty space of power. How can such nothingness constitute a new social order? In the feudal order, the King represented all Power of Speech - all Publicity. When the King spoke, it was Power Speaking. Power was determined in advance, traditionally and unreflected. But with modernity, this is turned upside down: now it is Speech in its own right that constitutes Power. Self-reflection, speech, argumentation and conversation are placed in a whole new frame of meaning. The modern order of the constituencies - conveyed through politics, the speech of the deputies - as a self-reference. The political community is from now on constituted as an epistemological, linguistic community - in the democratic dialogue, and in the joint leadership. The development went from Power of Speaking to Speaking of Power.<sup>16</sup>

This development also provides the foundation for the exemption of social theory and the economy, as the social science breakthrough is only possible when the human individual and human interactions become visible. The point is that there is no longer any central intention or will that controls or regulates human actions. This entails a radical shift from religion to science.



An exemption that causes the laws and regulations of society to be subsequently explained by the 'forces' and 'factors' of society.

### - Newtonian social single-factor theories

In the absence of God, but still under the impression of monotheistic Christianity, physical theories inspired the development of social single-factor theories. In other words, God is replaced by single and isolated 'mechanical functions' and 'mechanisms' that could be derived from theories and laws. In this way social theories also became single-factor theories that described the state's driving forces as constituted by among others, economic factors. At the beginning of modernity, single-factor theories represented the bulk of social theories, and this aspect also influences later theories, and at the same time became the theoretical challenges that later theoretic development had to address.<sup>17</sup>

Social theorists, such as Thomas Hobbes, John Locke and J.J. Rousseau were all 'contract theorists' and 'single-factor' theorists, constructing theories based on ideas that social actions and structures were contractually concluded and that the People was formed within specific groups of groups and within demarcated territories. The central contract was initially still based on an underlying cosmology, but was later based in a metaphysical natural law.<sup>18</sup> In the field of economy, Adam Smith also sought basic laws and principles governing human economic and market behavior.

To date, our perception of social and political reality is still based on this mechanical approach. A thinking and perception that was created as a result of the 17th century philosophical and scientific revolution, which gave birth to our contemporary modern science.

In many ways, this paradigm has served us well. It has enabled the industrial and technological revolution, and it fits well with the intellectual prosperity of both western individualism and liberal democracy.

But confronted with today's ecological, human and economic challenges, one can rightly ask how they reflect and answer these challenges? How do they meet the need for a sustainable economy? How do they give humankind good useful responses about complexity and chaos? And how do they respond to the need for a fair and equal economy?

It seems that the mechanical paradigm, as the foundation of our thinking and perception of reality, both physically and socially, brings about consequences, which we today have to confront fundamentally.

But let's first have a look at the development of economic schools and theories. Perhaps it can show us where the immediate challenges lie. What can these schools tell us and how do they define what the economy is?

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## End of excursion

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### 5. Definitions of economy

There seems to exist no universally accepted definition of political economy as well as market economy. However, a rough overview of the economic schools can be made, and there are accepted 'outlines.' But first an overview of the economic schools:

Macroeconomics - or the political economy - studies the interaction between political and economic processes in society, and thus focuses on the following areas:

- What influence values and ideas, including culture, ideologies and religion have on human relationships and interaction



- The power and authority of groups in society, including the interests they hold and the incentives that drive them in achieving certain results
- The role of formal and informal institutions play in the allocation of scarce resources

Micro- or market economy deals with:

- Production conditions: production, distribution and consumption of material prosperity, including theories of financial system management
- Consumer preferences: individual and social behavior for the purpose of obtaining and using material goods in a situation that is conditioned by relationship between given resources and scarce resources that may have alternative uses

If we go much further back in time to look for a definition, we find the ancient Greek οἰκονομία, which is derived from οἶκος (oikos meaning 'house') and νόμος (nomos meaning 'habit' or 'law') which means 'the rules of the house' (or the good management of the house). Political Economy 'was the former name for general economy, but the neoclassical economists at the end of the 19th century suggested that 'economics' was used as a shorter term of economic science. The purpose was establishing economics as an independent discipline on an equal footing with International Relations and other social sciences.

### - From art (power) to science (nature)

Xenophon, Aristotle (384-322) and their contemporary defined 'economy', and even 'crematisticks' as an art. Aristotle distinguished between 'oikonomia' and 'chrematistics'. He defined 'chrematistic' as that to influence a 'real value' (eg. land) to maximize a return or profit to the owners of the earth: speculation.

In this first early formulation of economic theory, the economic rules were intertwined with a divine teleology - oikos should not be free, but was regulated in a particular framework of interpretation, where divine meaning and human purpose were expressed teleologically, in nomos.

Inspired by this thought, Aristotle suggested that the source of value was human needs without which exchange would not take place. Aristotle then divided the human needs into two - useful value and exchange value: "In all we own, there are two uses. For example, a shoe can be used for walking or it can be used for exchange."

Even if the scholastic thinkers later adopted these views in the Christian faith, economy was not at this time regarded as an independent subject, but as an integral part of an ethical and moral philosophy. During this period, 'utility value' was perceived as the value factor. It was only a minority of theorists such as St. Thomas Aquinas (1225-1274) and John Duns Scotus (1265-1308) who thought about and included 'production costs' in their thinking.

Two thousand years later, when Isaac Newton discovered the Motion Act, this meant that referring to a given area as a 'science' gave much higher status. Perhaps, for that reason, in 1767 - only 40 years after Newton's death - the Scottish lawyer James Stewart suggested that the term 'political economy' should no longer be defined as an art but as a 'science of domestic policy in free nations':

*"The principal object of this science is to secure certain fund subsistence for all the inhabitants, to obviate every circumstance which may render it precarious; to provide everything necessary for supplying the wants of the society, and to employ the inhabitants (supposing them to be free-men) in such a manner as naturally to create reciprocal relations and dependencies between them, so as to make their several interests lead them to supply one another with their reciprocal wants."* <sup>19</sup>



As we see, Stewart calls for a safe way of life and work for everyone in a mutually flourishing society, as the task of the economy. A decade later, Adam Smith gave a different definition, but in many ways followed Stuart's definition in describing political economy as a targeted science. Economics has, he wrote, two distinct objects: to supply a plentiful revenue or subsistence for the people, or more properly to enable them to provide such a revenue or subsistence for themselves; and secondly to supply the state or commonwealth with a revenue sufficient for the public services.”<sup>20</sup> This definition not only rejects Smith's reputation as a free-trader, but also maintains a focus on the price by formulating a purpose for economic thinking. But this was an approach and definition that would not last.

Seventy years after Adam Smith, John Stuart Mill's definition of political economy began a shift in the economy's focus by defining it as “a science that detects the laws of such phenomena in society that derive from mankind's total operations in the production of wealth.” With this definition, Mill began a development which others would continue: to turn the attention away from the purpose of the economy and to discover its laws. Mill's definition became widespread, but by no means dominant. In fact, as a new science economy for almost a century, it was rather inaccurate, which led the early Chicago economist, Jacob Viner, to simply define economics in the 1930s as follows: “*Economy is what economists do.*”<sup>21</sup>

Not everyone considered this a satisfactory definition. Therefore, Lionel Robbins from the London School of Economics in 1932 wrote that “we all talk about the same things, but we have not yet agreed what we are talking about.” He claimed to have a new and definitive definition: “Economics is the science, which studies human behavior as the relationship between ends and scarce means, which have alternative uses.” In spite of the deficiencies of the definition, this definition seemed to close the debate, and that - or similar formulations - became the definition you encounter in many textbooks today. But although the definition limits the economy as a science of human behavior, it uses very little time to inquire into the areas of life (ethics, morality, meaning and human behavior), let alone the scarce resources (natural resources, biology and sustainability).

In Gregory Mankiw's widespread textbook, “*Principles of Economy*”, the definition became even more delineated: “Economics is the study of how society manages its scarce resources,” stating that the overarching issue of purpose is completely eliminated.<sup>22</sup>

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## 6. Excursion 2

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### - Politics and Economics

The history of Western Europe after the dissolution of the Roman Empire - after 500 AC - was marked by disputes between small royal houses, that did not come under control until the Carols came to power in 700 AC. At this time, some of the earliest ideas about state formation, governance, justice, economics and foreign policy and warfare were thought, written and published. Parts of this thinking came from Augustin, Aquinas, Suarez, etc., and led to some of the first thoughts about foreign policy and warfare. The laws of warfare were dominated by a thinking of *the Right* to warfare and what legitimized it: Jus ad Bellum.<sup>23</sup>

In later attempts to keep the norms of war within ethical and legal limits, the authority of the knights was strengthened by the church. By so doing, the church laid the foundations for the later dynastic states by schooling the knight's stand for purposeful warfare. That's why the bishop Segusio described the crusades as legitimate wars waged against ‘wild peoples’ with permission from the Pope. These wars he called ‘Bellum Romanum’, thus drawing a parallel to



Rome's war against foreign peoples. In contrast to such wars, wars between Christians were illegitimate.<sup>24</sup>

After the end of the Crusades in the 13th century, Europe was haunted by the Wars of Sieges. The sieges were targeting the scattered and fortified cities, and resulted in wars against civilians and military units. If a city fell, the civilian population was robbed, the city might be burnt down and the civilian population brutally treated. As for the losing military units, the military rank gave the soldiers different rights.

The nobles 'who possessed honor' were treated nicely because they could bring a ransom. Soldiers with lower rank 'had no honor' and had only few rights.

The dissolution of the crusader kingdoms took place so gradually that European warfare was not affected by it, but was continued by the 16th century emerging dynasties.

As part of this history, from around the 1000th to 1200s, trade and city life began to resurrect in Europe. These medieval communities were highly hierarchically organised societies. The social division was a vertical division guided by economic and military rights and duties. The military order consisted of knights and small local units. It was a hierarchy with significant differences in status and arming. In the Middle Ages, wars had a more limited character than today. Before a war or battle was to be waged, the 'forces' were gathered, then the battles were fought, and after the war, the army was dissolved. The armour was simple, and the fighting was often fought man against man.

After a long period of time in Europe, from 1000th to 1500s, when power relations had been uncertain and changing, profound changes lead to a political situation in which the Kings gradually gained so much strength that they could conquer entire lands. This development led to a shift in the economic and political strengths between the ruling classes:

*"By joining alliances with merchants, some princes or territorial rulers could profit from the new economy - and with the spread of money, it became possible to introduce taxes, which enabled the hire of soldiers - and later standing armies."* <sup>25</sup>

From around the 13th century, a constant devaluation of money took place which caused polarisation within both power and economy because it caused major shift between the class of peasants and the class of nobility whose income was structurally locked down. The old noble warrior class generally had only little access to the emerging sources of wealth, and was therefore forced back both politically and economically, and was therefore severely affected by the constant economic devaluation.<sup>26</sup>

There were other values in the cities and also another way of life which influenced the military thinking. In the cities, workshops, city-life, markets, traffic-hubs, etc. developed.

The social alliance between an upcoming bourgeoisie and the new absolutism resulted in a change of the armed forces. This took place, because the bourgeoisie was able to finance the wars and to be responsible for the production of the new types of firearms which the absolute powers used. These social changes contributed to profoundly changing the face of war as well as internal power shifts in the armies. With the development in firearms, the foot soldier gained a stronger position towards the knight on horseback. This gave the central absolutist warlords a favour because they occupied tax monopolies and rented armies.

This development in the direction of centralisation of political power, which is a general trend across Europe takes place due to the strengthening of the power of the central Kings. The many scattered powerholders such as Knights and Princes were replaced by a more stable hierarchical structure. This structure is subordinated to a single monarch or King's 'absolute' rule.<sup>27</sup>



In the case of France, England and Habsburg, in the form of royal power; and in the case of German and Italian territories, in the form of territorial leaders:

*“Thus, a real state formation, a state bureaucracy and a class of bureaucrats gradually emerged - and the exercise of power and administration had to go beyond the single castle’s territory: offices, ministries, etc. ‘went out of court’ as it was called in English.”*<sup>28</sup>

The Kings supported and enjoyed the growing trade, and could at the same time safeguard their rule by implementing a divide-and-rule policy in relation to bourgeoisie, nobility and church. This way, absolutism contributed to promoting the establishment of a new liberal bourgeoisie. A bourgeoisie that was still too weak to claim a political power takeover and put it into practice.<sup>29</sup>

These dynastic territory states were constantly at war with each other, were administratively fragile and often unable to establish a monopoly of violence because they also fought with internal religious conflicts and local insurgency. Catholics and Protestants fought for power, and the individual states supported religious insurgents in other states for ideological or foreign policy reasons.

The seemingly unstoppable religious wars led to a series of peace conferences, which have been called the Westphalian Peace Accord (1648). The Westphalian Peace Accord resulted in the principle of equality between states. The conferences also laid the foundation for the development of the state-legitimized ‘Positive Right’, which Hugo Grotius’s thinking is an exponent of.<sup>30</sup> The focus of the conferences was the security of the state as well as the right and duty the state ought to provide in relation to its citizens. Europe was therefore characterised by absolutism and balance of power during this period.

The Westphalian Peace Accord gradually stabilised the relationship between religions and territories and established as a new principle the principle of non-interference in the internal affairs of other states. The principle of mutual recognition made the states sovereign, and consequently they could fight internal religious and political enemies with both administrative and military means. Thus, there is a change from wars with religious motives for wars based on inter-governmental rivalry.

Intergovernmental rivalry during the dynastic regimes is also the period of the ‘limited wars’: - wars, which belonged to the Kings but not to the Populations without rights. Thus, during this period, a shift takes place in the pursuit of politics and economics that consisted in being one of the first attempts to establish and discipline a diverse population. This certainly limited the wars, but also contributed to an increased violence carried out against the civilian population. While the so-called dynastic state’s violence was externally limited and regulated, it was internally arbitrary and openly brutal.

As a result of the oppression of the civilian population by the dynastic ruler, the meta-message in the criminal proceedings were that the King *was the State* and that this was a religiously justified rule that should be maintained. Religious and political minorities were therefore defeated, and in the religious courts, the dynasties ruled by the symbols of religion. Consequently, the design of the punishing act was direct, open, brutal and painful - targeting the physical bodies of the population, which in the end belonged to the King.

The economy and wars of the dynastic ruler merged with a brutal domestic political oppression. This oppression, in time, caused the liberal resistance to grow.

## **- The liberal Peace Thesis**

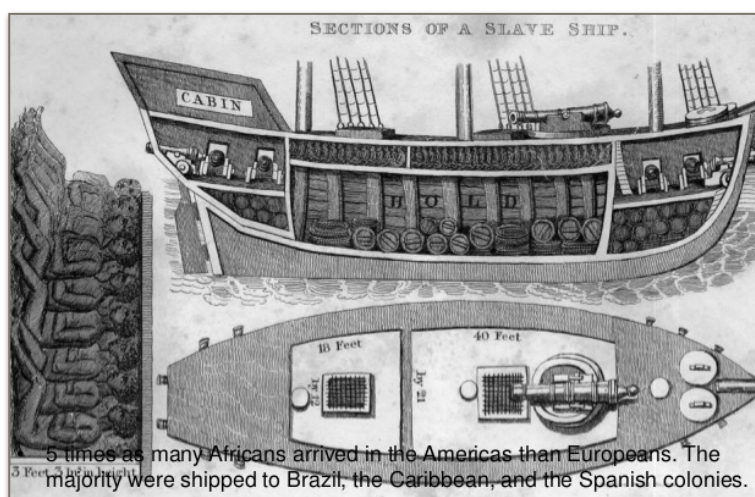
The early liberals criticised mercantilism, because they regarded it as the economic system of the absolutist and feudal states, and because they regarded it as a war system. Mercantilism



was thus both regarded as the economic model of absolutism and a practice, which was based on the norms and feelings of war:

*“The bourgeois was an entirely deliberate creation of early modern thought, an effort at social engineering that sought to create social peace by changing human nature itself. Instead of pitting the megalothymia in the few against that of the many, as Machiavelli had suggested, the founders of modern liberalism hoped to overcome megalothymia altogether by pitting, in effect, the interests of the desiring part of human nature against the passions of its thymotic part.”* <sup>31</sup>

As Fukuyama describes in the above quotation, the liberal bourgeoisie sought to develop absolutism away from a system that recognised the code of honour of the nobility, the thymus, which was often times expressed in the joy of struggle and warfare, for a police rule and economy based on the lust and consumption of the bourgeoisie. The term ‘thymus’ originates from the Greek philosophy, and means ‘pride.’ The term is central in Hegel’s discussions. Here Hegel asks what motivates people have to feel pride in killing or dying for a piece of fabric - the flag of a state? What Hegel questioned were, in particular, was the values and perception of nobility, which relied on violent acts and a violence-based foreign policy.



Above, we see guns, slaves and merchandise in one of the merchant ships.

Therefore, as a consequence of the liberal thinking of a political and economic system not based on war, they sought to develop and integrate thoughts about peace and justice. The Liberalists therefore formulated a number of ideas and suggestions in their work with the establishment of a new political and economic system. This work was highly influenced by their concern about the unequal domestic political power and the international opposites that led to the exploitation of weaker states.

Thus the early criticism by liberalism of absolutism and mercantilism not only found its foundation in ideological and cultural preferences for civic values, but also in the hierarchical and exclusive social power structure that maintained the power of the landed gentry.<sup>32</sup>

Thus the period from 1775 to 1945 can be described as a time when bourgeois and liberal democracy, nationalism and industrialism prevail. The development consisted of the use of the first industrial revolution and the romantic movement of the mid-19th century for military purposes through the reintegration of civilian populations into national massacres in ‘total wars’ which reached a climax in World War II.<sup>33</sup>

The French Revolution introduced the ideas of ‘the People’ and ‘the Nation’, and Napoleon's conscript of soldiers from the masses of the civil society (the Levée en masse) made the war economically cheap, but political expensive and humanely bloody. The wars accelerated in speed, became more dispersed and organisationally they changed, so that logistics and communication could be maintained.<sup>34</sup>



After the defeat of the Napoleonic armies, the Vienna Congress (1814-15) was held. As a result of the conference, future wars were to be avoided by restoring the royal thrones, avoiding revolutions, increasing trade, and so on.

### **- The gold standard (1844)**

In the 1790s England suffered from silver deficiency, thus ceasing to produce larger silver coins. After the end of the Napoleonic wars in 1821 the Bank of England began an economic program that created gold coins called 'sovereigns,' 'circulating crowns,' 'half crowns' and 'copper farthings.' Between 1816 and 1820 England produced nearly 40 million 'shillings,' 17 million 'half-crowns' and 1.3 million 'silver crowns.'

The 1819 Law on resuming the possibility of cash payments also provided 1823 as the date of resumption of convertibility to other currencies. This was reached before 1821. In the 1820s, small banknotes were issued in a limited amount by regional banks. In 1833, the Bank of England's banknotes were accepted as a legal means of payment and the issuance from other banks ceased. In 1844, the Bank Charter Act stated that the Bank of England's banknotes were fully supported by gold, and they constituted the legal standard. The interpretation of the gold standard in 1844 thus marks the establishment of gold standards - for the dominant economy of the day.

The gold standard was an institutional innovation that transformed the theory of self-regulating markets into practical use, and once it was in place, it had the power to make self-regulatory markets appear natural.

Liberal economists wanted to create a world with maximum opportunities and therefore to expand markets internationally, but they had to find ways that people in different countries with different currencies could freely engage in economic trade transactions with each other. They thought that if any country complied with three simple rules, the international economy would have the perfect mechanism for international economic self-regulation. *First*, each country should determine the value of its currency in relation to a fixed value relative to gold, and should undertake to buy and sell gold at that price. *Secondly*, each country should base its domestic money supply on the amount of gold it had in its reserves and its circulating currency should be based on gold. *Third*, each country should give its residents maximum freedom to participate in international economic transactions.

The purpose of the gold standard was a free international economic market. Companies in England were able to export goods and invest in all parts of the world, convinced that the currencies they earned would be 'as good as gold.' The liberal theory was that if a country came into financial deficit in a given year because its citizens spent more abroad than they earned, the gold would be drawn out of the country's reserves as payments to foreigners. Domestic supply of money and credit is automatically reduced, interest rates rise and prices and wages fall, demand for imports decreases, and exports should therefore become more competitive. The country's deficit would thus be self-regulating. Without the government's heavy hand, each nation's international accounts would reach a state of balance. The world would be united in a single market without the need for a kind of world government or an international financial authority; sovereignty would remain divided between many nation states whose own interest would make them voluntarily accept the gold standard.

### **- The Bretton Woods agreement (1944)**

By the end of World War II, in July 1944, at Bretton Woods, in New Hampshire, forty-four states approved an Anglo-American plan for the management of a future international monetary order.



The system was based on fixed exchange rates that were open to frequent auditing and free convertibility. However, the most effective form of adaptation was the change of domestic policies to achieve international solutions. Therefore, the political interests of the systems were prioritised above all other factors, except for those economies with monetary surpluses for which there were no effective sanctions.

Two international organizations, the International Monetary Fund and the International Bank for Reconstruction and Development (World Bank) were established. The agreement on a new trade order was less easy, and the General Agreement on Tariffs and Trade (GATT) was first established after the Havana Charter and its International Trade Organization were abandoned. GATT's primary principle was non-discrimination and reciprocity among its members, although there were exceptions to this rule, i.e. future customs unions and free trade areas, agriculture and other areas such as fibers. However, the absolutely most basic purpose of the post-war regime was to maintain an open financial trading system in order to avoid competitive currency devaluations and the limiting trading blocks of the interwar years that were thought to have been a major cause of World War II.<sup>35</sup>

The development of international humanitarian institutions accelerated after both world wars; especially the Second World War. There were projects such as assistance to american republics, UNRRA, Lend-Lease, the establishment of the FAO and the World Bank, the involvement of the UN in economic and social issues and the Marshall plan. They all formed a chain of gradually more comprehensive commitments to international assistance, especially to those in need. The intellectual climate in which these policies were developed in general emphasised the principles of self-determination, "not only in matters of formal sovereignty but also in economic issues." The four freedoms: the Atlantic Charter, the commitment to the goal of freedom From the "Hot Springs Conference," the Philadelphia Declaration of the ILO, and the UN Covenant's Addressing and Universal Declaration of Human Rights, which contained a section on Economic and Social Rights, all reflect an obligation to address economic issues:

*"The links between these efforts to set up international institutions and domestic commitments to welfare, and to a broad liberal internationalism, are clear. The official U.S. advocates of international relief and economic cooperation were confirmed New Dealers and Wilsonian internationalists like Cordell Hull, Henry Wallace, Harry Dexter White, and Roosevelt and Truman themselves. British advocates included prominent Labour party members and Keynes himself ... Rationales for providing international assistance certainly contained a strong argument that assistance to those in need was the basis for building a secure and prosperous world ... the calls and support for prototypical measures came, as later support for aid did, from humanitarian, social democratic, pro-labor groups, and from those concerned with world peace and international law."*<sup>36</sup>

Contrary to this development, isolationists, cold warriors and supporters of Laissez faire opposed domestic welfare programs that did not intend to support foreign aid programs.

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## End of excursion

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## 7. The economic schools

### - Mercantilism

The thinking about the creation of 'value' focused on 'usefulness' with the early mercantilists in the 16th and first half of the 17th century. The importance of this consideration became apparent



in 1588, when Bernardo Davanzati failed to formulate a value theory based on utility. The reason why the mercantilists had this particular focus was that they, as wholesalers, were dependent on the difference between the market purchase prices and selling prices, as opposed to producers who would rely on controlling the production process costs.

The scientific revolution and the criticism of Enlightenment, Reasoning, Empiricism and Individualism became the dominant values along with a secular and materialistic orientation that led to the production of worldly commodities and luxury goods. These new customs and activities resulted in the creation of new social and political institutions, also giving rise to a new academic purpose: to theorise a number of specific economic actions: production, exchange, distribution, money lending, etc. Economic dispositions became notions in themselves, and created the need for description, understanding and explanation.

During the 16th and 17th centuries, while the new values in terms of individualism, property and representative governments led to the dissolution of the traditional feudal system and the power of aristocracy. The old economic order was, however, still defended by economic theorists who believed that a national state's road to wealth consisted of accumulating money from foreign trade. This economic theory and school, later became known as 'mercantilism'. Its supporters did not call themselves 'economists', but rather perceived themselves as politicians, administrators and merchants. They transferred the old idea of economy - that economy consisted in managing a household - to the idea that running a state was like managing a somewhat bigger household. Therefore, their politics became known as 'political economy'. This term remained in use until the 20th century, when it was replaced by the term 'economics'.

As an expression of this thinking, Richard Cantillon (1680-1734) suggested that value could be found by adding the value of a worker to twice the production of the land area he uses while allowing variations in the qualifications and status of the workers. When this was calculated, the internal values of any goods could be reduced to consist of the value of land. Another economist, Nicholas Barbon (1640-1698), believed that the value of goods was simply represented in their market price. For him, the value of all goods came from their use. Things without use have no value. Ferdinando Galiani (1728-1787) used Davanzati and Montanari's early mercantilist theories on the subjective nature of the value. He developed a theory of utility and described the concept of decreasing marginal utility value. One of the most famous of his time, the economist, John Law (1671-1729), theorised the difference between the value of water and the value of diamonds, asking why relatively useless diamonds could be worth more than the indispensable water. He solved the problem by describing the value as a function of respectively supply and demand.

Towards the end of the seventeenth century, the understanding of economists changed from the mercantilist's focus on 'utility value', to instead focusing on 'production costs'.

The transition to classic economy took place just over three hundred years ago. In the center of this transition was Sir William Petty (1623-1687), professor of anatomy in Oxford and a doctor in Oliver Cromwell's Army. In his circle of friends was Christopher Wren, the architect of many of London's landmarks, and Isaac Newton. Petty's 'political arithmetic' seems to owe Newton and Descartes a great deal, as its method consists of replacing words and arguments with numbers, weights and goals, and only "using the arguments of reason and considering only those causes that are likely to occur in nature."<sup>37</sup>

In his work, Petty gave up the subjective theory of 'value', and instead searched for objective laws in the 'natural world of realities' where 'natural value' was one of them. According to Petty, the market price of any product would continually fluctuate around its 'natural value'. He derived from the fact that the natural value in production had to consist of land and work.



Petty presented ideas that later became indispensable in the theories of Adam Smith and other later economists. Among these ideas was the theory of work as the creator of value, which also Smith, Ricardo and Marx took accepted. The idea was that the value of a product could only be derived from the amount and quality of human work required to produce it. Another theory consisted of the distinction between price and value, which in various formulations has since occupied the economists. Petty also analysed the concept of 'fair pay' and described in his work the benefits of division of labor. He also defined the term 'monopoly'. Furthermore, he discussed the Newtonian ideas about the amount of money and their speed in circulation, debated by the monetarist school today. He proposed public employment as a means against unemployment, thus preceding Keynes with more than two centuries.

Together with Petty, the liberal John Locke lay the foundation for today's economy. He was a prominent Enlightenment philosopher, and his ideas about psychological, social and economic phenomena - heavily influenced by Descartes and Newton - became the core of the 18th century thinking. Locke's atomic theory of human society led him to the idea of a representative government whose function was to protect individuals' property rights and the outcome of their work. Locke believed that once individuals had a government as an administrator of their rights, freedoms and property, their legitimacy was dependent on whether this government would be able to protect those rights. If the government failed to do so, the People should have the power to resolve it. A number of other economic and political thinkers were deeply influenced by Locke's radical moral concepts in Enlightenment.

In his economic thinking, one of Locke's most innovative theories had to do with the prices of goods. While Petty had determined that prices and goods should reflect the amount of work put into it, Locke suggested that prices were objectively determined by demand and supply. This not only released the merchants from the moral law of 'fair prices', it also became a cornerstone in economy, and got status similar to the laws of mechanics, as it stands today in most economic analyses.

The law on supply and demand fits perfectly with the new mathematics developed by Newton and Leibniz - differential calculus - because economics was perceived as dealing with continuous variations consisting of very small amounts that could be described most effectively with this mathematical technique. This idea became the foundation for subsequent efforts to make economy an accurate mathematical science. However, the problem was - and still is - that the variables used in these mathematical models can not be quantified, and that they are defined based on assumptions that often make the models unrealistic.

A distinctive school from the eighteenth century, which had a significant influence on classical economic theory, and especially on Adam Smith, were the French physiocrats. These thinkers were the first to call their theories, 'theories of objective science', and to develop a complete image the French economy as it existed just before the revolution. 'Physiocracy' meant "the rule of nature," and the physiocrats indifferently criticised mercantilism and the growth of cities. They claimed that only agriculture and the earth were truly productive of real wealth, and thus they can be perceived as early proponents for an ecological dimension in the economy. Their leader was, like William Petty and John Locke, a doctor, Francois Quesnay, who was the surgeon of the Royal Court. Quesnay explained the idea that the laws of nature, if they were not prevented in this, would regulate economic affairs for the greatest benefit to all. Here we find the idea of 'laissez faire,' which is the keystone of the economy today.

As it appears, the ethics and moral evolving in the 17th and 18th centuries gradually replaced the orderly and norm-constitutive middle-age cosmology, which was a belief in the sanctuary of the natural world; strict moral ban on money lending against interest rates; the require-



ment that prices should be 'fair'; that personal gain and accumulation should be avoided; that work should be based on societal utility and the well-being of the soul; that trade was only justified as long as it met society's needs; and that all true rewards came in the next world.

Economy was intertwined with ethics, moral and social considerations. In most of history, food, clothing, shelter and other basic resources have been produced for utility value and distributed within tribes and groups on a normative basis. In other words, a nation-state based market system is a relatively new phenomenon which emerged in the 17th century in England and spread from there to the rest of world, resulting in today's global market.

One of the consequences of this normative development towards the end of the Middle Ages was the emergence of Capitalism in the 16th and 17th centuries. According to Max Weber, the development of the capitalist mentality was closely linked to the religious idea of a 'calling'. This idea gained strength with Martin Luther and the Reformation along with the idea of a moral obligation to perceive work as a duty-driven act in the form of worldly endeavours.

The 'worldly calling' projected religious behavior into the secular world. This was even clearer in the puritan sects that saw the world's activities and the material rewards as a result of the working behavior as a sign of divine predestination. Thus, the 'protestant work ethic' arose, in which hard work and worldly success was equated with virtue. On the other hand, the Puritans rejected anything but the most sparse consumption, and as a consequence accumulation of wealth was accepted - as long as it was combined with an effective and diligent work.

In Weber's theory, these religious values and motives created the crucial emotional power and energy for the establishment and rapid development of capitalism. Weber, however, criticised capitalism for gradually dismantling the superstructure of work: meaning. Weber saw a problem in the fact that man, as an 'interpreting', 'understanding' and a 'creative creature' led by meaning, had to work in new economic structures, institutions and mechanisms without occupying a higher purpose. Capitalism to Weber became an 'iron cage'.

## - The classic economy

The classic economy was born in 1776, when Adam Smith published his book, *"An Inquiry into the Nature and Causes of the Wealth of Nations."* Adam Smith, a Scottish philosopher and a friend of David Hume, was one of the most influential economists of the time. His *"Wealth of Nations"* was the first full-scale dissertation on economics, and is probably one of the most important book ever written when its results are taken into account. Smith was not only influenced by the French physiocrats and the enlightenment philosophers, but he was also a good friend of James Watt, the inventor of the steam engine. Smith met Benjamin Franklin and probably also Thomas Jefferson. He lived at a time when the industrial revolution began to change Britain's production, class division and policy.



Adam Smith was part of Newton's social Circles, and was inspired by Newton in several of his economic considerations.

When Smith wrote *"Wealth of Nations."* England was in transition from an agrarian and craft-based economy to an economy dominated by steam-power and large factories and mills. 'Spinning Jenny' had been invented and machine weavers were being used in cotton factories that could handle up to three hundred workers. The new private companies, factories and steam-powered machines influenced Smith's ideas fundamentally, and he was an enthusiastic advocate for a social change of his time, criticising the remains of the land-based feudal system.

Adam Smith, like most of the great classical economists, was not an economical specialist,



but was an insightful, imaginative thinker. He investigated how the wealth of nations could be increased and distributed - the basic theme of modern economy. To avoid the mercantilistic idea that wealth is created through foreign trade and by accumulating gold and silver, Smith stated that the true basis of wealth is production and a result of human labor and natural resources. A nation's wealth is dependent on the percentage of its people which is involved in production as well as their effectiveness and skills. Smith agreed with Petty that the fundamental means to increase production would be the division of labor.

From the dominating Newtonian way of thinking of natural laws, Smith deduced that it was 'human nature to barter and exchange' - and he also thought it was 'natural' that the workers should increase the productivity of their work by work-saving machines.

From the French physiocrats, Smith adopted the idea 'laissez faire', and he immortalized this understanding of the market with his metaphor of 'an invisible hand'. However, early in his work, Smith does not seem to be completely convinced of the laissez faire theory. Because, in an early edition of the *Wealth of Nations*, he made the following considerations about the distribution of the wealth produced:

*"In a Civilised Society the poor provide both for themselves and for the enormous luxury of their superiors... with regard to the produce of the labour of a great Society there is never any such thing as a fair and equal division. In a Society of a hundred thousand families, there will perhaps be one hundred who don't labour at all, and yet, either by violence, or by the orderly oppression of law, employ a greater part of the labour of that Society than any other ten thousand in it. The division of what remains after this enormous defalcation, is by no means made in proportion to the labour of each individual. On the contrary those who labour most get least."* <sup>38</sup>

Despite these early thoughts, Smith later believed that the invisible hand of the market would lead the independent craftsmen, entrepreneurs, producers and consumers to harmoniously improve the lives of everyone; improvement understood as the production of material wealth. In this way, a social result would be achieved that was independent of individual intentions; and in this spirit, an 'objective economic science' was born. From this point on, only the hand's invisible forces remained to be discovered and calculated so that these forces could enter into formulas and economic models.

In the first serious attempt to systematically study economics, Smith developed three theories about the creation of value. He developed, 1. a labor cost theory, 2. a theory of value creation in a primitive society, and 3. a production cost theory for an advanced community and market. The economies that follow from Smith's original principles are generally described as belonging to the 'classical school'. This thinking dominated economic thinking for most of the first half of the 19th century.

David Ricardo (1772-1823), a stockbroker who became a multi millionaire at the age of 35, after studying the "*Wealth of Nations*" devoted himself to the study of political economy. He became the one who changed Smith's draft and suggestions for a truly coherent theory. Consequently Ricardo's work was based on Smith's work, but it defined a narrower scope for economics, starting with a process that became characteristic of subsequent non-Marxist economic thinkers. Ricardo's work contained very little social theory, instead it introduced the concept of "economic model," which was a logical system of axioms / postulates with their 'laws' that involved a limited number of variables that could be used to describe and predict economic phenomena.

Ricardo tried to avoid Smith's circular arguments in deriving value creation from the labor



force's wages. Instead, he suggested that value creation was dependent on the amount of work needed in production, which could be calculated in time. Ricardo argued that if goods should have utility value, their value could be derived from two sources: from their scarcity and from the amount of work required to manufacture the product. In his use of time as a measure of the amount of work, he also incorporated the various skills of the laborer by comparing wage with productivity. He also assumed that capital's influence on value creation was neutralized as it was simply accumulated in the work. To these theories he added a further theory of land rent in which he claimed that the size of the rent was justified by the price of the land, which meant that the surplus could vary according to the value of the land.

Central to Ricardo's thinking was the idea that growth would sooner or later be terminated due to rising costs of cultivating food on a limited area. The reason for this gloomy ecological perspective was the thinking of Thomas Malthus who assumed that the size of the population would rise faster than the food supply. Ricardo had accepted Malthus' thoughts, but had analyzed the situation in more detail. He described that because the population grew, poorer and marginal soil areas had to be cultivated. At the same time, the relative value of the better soil areas would increase and the higher rent that would be charged would become the profit that the landlords received for owning the land. The term, 'marginal' land has become the foundation of some of today's economic schools - the analysis of marginal value. Ricardo, like Smith, had accepted the theory of work as the creator of value, but as something essential in his definition of prices, he had included the cost of the work needed to build machines and factories. According to Ricardo, the owner of a profit-producing factory harvested some of the value that the workers had produced. This view became Marx's starting point in his criticism of the economy, and the starting point he used in his theory of added value, of profit.

Karl Marx (1818-1883) built his economic analysis on Ricardo's theories, and is therefore generally regarded as part of the 'classical economic school.' He developed the theory that the value of all goods was only derived from the accumulated amount of working time accumulated in the product. In his theory and in the work of reaching his conclusions, Marx used the classical concepts of value and also concepts from philosophical and sociological theory. In his work with the theory of value, he expanded his original theory of exploitation ( $s = s / v$ ) to a general criticism of capitalism.

Marx's main work consists of his triple volume: "*Das Kapital*," which contains a thorough criticism of capitalism. He viewed society and economy from an explicit perspective: the struggle between workers and capitalists, but his more comprehensive ideas of social development enabled him to place economic processes in much larger patterns.

Marx realised that the capitalist forms of social organization would speed up processes of technological innovation and increase productivity, and he predicted that this 'dialectically' would change basic social relations.

In his "*Critique of Political Economy*," which was the subtitle of the book, Marx used the labor-theory to raise questions about social justice and he also developed new concepts to counteract the reductionist logic of the neoclassical economists. Based on the premise that human work creates all values, Marx noted that maintaining and reproducing labor should at least provide leisure time for the worker, plus enough time to replace consumed materials. But generally there would be an 'excess time' beyond this minimum. The form this 'surplus value' (time) takes is key to the structure of society, both for its economy and for its technology.

Just like Mill, Marx knew that wages and prices were largely politically determined. Marx pointed out that in capitalist societies, the profits are harvested by the capitalists who own the means of production and decide the working conditions. This transaction between people with



unequal power allows capitalists to make money from the workers' work, transforming money into capital. In this analysis, Marx emphasised that the prerequisite for capital to arise was a specific social relationship (classes), which in themselves were the product of history.

At Marx's time, when the resources were plentiful and the population was small, the human contribution was the most important contribution to production. But as the 21st century technology evolve, the value added theory give little meaning, and today the production process has become so complex that it is very hard to distinguish between contributions from land, labor, capital or other factors.

Like most thinkers of the 19th century, Marx was very focused on being scientific, and he constantly used the concept of 'scientific' in his approach. Therefore, he often tried to formulate his theories in a Cartesian and Newtonian language. However, when he wrote about cultural-social phenomena, he exceeded the Cartesian conceptual framework and the framework of Newtonian physics as the Hegelian he was. He did not accept the classical position of the external objective observer, but emphasised his own role as a participant in claiming that social analyses were inseparable from social criticism. In his theory, he often showed deep humanistic insights, for example, in his discussion of the concept of alienation, a term he got from Hegel.

Although Marx often argued for technological determinism, which made his theory more acceptable as a 'science', he also had profound insight into the relationship between phenomena and considered society as an organic whole in which ideology and technology were equally important.

John Stuart Mill (1806-1873) gave up the classic Ricardian idea of absolute value (the amount of work needed in production) in favour of his own idea that the value of a commodity in any market is determined by the demand which will give sufficient size to carry the production. Mill acknowledged the effects of demand for supply in different periods of his theory of value. Economics, he wrote, consists only of an area: production and lack of funds. For Mill, distribution was not an economic but a political process. This narrowed the scope of the political economy to a 'clean economy', later called 'neoclassical economy', which would allow a more detailed focus on the 'economic core process'. Social and environmental variables were excluded, corresponding to the 'controlled experiments' in physical sciences.

John Stuart Mill emphasised the political nature of all economic distribution, pointing out that the distribution of social wealth depends on the laws and customs of society, which were very different in different cultures and times. According to Mill, this should force the question of value back on the political agenda. Mill not only considered the ethical choice the center of economics, but was also very aware of the psychological and philosophical consequences. To such an extent that he believed that the workers should increasingly participate in both the management of the work and the wealth that was created.

In the thinking of Mill, the requirement for a cooperative capitalism was therefore central and he argued that the workforce should have a greater influence on production conditions as part of the solution to the traditional opposition between work and management / ownership. According to Mill, this pointed towards a partnership on equal basis. Mill argued as follows:

*"...the business and relations of life, within the province of political economy, are mainly constituted on the basis of private property and competition. Many eminent reformers, being forcibly impressed with the mass of physical and moral evils which ... grow out of the facts of competition and individual property, have adopted the opinion ... that individual ownership, at least not in the instruments of production, should no more be suffered, but that all who are capable of work, should form themselves into co-operative associations, work for*



*the common account, and share the produce with each other and with those unable to work, not by competition but on a prearranged principle of justice (1967, V: 441-2)."*<sup>39</sup>

Mill was concerned about the development of a still deeper social and political gap between capital and labor, the growth of an alienating production practice and the uncertainty and dependence of the 'working classes.' He therefore believed that the 'cooperation principle' could produce:

*"...a change in society, which would combine the freedom and independence of the individual, with the moral, intellectual, and economical advantages of aggregate production; and which, without violence or spoliation... would realise, at least in the industrial department, the best aspirations of the democratic spirit, by putting an end to the division of society into the industrious and idle, and affecting all social distinctions but those fairly earned by personal services and exertions ... In this or some such mode, the existing accumulations of capital might honestly, and by a kind of spontaneous process, become in the end the joint property of all who participate in their productive employment: a transformation which, thus effected, (and assuming of course that both sexes participate equally in the rights and in the government of the association) would be the nearest approach to social justice ... which it is possible at present to foresee (1965, III: 793-4)."*<sup>40</sup>

Mill wrote this under the impression that the *laissez faire* policy had not lived up to Smith's promise to fulfill the 'needs of the craftsmen and peasants' - let alone the industrial proletariat. This experience spread and reflected in the growing dissatisfaction and growing political awareness of the working classes. Charles Booth's *"Life and Work for the People of London,"* (1889-1903) and Seebohm Rowntree's *"Poverty: A Study of City Life,"* (1901) were crucial for identifying poverty as a quantifiable phenomenon (almost 30% of all people in London and York respectively were poor) and establish it as a social rather than a legal question (as it had been during 'pauperism'). Many religious and progressive secular directions increasingly rejected the Victorian myth that hard work and personal resilience would necessarily ensure modest prosperity.<sup>41</sup>

## **- The historical-institutional school**

In the 19th century, the main challenge to the classical school came from the 'historical school'. The historical school, which was mainly located in Germany, did not dispute the classical theories, but asked if any theory was possible at all? They did not think that any economic theory would hold over time or remain true in different social and institutional contexts. Therefore, they suggested that economists should stop trying to formulate general principles of economic theory and instead pursue a purely inductive and empirical method of analysis. (This section will be expanded in the next edition ...!)

## **- Neoclassical economy**

By the middle of the nineteenth century, the classical political economy had branched out in two schools. On the one hand, the reformers were: The Economic Utopianists, Marxists, and the minority of classical economists who followed John Stuart Mill. On the other hand, the different neoclassical economists who concentrated on economic core processes of the market and developed mathematical economics. Some of them tried to establish objective formulas for maximising well-being, others retreated to more abstract mathematics - perhaps to escape the critics of the Economic Utopianists and the Marxists.

*"In the intellectual world, economists wanted to make their discipline seem 'scientific' - more like physics and less like sociology - with the result that they dispensed with its earlier*



*political and social connotations. While Adam Smith's writings were full of politics and philosophy, as well as early thinking about how the economy works, by the early twentieth century the field which for 200 years had been 'political' economy' emerged cleansed as simply 'economics'. And economics told a very different story."* <sup>42</sup>

Or in the words of Habermas who describes the same development:

*"As political economy, economics still held fast at the start to the relation to society as a whole that is characteristic of crisis theories. It was concerned with questions of how the dynamic of the economic system affected the orders through which society was normatively integrated. Economics as a specialised science has broken off that relation. Now it too concerns itself with the economy as a subsystem of society and absolves itself from questions of legitimacy. From this perspective it can tailor problems of rationality to considerations of equilibrium and questions of rational choice."* <sup>43</sup>

In 1871, what has later in economic theory been called the 'marginalist revolution,' began. Independently, three economists: William Stanley Jevons, Carl Menger and Léon Walras developed economic theory. What Alfred Marshall and the other neoclassical economists wanted to create was an increased insight into how the market reaches the price of a product. In classical theory, the price was an expression of manufacturing costs. Marshall, Jevons and Walras, however, saw it as a function of supply and demand. They operated with a point of equilibrium that arose where the added benefit of purchasing an additional item of an item would correspond to the additional cost of making the additional item. They called the theory 'the cost of marginal utility', and they stated that the equilibrium between the two would come where the two curves crossed each other. As Mariana Mazzucato writes about Marshall:

*"As a mathematician, Marshall used mathematical calculus, borrowed from Newtonian physics, to develop his theory of how an economy worked. In his model, the point at which a consumer's money is worth more to him or her than the additional (marginal) unit of a commodity that their money would purchase, is where the system is in 'equilibrium', an idea reminiscent of Newton's description of how gravity held the universe together. The smooth, continuous curves of these equilibrating and evolutionary forces depict a system that is peaceful and potentially 'optimal'. The inclusion of concepts like equilibria in the neoclassical model had the effect of portraying capitalism as a peaceful system driven by self-equilibrating competitive mechanisms - a stark contrast to the ways the system was depicted by Marx, as a battle between classes, full of disequilibria and far from optimal, whose resulting revolutions would have been better described by Erwing Schrödinger's concept of quantum leaps and wave mechanics."* <sup>44</sup>

The neoclassical school focused its theoretical development on 'supply and demand', which we are so familiar with today. The utility a person can derive from his consumption of a quantity of a particular product is determined by his satisfaction from the consumption. The term 'marginal benefit' refers to the satisfaction a person derive from the consumption of an additional device / quantity of the same product or service in a given context.

In a varying degree of generalisability, the equilibrium within a competitive environment, was based on the assumption that individuals choose to maximise their utility. The central assumption in theory was the suggestion that such a maximising individual would achieve equilibrium through exchange when the relative prices of goods he or she possesses are equivalent to his or her subjective assessment of the relative marginal utility. If the relative price of a product is less than a person's assessment of its marginal utility over other goods, a maximizing person



would acquire more goods or services in exchange for other goods he or she possesses at relative prices higher than his or her assessment of their relative marginal utility.

Based on this thinking, three main principles emerged:

1. the amount required of a particular product is in proportion to the price of the item; 2. the quantity of a delivered item increases in relation to the price of the item; and 3. when an 'equilibrium-price' prevails to a product (the 'law of price') in a competitive environment, quantities of goods are exchanged up to the point where each person's assessment of the relative marginal utility value reflects a relative equilibrium in price - at which point the value of all delivered goods equals the value of all requested goods, for both individuals and markets.

In the following years, the concept of 'marginal utility' became the center of economic theory. Thus, the 1870s marked a theoretical change because the entire economic theory was systematically reformulated about the assumption that the value of economic goods is fundamentally a consequence of *individual subjective* assessment.

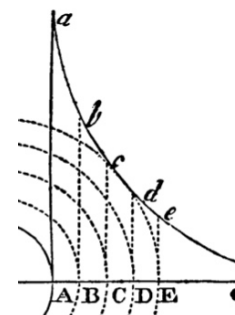
Alfred Marshall attempted to merge classical analysis with the marginalists' new theories to explain the value created by supply and demand. In this work he, like former economists, used parts of the Newtonian equilibrium theory.

He differentiated his analyses into four periods: 1. where a market period is of such short duration that supply is fixed, the value of a product will be determined by demand; 2. in very short market periods, companies can change production, but can not increase their production facilities, which means that supply and demand will be decisive for the price; 3. in productions that extend over long periods of time, production facilities may vary and increase, which means that the price of a product depends on whether the supply is constant, increasing or decreasing; and 4. in a period in which technology and populations are allowed to vary, the terms of supply will dominate the price.

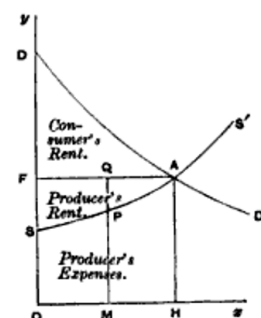
While Marshall and Edgeworth took important steps towards analysing the relationship between individual consumption and collective well-being, Pareto (1906-09) argued that any suggestion that individual maximisation necessarily entails collective economic maximisation must be analysed. By demonstrating this connection, by means of his welfare criterion that an unambiguous gain in collective economic well-being requires at least one person to win and no one gets worse, he showed that interpersonal comparability of utility in general must be excluded from economic theory and also from the analysis of collective economic welfare.

## From physics to economics

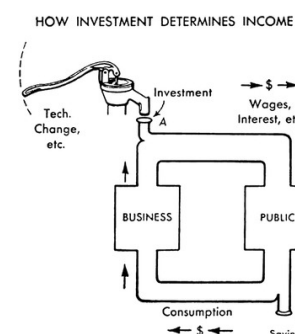
The 17th century scientists were inspired by Newton's drawings of the world of physics. Below is a section of Newton's 'Principle of fluid mechanics':



The drawing of Alfred Marshall below: 'The Principle of supply and demand' fra 1890, somewhat resemble Newton's drawing above:



This understanding of economics probably led Paul Samuelson into his 1948 drawing of economics as a 'Circular Flow Diagram', in which it is presented as a closed hydraulic circuit:





## - Keynesianism

Neoclassic theory had claimed that ‘supply creates its own demand’, so if the supply of labor was too high in relation to employers’ demand, the consequence would be that workers’ wages would fall until employers were again able to create jobs and to hire.

In his dissertation from 1936, *“The General Theory,”* Keynes therefore proposed a whole new theory that would explain aggregated phenomena in the economy as a whole, the area in which neoclassical theory had the greatest difficulty in explaining. It is important to note that Keynes did not propose to replace the neoclassical theory. The theoretical principles of neoclassicism were still true. But they were, Keynes claimed, incomplete. Neoclassical economic theory was still good at explaining economics at micro-level, such as markets, prices, production and distribution, but the neoclassical economy was struggling to explain economics at ‘macro level’ - areas such as general economy, such as GDP, inflation and unemployment. Thus, there was a need for a more ‘general theory’, a theory that preserved the neoclassical theory at the micro-level, but suggested a new theory building at the macro-level.

Keynes was very interested in the entire social and political scene, and considered economic theory to be a political instrument. He therefore bent the so-called ‘value-free’ neoclassical economic methods so they could serve instrumental purposes and goals, thus rendering the economy political again, but this time in a new way. This meant abandoning the idea of the objective scientific economic observer, which the neoclassical economists were very reluctant to accept. But Keynes reassured their fear of interfering in the market mechanisms by showing them that he derived his political interventions from the neoclassical model. To do this he showed that the economic equilibrium conditions were ‘special’ and that exceptions rather than the rule of the economic world.

In order to determine the nature (nature and cause-effect ratio) of government interventions, Keynes changed its focus from the micro-level to the macro-level - to economic variables such as national income, total consumption and total investment, total employment, and so on. By establishing simplified impacts between these variables, he could demonstrate that they were susceptible to short-term changes that could be affected by appropriate policies. According to Keynes, the varied economic conditions were a feature of national economies. His theory was in opposition to the older economic mindset, which postulated full employment, but Keynes defended his new theory by pointing out that it was “an excellent feature of the economic system we live in ... that it is subject to deep fluctuations relative to production and employment.” <sup>45</sup>

In Keynes’ optics, demand was crucial. In stimulating labor demand in the form of public investment, unemployment could be controlled - and excess in production capacity could be put into service. In other words, the core of Keynesian economic policy is that the state actively stimulates employment, consumption and growth through public investment and fiscal policy.

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In Keynes' optics, demand was crucial. By stimulating labor demand in the form of public investment, unemployment could be controlled and production capacity in surplus could be put into service. In other words, the core of Keynesian economic policy is that the state actively stimulates employment, consumption and growth through public investment and fiscal policy.

In the Keynesian model, additional (public) investments will always increase employment and thus increase overall revenue levels, which in turn will lead to increased demand for consumer goods. In this way, public investment stimulates economic growth and increases national wealth, which will eventually 'trickle down' to the poor. However, Keynes never said that this process would culminate in full employment. It would probably only move the economy in that direction - or level out at some point of underemployment, or even go in reverse order, depending on many assumptions that are not part of the Keynesian theory.

## **- The postwar period**

In the post-war years (1945-1970s), economic theory developed in two directions: in microeconomics dominated by neoclassical theory formation and macroeconomics dominated by Keynesianism. In the 1960s and 1970s, a great effort was made to reconcile the neoclassical theory of the micro level with the Keynesian theory of macro level - in a school of synthesis.

A group known as the "Cambridge School," led by Joan Robinson, suggested to completely drop all of the neoclassical theory and reviving the old classical theory formation, and from here explain the micro-economic level as this approach seemed more compatible with Keynesian theory. Another group, known as the Chicago school (or 'Monetarist'), focused on the roles of governments in controlling the macro-economic consequences of money supply. The monetarist theories focused on the fact that fluctuations in money supply have a major impact on state productions in the short term and at price levels over longer periods. The monetarists also claimed that the monetary policy objectives would be best achieved by targeting the growth in money supply rather than engaging in monetary policy. Milton Friedman belonged to the generation of economists who first accepted the Keynesian economic theories, but later he criticised Keynes theory regarding its idea to combat economic recessions using fiscal policy (public spending). On the basis of his criticism, he proposed to drop the Keynesian theory formation and to allow the neoclassical theory to completely take over the macro-economy. Between these two economists, one could find the 'synthesis school', of which particularly Paul Samuelson, James Tobin and Robert Solow became exponents. The synthesis school tried to show how the Keynesian theories could be deduced from the neoclassical theories and that they were therefore compatible.

During the same period, Ludwig von Mises and his student Friedrich Hayek attempted to restore the economic theory of market liberalism, which had been deeply shaken by World War I, the Russian Revolution and Socialism. At first, Mises and Hayek had only very little influence as the Keynesian economic theories dominated from the mid-1930s to the 1960s, which resulted in active economic management of national policies in the West. But after World War II, Mises and Hayek continued their arguments for market liberalism in the United States and in Great Britain, and they had a profound influence on Milton Friedman's economic thinking.

In 1947, the year before, the synthesis economist, Samuelson published his iconic circular economic flow chart, above, Friedrich Hayek, Milton Friedman Ludwig von Mises and Frank Knight met at the Swiss resort Mont Pèlerin to prepare what they hoped would someday become the dominant economic reality. Inspired by classic liberalism's pro-market thinking, like Quesnay, Smith and Ricardo, they established what they called a "neoliberal" agenda. The goal was, they said, to resist the threat from totalitarian states that spread rapidly thanks to the growing strength of the Soviet Union. But this original goal gradually changed to a goal of "market-



fundamentalism,” along with the term “neoliberalism.” This development was strengthened when Paul Samuelson’s circular economy chart emerged, which produced which factors formed the core of all economies. Samuelson's model was the perfect expression of their theory.

Friedman, Hayek and the other economists from the late 1940s and the Mont Pèlerin Society who appeared as the “neoliberal” school, had to wait a few decades before their theories came into play. With the support of business and billionaires, they funded university professors, established scholarships, and built an international network of think-tanks that supported the neo-liberal theory, including the American Enterprise Institute and Cato Institute in Washington, DC, and the Institute of Economic Affairs in London.

Their great neo-liberal breakthrough came in 1980 when Margaret Thatcher and Ronald Reagan joined forces to test the neo-liberal theory on the international scene. Both politicians were newly elected and were surrounded by advisors who came from the Mont Pèlerin circle: Reagan's elected representatives comprised more than twenty members from the Mont Pèlerin circle, and Thatcher's first chancellor of the exchequer, Geoffrey Howe, also belonged to the Mont Pèlerin circle. Since then, the neo-liberal school has dominated economic policy and debate.<sup>47</sup>

The 1970s developed economically to become a period of ‘stagflation’ - ie. high unemployment *and* high inflation, a macro-phenomena, which the Keynesian theory could not explain. The Keynesian theory argued that inflation was due to the labor forces and that mass unemployment would be accompanied by price deflation and not price inflation. Stagflation in the 1970s therefore weakened confidence in the Keynesian theory building.

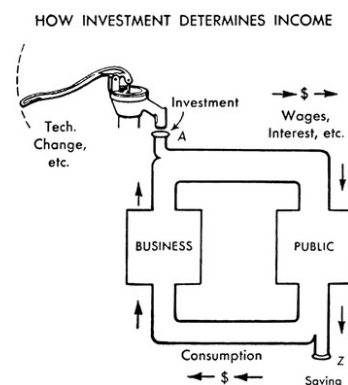
The current global financial system was completely different from the time when the gold standard prevailed. Exchange rates and national currencies were no longer fixed in relation to gold, just as most currencies were allowed to fluctuate in value on the foreign exchange markets. Strong international financial institutions were also established, such as the International Monetary Fund and the World Bank, and play an important role in the management of the global economic system.

But behind these important differences lies basic similarity, in believing that if only individuals and companies get maximum freedom to pursue their economic interests, the global market will make everyone richer.

These fundamental beliefs make up the foundation under the neoliberal efforts to restrict or dissolve restrictions on trade and capital flows and also the efforts to limit the state’s ‘interference’ in the organization of economic life. Thomas Friedman, an influential defender of globalisation, writes, “When your country acknowledges ... the rules of the free market in today's global economy and decides to adhere to them, it puts on what I call the ‘straight jacket of gold’.” Contrary to these rules, the neo-liberalists speak for a reduction of the state, removing restrictions on trade and capital movements and deregulation of capital markets.<sup>48</sup> This deregulation of the economy thus begins during the 1970s and becomes real policy of the 1980s with the elections of Thatcher and Reagan.

## - The economic 'neo'-schools

The new classical school at the University of Chicago had a small tolerance to the Keynesian theories and therefore excluded Keynesianism theories from its analyses. The Monetarist School



Samuelson's circular diagram



was more open and tried to apply the theories of Keynesianism at the macro-level. Like the neo-classics, the Monetarists believed that the neoclassical theories were right and that the market would fix everything. The difference was that Keynesian theory accepts that prices are sometimes not adjusted due to monopoly conditions and that this prevents the pricing-system from functioning properly.

In the modeling of economic policy, focus has recently been directed towards the apparent disagreement between economic policies and economic theories. From the mid-1990s, this field has expanded, partly supported by new transnational data-sets that enable hypothesis testing on comparative economic systems and institutions. The topics have included the division of nations, origins and the degree of change of political institutions in relation to economic growth, development, financial markets and regulation, old undeveloped economic structures, reforms and transition economies, the role of culture, ethnicity and gender in explaining economic results, macro-economic policy, environment, justice and the connection between constitutions and economic policy, theoretical and empirical.

*New political economy*, treats economic ideologies as a phenomenon that, based on Marxist tradition, can explain the political economy. Thus, Charles S. Maier suggests that a political economy approach “demands economic doctrines to expose their sociological and political reasons ... which together consider the economic theories and behaviours not as a framework for analysis, but as ideological beliefs and actions to be described and explained as that.” This approach, writes Andrew Gamble in his book, *“The Free Economy and the Strong State.”* (Palgrave Macmillan, 1988) and Colin Hay in his book, the *“Political Economy of New Labor.”* (Manchester University Press, 1999).

*International Political Economy* (IPE) is an interdisciplinary field that includes different actors’ approach to actions. In the US, these approaches are associated with the journal “International Organization,” which in the 1970s became the premier journal of the IPE under the editors of Robert Keohane, Peter J. Katzenstein and Stephen Krasner. They are also associated with the journal, “The Review of International Political Economy.” There is also a more critical school of IPE, inspired by thinkers like Antonio Gramsci and Karl Polanyi; Here two people are central: Matthew Watson and Robert W. Cox.

*The political economy approach* is used by anthropologists, sociologists and geographers in connection with analyses of political regimes or economic ideologies that are primarily found at state or regional level, but it is also used in smaller social groups and social networks. Because these regimes influence and partly affect the organization of both social and economic capital, the analyses lacking a standard of economic value (eg the political economy for language, gender or religion) often lack the concepts and dimensions used in Marxist criticism of capital. Such practices extend neo-marxist theory formation to areas related to development and underdevelopment according to André Gunder Frank and Immanuel Wallerstein.

*Political Economics and Law* is a new attempt in the legal theory to engage explicitly in the political economy’s literature. In the 1920s and 1930s, legal realists (such as Robert Hale) and intellectuals (such as John Commons) developed issues related to political economy. In the second half of the 20th century, lawyers associated with the Chicago school incorporated certain intellectual theories from economic theory. However, since the 2007 crisis, legal researchers specially related to international law have increasingly and explicitly turned against engaging in debates, methods and various themes in political economics texts.

*Thomas Piketty's* approach to economics has led him to propose the reintroduction of political considerations in the economy, and that economic theory generally involves other types of



scientific knowledge in the formation of economic theory, so that the robustness of economic theory could be strengthened.

## - Preliminary summary

To sum up this review of different economic schools and theories, it seems that what is common ground for the different constructions is that the economic theories are based on quantitative concepts, in the form of a number of axioms, more or less directly refers to a mechanical Christian-Cartesian-Newtonian paradigm.

Thus, we see an economy that refers to physical scientific axioms under the surface of scientific economy. Under this surface, the economy draws on concepts developed under heavy influence from Newton's physics, and translates them into theories of collective economy. The economy thus makes a more or less direct link from physics to economics - both regarding axioms and method, which thus becomes mechanical and quantitative.

According to this economic thinking, there are a number of exact economic-mechanical relationships that have a nature-like character entirely in line with the laws of Newton's physics. These economic laws are thus constant and can not be changed fundamentally.

The economic theories must be methodically handled through 'ceteris paribus' - which means that the economist keeps explanatory variables constant while other variables are tested. When economic theories are developed, the intention is to find the variables that are as simple as possible in their information requirements, as well as to find more precise and fruitful predictions relative to previous theories.

The 'invisible hand' seems to be a collective economic axiom that contains more economic mechanisms throughout. The economic reality is built by different economic forces, similar to Newton's forces of motion. Thus, important economic forces in micro-economics are that supply and demand under the influence of the power of a decreasing marginal return on investment and capital will find an equilibrium (the theory is that the many uncoordinated economic exchanges will 'gravitate' against an equilibrium where all people largely own the same) that the rate of movement (trade/turnover) of the money and increases in money supply increase inflation, inflation is influenced by rational choices, there is an objective difference in utility and exchange value, etc. There are probably more undiscovered natural economic laws, which economists have just not discovered yet.

As these mechanisms are fundamental and nature-like, people and states must *not* interfere with them referring to religion, ethics and morals. This will only cause harm. Therefore, it is important that the economic markets - the economic reality - is kept free from interferences. Markets must remain free and open so that economic forces can work for everyone's profits. If that is avoided, the economy will 'trickle down' - naturally - so everyone gets rich and happy and societies can survive and become peaceful and prosperous.

Within political economy, the important forces are the relationships between aggregated variables. The problem is that these seem to vary and aggregate over time and therefore can not be perceived as constant, and thus, cannot fit into a Newtonian paradigm where natural forces should be constant. Some political economists therefore try to rely on micro-economics in theories, where the theories are apparently based on constant and thus predictable factors.

The task of the economy in today's society and companies is therefore to use the scientific based models, which in particular the neoclassical economy developed and refined since. On the next page you will see a chart of the different economic schools, of which I have not included some.



## Comparing Different Schools of Economics

	CLASSICAL	NEOCLASSICAL	MARXIST	DEVELOPMENTALIST	AUSTRIAN	SCHUMPETERIAN	KEYNESIAN	INSTITUTIONALIST	BEHAVIOURALIST
The economy is made up of...	classes	individuals	classes	no strong view, but more focused on classes	individuals	no particular view	classes	individuals and institutions	individuals, organizations and institutions
Individuals are...	selfish and rational (but rationality is defined in class terms)	selfish and rational	selfish and rational, except for workers fighting for socialism	no strong view	selfish but layered (rational only because of an unquestioning acceptance of tradition)	no strong view, but emphasis on non-rational entrepreneurship	not very rational (driven by habits and animal spirits); ambiguous on selfishness	layered (instinct – habit – belief – reason)	only boundedly rational and layered
The world is...	certain ('iron laws')	certain with calculable risk	certain ('laws of motion')	uncertain, but no strong view	complex and uncertain	no strong view but complex	uncertain	complex and uncertain	complex and uncertain
The most important domain of the economy is...	production	exchange and consumption	production	production	exchange	production	ambiguous, with a minority paying attention to production	no strong view, but puts more emphasis on production than do the Neoclassicals	no strong view, but some bias towards production
Economies change through...	capital accumulation (investment)	individual choices	class struggle, capital accumulation and technological progress	developments in productive capabilities	individual choices, but rooted in tradition	technological innovation	ambiguous, depends on the economist	interaction between individuals and institutions	no strong view
Policy recommendations	free market	free market or interventionism, depending on the economist's view on market failures and government failures	socialist revolution and central planning	temporary government protection and intervention	free market	ambiguous – capitalism is doomed to atrophy anyway	active fiscal policy, income redistribution towards the poor	ambiguous, depends on the economist	no strong view, but can be quite accepting of government intervention



## 8. Critique of the Newtonian economy

Modern economy seems to be a messy pile of concepts, theories and models that come from different epochs of the economic history. The most important schools of thought that we have followed in the above are: the mercantilist, classical, neoclassical and the later 'neo' schools. All of today's economic schools seem to still rely on a number of classical notions of physics, reality, biology, society, states and globalisation.

### - Mercantilism today

The economy of absolutism was mercantilism, whose most important idea was the idea of trade balance - ie. the belief that a nation would get rich when exports exceed imports. This idea has been maintained as a central concept in recent economic thinking, and is still effective today. The thought was also influenced by the concept of 'equilibrium' in Newtonian mechanics, thus fully consistent with contemporary thinking and limited worldview.

As we saw, this equilibrium between states was to be maintained with armed forces in wars. Wars that today are named 'limited wars' as opposed to the 'unlimited wars' of the democracies.

Today, with our closely populated and interdependent world, it is obvious that not all national states can win at the same time in such a mercantilistic-economic zero-sum game. Nevertheless, many nation states are still trying to maintain this 'trade balance' for their own benefit, which may lead to 'trade-wars,' economic depression and international conflicts.

### - The classic economy

Liberalism has several key axioms. An axiom is presented as early as in Smith's title on his book: *"An Inquiry into the Nature and Causes of the Wealth of Nations"* - a headline in which we find: 'nature' and 'causes'. When Smith looked for the best explanation of 'nature' and 'causes', he probably looked for the best explanatory model of his time, and that was Newton's nature and cause-effect descriptions. Newton fitted very well with the Christian Church's interpretation of God, religion and physical reality. Another central and supportive metaphor is the social contract, a fictional entity through which free and independent people agree on a minimal amount of necessary cooperation. In addition to this minimal human cooperation, each individual is free to collaborate further or to compete in his or her own best interests. This cooperation or competition takes place on the free market, Smith writes in his *"Wealth of Nations"* from 1776. Here, he wrote about the 'place/space' where the economic forces should unfold 'naturally' abiding certain 'laws.' These laws he gathered under a greater principle, 'the invisible hand.' He wrote this:

*"It is not from the benevolence of the butcher, the brewer, or the baker that we expect our dinner, but from their regard to their own interest. When the market's invisible hand is set free to work its magic of allocative efficiency, it harnesses the self-interest of every household and business to provide all the goods and jobs that are wanted."* <sup>49</sup>

Adam Smith believed that "a positive injury" could occur if his free market entrepreneurs set out to serve *the public good* in favour of *his own interest*: "By pursuing his own interests," Smith argued, "[the entrepreneur] frequently promotes that of society more effectually than when he really intends to promote it. I have never known much good done by those who affected to trade for the public good." <sup>50</sup> What Smith confronts in his writing is probably the notion that work should serve a higher purpose than the products should serve society that the amount should be limited to a 'reasonable' consumption and, in particular, that the work deserved a fair salary. All of this would harm a 'natural' economic development.

The idea of an invisible hand that abides natural laws, which does not rest on ethical, moral



or ideological values, but which is just natural, was what ensured that the economy could remain scientific, neutral and in growth. The free market was thus liberated from both the moral-Christian sphere and from its personal-social commitment. The economy and the market should function on their own scientific and neutral grounds.

The criticism that must be expressed here is that Smith does not explain, but merely refers 'magically' to how each individual's own self-sufficient endeavour can suddenly transform into a 'atural harmony of interests'. How Smith can suddenly refer to mysterious forces - because they are not found and explained in the natural scientific forces of the economy - is given no explanation.

Despite this, Smith's argument about an invisible hand has been maintained by economists until today, forming the reason for 'the market to remain free', so that the 'economic laws' may be allowed to work unobstructed by themselves, naturally. They have to be allowed to do that because everyone will win financially. This may by economists be formulated like this, as I heard a banker say in a radio interview: "I think we should leave that to the market." The argument was accepted by the journalist. If we look at another social areas, such as rocker crime, and the police stated: "I think we should leave this to the public or other rockers." Well, that argument would probably meet some resistance. But not in the field of economics. Why..?

One can - again - polemically ask, for example the neoliberals, if there is any life-sphere that can not or should not be considered a commercial product? People, fetuses, organs, rivers, access to clean air and water, etc. Where is the limit for goods? And who (!) sets the limit? The market? The state? The Church? The mother? The economists?

## - What is a liberal human being?

Liberalism arose as we have seen, as a reaction to the social and economic policy of absolutism, and it argued that structures and rigid rules enforced and controlled by nobility and the Church, would alienate the people. Liberalism therefore today, reacts strongly to any restrictive social rules, whether they come from tradition or bureaucracy. The term 'freedom' is thus stated without further elaboration on several western monuments and on the front of several books. The bourgeois individual person had to be free to cooperate or to compete in his or her own interests.<sup>51</sup> This liberal 'freedom' is rarely elaborated and nuanced even after the influence of the nobility and the church on ordinary everyday behavior has been pushed back.

Today's 'business-as-usual' capitalism is based on a very narrow definition of what it means to be a human being and what it means to 'act' - like for example: to work - as a human being. People are measured on their pursuit of profit and according to their capacity to consume. If average income since the 1970s has increased by 20 %, people are 20 % more happy and satisfied. At work, employees are measured at their capacity to produce what others can consume. They are seen at work only as producers - privately they are customers and consumers - not as people who appreciate certain things that have loyalties and passions they strive for and dream about and who seek a certain quality of life and a particular identity.<sup>52</sup>

In the current dominant liberal paradigm, therefore, 'I' precedes 'we' - actually, it is close that 'we' do not exist at all in this paradigm. In an ideal liberal society, each of us is seen as an independent 'atomic' self, as separate elements of a cybernetic system.

In classical liberalism, individual freedom is the highest of all values, and the pursuit of individual goals is the ultimate purpose. To the extent that it is part of liberal thinking, it is considered a neutral arena where the drama of this free struggle is being played out. Liberal individualism consists of a very special (limited) perception of self. Crucial to this view is what John Rawls calls "the distinction between persons," or what Robert Nozick calls "the fact of our separate



existences.“ This is the absolute atomism's credo in liberal thinking. Not only is each “self” separated from all other “selves,” but the liberal self also takes precedence over all its other relationships and obligations. “I” am not primarily a mother or a wife. “I” am not primarily my relationship with my family and friends; “I” am not primarily my social roles, my professional obligations or my national loyalties. “I” am not even my performance or my moral qualities or my character. All of these sides of me are secondary and contingent attributes, not essential qualities in themselves. “I” am a primary, distinct and individual person, and all my rights follow from the fact: “that I am.” <sup>53</sup>

Therefore each of us must have maximum freedom to pursue each of our individual goals and we must be guaranteed the right to free communication with all the other self-contained individuals. None of us is committed to thinking of anything but our own (selfish) purposes. No one can have any ‘higher’ motives, such as for example to serve ‘the best of the whole’. Society exists exclusively to facilitate our individual purposes.

Nevertheless, Smith and later liberalists claim that in some way, using a mysterious ‘homeostatic’ (cybernetic?) process, we, as free-communicating individuals, will achieve a ‘natural harmony of interests’. As each of us, isolated, pursue our ‘private vices’ we undoubtedly and mysteriously will serve the public. Such thinking formed the foundation for Adam Smith's idea that an ‘invisible hand’ ruled the selfish behavior of the individuals in the free market. In spite of the motivation of selfishness, this behavior by itself will transform into the opposite result:

*“He generally, indeed, neither intends to promote the public interest, nor knows how much he is promoting it ... He intends only his own gain, and he is in this, as in many other cases, led by an invisible hand to promote an end that was no part of his intention.”* <sup>54</sup>

Just as Smith, other classical liberal economists found it decisive for liberal theory that the individual pursued his own interests. This was crucial to their definition of freedom. As John Stuart Mill said, “The only liberty that deserves the name is that of pursuing our own good in our own way”:

*“...unless men are left to live as they are ‘in the path which merely concerns themselves’, civilisation cannot advance; the truth will not, for lack of a free market in ideas, come to light; there will be no scope for spontaneity, originality, genius, for mental energy, for moral courage. Society will be crushed by the weight of ‘collective mediocrity’.”* <sup>55</sup>

Karl Polanyi's criticism is exactly in relation to this idea of a free market. His criticism was based on analyses of the state's role in the economy. His argument is this: Although the economy must be self-regulating, the state is forced to play the continuing role of adjusting the supply of money and credit to avoid the danger of inflation or deflation. Likewise, the state is forced to handle the varying demand for employees by providing support for them during periods of unemployment, by teaching and training future workers, and by seeking to influence migration flows. Regarding land, governments have sought to maintain continuity in food production by means of a number of laws and procedures that protect farmers from the pressure of failing harvests and volatile prices. In urban areas, governments govern the use of existing land through both environmental and land use regulations. These are problems the market can not regulate and can not assume. In short, the state has to step in and control what Polanyi calls ‘fictitious raw materials’ within three of the most important markets; which makes it completely impossible to maintain both the liberal and the neoliberal idea that the state should stand ‘outside’ the economy.<sup>56</sup>

Despite Polanyi's devastating criticism, which was published in 1944, neoliberal economists still today continue advancing their views on free markets and want us to believe that these markets will bring global peace and growth that will ensure the lowest income.



For example, economist Nobel Prize winner Milton Friedman claims: “The only way that has ever seen many people volunteer to cooperate is the free market.” And another Nobel winner, Friedrich Hayek, says: “I regard the conservation of the system of free markets and private property of the means of production as an essential condition for survival of humanity.” Strongly influenced by this persistent argumentation, a neoliberal politician, Margaret Thatcher, stated repeatedly: “There is no alternative! (to neoliberalism).”

But, if the free market really worked, as Friedman and Hayek propose: that they are exclusively driven by free individual actions, then their views could be taken seriously. But the market does not work that way - nowhere. Friedman, Hayek and countless other economists describe the economy in ways that simply ignore government's major role and involvement in all the so-called free markets. The free market is an illusion. They don't exist anywhere. On the contrary, today we have - globally - the most regulated market system ever.

It is therefore really a profound distortion to claim that ‘the market is free’ because this is the opposite of the global economic reality. One should ask: how can politicians go out saying that we have a free market system when states operate hospitals, schools, build roads, regulate transport, establish water and sewage systems when goods traded on the market must comply with certain standards, for it to be allowed access the market, etc., etc.<sup>57</sup>

The truth is that business in all countries relate to the state as a ‘total capital,’ and constantly uses political regulation, legislation, tax, subsidies, labor production and publicly-funded infrastructure, regardless of theory and free market debate. This occurs especially locally where the economy has become very intense in recent decades.<sup>58</sup>

Despite all the theories about the free market, it does not seem to exist in any economic reality. Something Kate Raworth comments on here:

*“... whenever I hear someone praising the ‘free market’, I beg them to take me there, because I’ve never seen it at work in any country that I have visited. Institutional economists - from Thorstein Veblen to Karl Polanyi - have long pointed out that markets (and hence their prices) are strongly shaped by a society’s context of laws, institutions, regulations, policies and culture. As Ha-Joon Chang writes, “A market looks free only because we so unconditionally accept its underlying restrictions that we fail to see them.”*<sup>59</sup>

Smith believed, just as later liberal economists did, in *both* the theory of labor value law, *and* at the same time he accepted the idea that prices would be determined by the ‘free market’s’ supply and demand balance. Simultaneously? How?

They implicitly base their economic theories on the Newtonian concepts of equilibrium, movement laws and scientific objectivity. One of the difficulties in using these mechanical concepts on social phenomena is the lack of understanding of the ‘friction problem.’ As the phenomenon of friction is generally ignored in Newtonian mechanics, Smith imagined that the free market balance mechanisms would be almost ‘instantaneous.’ He described adaptations as ‘fast’, ‘that they happened soon’ and ‘persistent’, and he described prices as ‘gravitating’ in the ‘right’ direction. Small producers and small consumers will meet in the market with equal power and equal information.

These failed ideas from the 17th century still underlie the ‘competition models’, widely used by economists today. Their basic assumptions include perfect, free and accessible information for all participants in the market's transactions; Believing that all buyers and sellers on the market are small and that it has no effect on the price; and full and immediate mobility of workers, natural resources and machinery.



In the international trade area, Smith developed a doctrine of 'comparative advantage', which meant that the differences between nation-states would mean that they each would excel in particular areas of production, which in turn would result in an international distribution of labour and free commerce.

As a matter of fact, Smith seems not to realise that people are cultural beings who see and experience the world through systems of concepts and meaning that provides them with words, symbols and routines to use in the process of communicative actions. These interpretations create different character structures in humans depending on where they were born and raised. And this difference is crucial to their actions in economy. That is, something which generates demand and value in one system, is ignored in another.

Because this is an absolutely crucial understanding, I would like to give Erich Fromm the floor for a deeper and lengthy elaboration:

*"It is the very task of social psychology to understand this process of man's creation in history. Why do certain definite changes of man's character take place from one historical epoch to another? Why is the spirit of the Renaissance different from that of the Middle Ages? Why is the character structure of man in monopolistic capitalism different from that in the nineteenth century? Social psychology has to explain why new abilities and new passions, bad or good, come into existence. Thus we find, for instance, that from the Renaissance up until our day men have been filled with a burning ambition for fame, while this striving which to-day seems so natural was little present in man of the medieval society. In the same period men developed a sense for the beauty of nature which they did not possess before. Again, in the Northern European countries, from the sixteenth century on, man developed an obsessional craving to work which had been lacking in a free man before that period.*

*But man is not only made by history - history is made by man. The solution of this seeming contradiction constitutes the field of social psychology. Its task is to show not only how passions, desires, anxieties change and develop as a result of the social process, but also how man's energies thus shaped into specific forms in their turn become productive forces, moulding the social process. Thus, for instance, the craving for fame and success and the drive to work are forces without which modern capitalism could not have developed; without these and a number of other human forces man would have lacked the impetus to act according to the social and economic requirements of the modern commercial and industrial system."*

(...)

*"To put this in a simple formula: man must eat, drink, sleep, protect himself against enemies, and so forth. In order to do all this he must work and produce. "Work", however, is nothing general or abstract. Work is always concrete work, that is, a specific kind of work in a specific kind of economic system. A person may work as a slave in a feudal system, as a peasant in an Indian pueblo, as an independent business man in capitalistic society, as a sales-girl in a modern department store, as a worker on the endless belt of a big factory. These different kinds of work require entirely different personality traits and make for different kinds of relatedness to others. When man is born, the stage is set for him. He has to eat and drink, and therefore he has to work; and this means he has to work under the particular conditions and in the ways that are determined for him by the kind of society into which he is born. Both factors, his need to live and the social system, in principle are unalterable by*



*him as an individual, and they are the factors which determine the development of those other traits that show greater plasticity.*

*Thus the mode of life, as it is determined for the individual by the peculiarity of an economic system, becomes the primary factor in determining his whole character structure, because the imperative need for self-preservation forces him to accept the conditions under which he has to live."*

(...)

*"The fact that ideas have an emotional matrix is of the utmost importance because it is the key to the understanding of the spirit of a culture. Different societies or classes within a society have a specific social character, and on its basis different ideas develop and become powerful. Thus, for instance, the idea of work and success as the main aims of life were able to become powerful and appealing to modern man on the basis of his aloneness and doubt; but propaganda for the idea of ceaseless effort and striving for success addressed to the Pueblo Indians or to Mexican peasants would fall completely flat. These people with a different kind of character structure would hardly understand what a person setting forth such aims was talking about even if they understood his language."*

(...)

*"In other words, ideas can become powerful forces, but only to the extent to which they are answers to specific human needs prominent in a given social character."* <sup>60</sup>

Economy, therefore cannot be understood in itself, in general, isolated, without the cultural values and basic concepts. So, when 'development programs' in the global South are based on Christian Northern European thinking about what a human being is, what a child is, what a family is and what work is, we can be quite sure that these assumptions which form the program's structural design will not carry through in the global South.

When Smith wrote about the growth of social and economic structures, he condemned people who made agreements to raise prices 'artificially' beyond 'the natural market mechanisms', yet he did not see the extensive consequences of ownership of companies - the advancement of people and the conversion of money into capital. The growth of these phenomena, and especially the social class structure, should later become a key issue in Marx's economic analysis.

Adam Smith legitimized the profits of the capitalists by claiming that they were needed so that they could invest in machines and factories for the common good. He was aware of the struggle between workers and employers and their efforts to 'disturb the market', but he never theorised the unequal power of workers and capitalists.

The thinking by Ricardo and by later classical economists consolidated the theory of economy into a set of dogmas that supported the existing social class structure and they also counteracted all attempts at social development with the argument that their economy was just 'scientific' and that it was 'laws of nature' that were being used, as for example the established 'cause-effect ratio'.

As described, all of these 'laws of nature' are violated daily in the vast majority of free markets, but most economists continue to use them as a foundation for their theories, or they are incorporated in their calculation models and programs. As Lucia Dunn, professor of economics at Northwestern University, describes today's situation: "They use these assumptions in their work almost unconsciously. In fact, in many economists' minds, they have ceased to be assumptions and have become a picture of how the world really is." <sup>61</sup>



## - The neoclassical school

As shown, the neoclassical school began to occupy the economic scene from around 1870. It did not enter a real showdown with the classical school but had a different focus, which consisted of the construction of an economic school that emphasised the mathematical language and a scientific ambition.

Where Marshall's focus was on the individual actor's behavior as a consumer and profit-making producer, as well as their interaction in a market with perfect competition - i.e. a narrow microeconomic focus - Walras focused on macroeconomics: by using mathematics, Walras deduced his thinking from a single market to a general equilibrium model for the overall market economy.

Alfred Marshall was aware of the model's highly idealised assumptions about perfect competition in the market and full knowledge of market participants.

*"The theory of a stable equilibrium for normal demand and supply really contributes to giving our ideas a solid shape, and in its basic stages it does not differ from reality (...) But when it is pushed to its more distant and complicated logical consequences, it leaves the terms of reality."* Marshall wrote.<sup>62</sup>

Others have criticised that the mathematically idealised expressions supplanted the ethical and moral aspects of the economy, thus paving the way for an economic science that became self-sufficient and far removed from its empirical basis. The aim was apparently to establish objective formulas for maximising welfare, but could also be interpreted as a way to avoid the destructive criticism of Marxists.

The neoclassical theoretical development took place in states with much more stable (partially closed) markets than the former economists could have assumed. The neoclassical economists could therefore depart from stable and safe markets and focus on the market's objective factors that worked without interference from foreign states. And in the internal markets of the stable nation-states, these 'objective factors' could be theorised and talked about as if they were 'natural' and 'universal phenomena' - which of course they were not. But so they were and still are perceived and described.

Much of the mathematical model-economy was - and is still - devoted to studying 'forces,' 'mechanisms,' 'causes' and 'effects.' The fixed and open variables of mathematics and formulas could be drawn as curves over varying courses of 'supply and demand mechanisms,' always expressed as price functions and based on various assumptions of economic behavior. For this reason alone, economics appeared to be scientific and was able to convince the public. The essence of the neoclassical economy can be illustrated using the basic supply and demand diagram found in all introductory books in economic theory.

The many graphical representations can be seen as a paraphrase from Newton's physics to Smith's economy, expressing assumptions that economic agents in a market will automatically 'collide' into each other under the impression of the invisible forces of the competition, and that 'gravity' - and without friction - will lead to an 'equilibrium price' that occurs at the intersection of the two curves of supply and demand.

Many of the economic assumptions rely on completely unrealistic assumptions, especially in today's world. They arose in the 1700s, where families, child raising, schooling, education, market and technology and society and politics worked radically differently. Society was highly class divided, women and the poor had no voting rights, the raising of children was brutal and violent, access to schooling and general knowledge was severely limited, etc., etc. Peoples so-



cialisation and their subsequent psyche, and the environment they lived and worked in can hardly be compared to modern society. Not even the language correspond with today's language. In the national states, the different classes spoke different languages, and even within what would later become the national language many words and expressions would cease to exist and others would emerge. A language is not static. When speaking 'French,' 'German,' 'Danish,' etc., we all today really speak 'capitalist'. A development process that reflects how dominantly a particular economic thinking has become, and how this process increasingly has become logical and natural to us all. We act by the logic of the language and by the market's empiricism. But the language is still created by people - it is culture. For example, in most neoclassical models, the concept of perfect competition in free markets, as postulated by Adam Smith, is taken into account, and for this cultural idea, a term and a word has been invented, spoken and thus spread to the whole community as an experience: "she was free on the market," or "I do not buy that argument!" etc. The language gradually develops words and sentences based on the ideas about trade and commodity, thus affecting people's interaction with each other.

While mathematical economists refined their models by the end of the nineteenth and early twentieth centuries, the world economy was heading for the worst depression of the 20th century. However, what was about to happen came from outside the economists models and could not be calculated. This shook the capitalist foundation. Economists had to reconsider the economy, but apparently remained within certain central assumptions: the forces of the economy correspond to 'natural forces' and could not be fundamentally changed. Some economists maintained that the market should remain free while others pointed out that regulation was necessary, but that the calculation models should be better.

Even after many refinements and adaptations since Marshall and Walras' work, it is still the neoclassical economy that dominates economic thinking.

### **- Keynes, Polanyi and the neo-liberals**

The 'neoclassical and Keynesian' synthesis never became a real synthesis. The neoclassical economists apparently only took the Keynesian concepts and grafted them on their own models, trying to manipulate the so-called free market forces - rather self-contradictory - to concepts by the old equilibrium.

Later, a group of economists have been called the 'post-Keynesian school.' The more conservative of the post-Keynesian thinkers argue for a new understanding of the so-called supply-side economy.

Their basic argument is that due to the lack of ability of the Keynesian school to stimulate demand without increasing inflation, stimulus must come in the form of, for example, investing more in factories and automation and by removing 'unproductive' environmental controls. This approach is clearly anti-ecological and will likely result in greater utilisation of natural resources, thus worsening sustainability.

Most post-Keynesians still use data that is too heavily aggregated and derives in an inappropriate way from data derived directly from microanalyses. They also neglect to qualify the term 'growth' and they do not seem to have a qualified picture of what ecological problems the current economy creates. Their quantitative models describe only fragmented segments of human economic activities that should form the empirical basis, and their data do not consist of anything other than 'facts'. The core of the problem is that they still base their economic calculations on neoclassical assumptions that have fallen apart due to the heavy criticism it received.

The Keynesian model today has to be described as obsolete because it disregards too many of the factors that are crucial to understanding the current economic situation. It focuses



on the domestic economy, dissociates it from the international economy, and ignores international economic agreements; it neglects the overwhelming political power of multinational corporations; It has no attention to political relationships, it is ignoring the social and environmental costs of economic activities. At best, the Keynesian approach may produce a set of possible economic scenarios, but it can not make specific predictions. Like most of the Cartesian economic thinking, it has exhausted its usefulness.

## **- The critique of Karl Polanyi**

Karl Polanyi (1886-1964) is a central critic at this time and place because his political-economic thinking is a fundamentally and devastating criticism of the neo-liberal thinking.

His criticism was directed especially against Ludwig von Mises, Friedrich Hayek, Milton Friedman and Frank Knight, arguing that a completely self-regulating market economy requires that people and the natural environment transform into pure goods or things. The logic that underlies this argument and criticism rests on Polanyi's distinction between 'true' and 'fictional' goods. For Polanyi, the definition of a genuine product is that it is produced for sale on a market. By this definition, land, work and money are 'fictional' goods because they were not originally produced to be sold in a market. Work is simply human activity, land plots are divided nature, and the supply of money and credit in modern society is necessarily created by state policies. The neo-liberal economy is based on the idea that fictional goods should behave in the same way as genuine goods. Polanyi argues that this is a mistake and warned that this mistake would have fatal consequences.<sup>63</sup>

Polanyi's analysis of the economy in the time up to the two World Wars showed that it was the liberal utopias that initially led them to invent the gold standard as a mechanism they thought would create a boundless world of growing prosperity. But instead of creating peace and prosperity, the gold economy caused severe economic crises. The crisis resulted in that the population sought to protect their economies behind increased economic and physical boundaries. So despite the fact that the liberalists dreamed of a peaceful world where the only struggles would be for individuals and businesses to surpass their competitors, these dreams and the gold standards caused two terrible world wars.

Polanyi's analysis of the three fictional commodities showed that the neoliberal vision of an automatic adjustment of the global market is a dangerous imagination. Because, just as the national economies have proved to be dependent on a regulatory government role, the same applies to the global economy for regulatory institutions. Without such institutions, economies of certain countries - and perhaps the entire world economy - could end up in an economic crisis or in new wars.

Polanyi's original argument against the illusion of the freedom of state markets still applies, now only on a global scale: that the demand for neoliberalism for ordinary people is not sustainable. No workers, farmers or small businesses can survive the periodic and dramatic fluctuations in their financial situation for a long time. In short, the neo-liberal utopia idea about a borderless and peaceful world - takes for granted that millions of ordinary people around the world are so flexible and tolerant that they - perhaps as often as every five years - can and will accept to survive on half or less of what they previously earned. Polanyi believed that such expectations were both morally wrong and unrealistic. It was therefore inevitable for him to establish safeguards against such economic pressures.

The period from the 1970s with its increasing neoliberalism has created widespread protests all over the world where people protest against the economic disturbances the neo-liberal economy and globalisation create. As such dissatisfaction is intensified, social order be-



comes increasingly problematic and the danger rises to the fact that state politicians try to dissuade dissatisfaction by inventing and pointing to both inner and outer scape goats.

Consequently, the neoliberal vision does not lead to peace but to intensified conflict. In many parts of Africa, the devastating effects of structural adjustment policies have dissolved societies and produced famine and civil war. Elsewhere, post-war economic crises have led to the emergence of military nationalist regimes with aggressive policies aimed at neighbouring countries and their own ethnic minorities. In addition, in every corner of the globe, militant movements - often mixed up with religious fundamentalism - are ready to exploit the economic and social shocks and crises of globalisation. If Polanyi is right - and much point in this direction - these signs of suffering and social dissolution points to dangerous conditions in the future.<sup>64</sup>

## **- The neoliberals**

Inspired by the classic liberalism's market thinking, that Adam Smith and David Ricardo had developed, the neoliberal economists stuck to what they called a 'neoliberal' agenda. Central to them were the physiocrats' idea of 'laissez faire' - to leave the economy to the 'invisible hand,' the market's natural laws. The new goal was, they said, to oppose post-war threats from totalitarian states that spread in Europe's eastern states because of the growing strength and interference of the Soviet Union.

However, this original goal gradually changed to a goal that best can be characterised as 'market fundamentalism,' holding an economic concept that had been fundamentally destroyed by economic theory and partly rejected by the social political-economic development - topping up with two world wars as end product.

Despite such tragic experiences, the neoliberal maintain their view that free markets will create peace and prosperity and, therefore, since the Cold War they have insisted that the integration of the global economy has made the borders unnecessary and that the economy will form a foundation for a new era of global peace. When nations recognise the global marketplace's operating conditions and open their economies for free movement of goods and capital, international conflicts will be replaced by favorable economic competition in terms of producing more exciting goods and services. The neoliberal argues in the same way as their liberal predecessors argued, that all that nations must do is to rely on the effectiveness of the self-regulating global market.

The neo-liberal economy thus continues to use misguided concepts derived from Newton's physics and to maintain their economic policies despite their catastrophic consequences in real life. What drive them, one might ask?

As we have seen above, the most central neo-liberal thinkers emphasize goals such as 'freedom,' 'cooperation' and 'the survival of humanity'. These are good goals. And when they at the same time, intertwine these goals with the laws of nature and with human nature, then there can not be many alternatives. The problem is - again - that they retrieve their fundamental thinking and concepts in physics, as was in the 1700s, that their concepts regarding human economic behavior also dates back to the 1700s and - again again - that their international thinking also takes dates back to the 17th century mechanical thinking. This thinking is then mixed up a bit with mercantilism (trade balance) and power balance (limited war). None of these theories can be confirmed today, but are regarded rather as out-dated or simply misinterpretations. In addition, their theories require unrestricted competition and unlimited growth. Neither man nor nature can hold this kind of pressure. So, in today's language: this type of economical thinking is not sustainable.



## - Conclusion

Political economy focuses on the links between political and economic processes. What is in focus are the factors and processes that govern the state externally: ethics, morals and norms. Logically, issues of power and authority come in focus when different interests lead to conflict between actors in a society. By investigating these, economists try to explain how governments can influence processes by distributing resources in society and how the behavior of people who are acting in their own economical interests affect governments and the laws and policies they develop.

One of the consequences of this approach is that political economy can be very difficult to distinguish from religion, philosophy, sociology and political science. Another consequence seems to be that the development of economic models seems to have lost connection with its historical and societal foundations. This also has the consequence that economic models are used in a very different cultural, historical, social framework, where the different economic factors of the models are not adapted to the meanings, behaviors and causals on which the models are used.

Both the political economy and the microeconomic theory seem to forget that the world is not static. To make matters even more complicated, there is only one humanity, one history, one Europa, one Asia, only one Iceland, only one Greece, one Earth only, etc. How do you test and theorise history? How do you test and theorise Iceland? Etc. etc.

No, there is no way in which you can scientifically 'test' the human history. There is only one very controversial and debated history. There are no parallel human histories for you to compare, measure, test and control against each other in order to figure out a general pattern and then tell which development and method is the true, real or right method.

In the debate of finding scientific evidence for certain economic theories this is a key issue - because in human perception and experience there is no position 'outside' from where a neutral observation can take place. History and human behavior are always observed through human ideas, concepts and theories, and therefore they are always 'interpreted.' This is the paradox of the hermeneutical circle, which leaves us somewhat confused and confronted with a monumental task: understanding the natural world, human history and ourselves.

So, when economists still maintain the idea of a free market, in spite of the devastating criticism, it is probably not because they can find good arguments within the empirical theory framework, but because they find it outside the empirical foundations of the theory, and that is in their *belief* in the Newtonian paradigm, where physical bodies naturally gravitate and where bodies naturally find states of equilibria. As in physics, so to in economy. But what does physics tell us today? We will have a look at this in the chapter.

## 9. The new physics after 1900

As should be evident now - and, sorry for my many repetitions, but they are very important! - from the text above, liberalism is fundamentally inspired by Newton's mechanical atom theories, which has led to the development of mechanical-economic theories and methods in relation to single human behavior as well as to the economic dynamics of societies. It is a model in which individuals (equal to atoms) are perceived as primary, and which see their relationships as secondary and comparable to the physical laws of nature. Man is therefore ruled by external physical 'forces,' and thus he is lonely and 'strange' to himself. And in accordance with these laws, the human being calculates and acts rationally only in their own interests.

Economics thus deduces from mechanical physics to complex cultures and social systems.



This is a fundamental failure which is so fundamental that it is subsequently impossible to rectify the many errors this produces.

If we turn to the philosopher Ole Thyssen, he formulates the fundamental differences between the different scientific levels in this way:

*"A human being can be described on several levels - physical, biological, psychological, sociological. Each level holds its own laws. But for each level we rise in the wealth of the description, we find laws that are basically incomprehensible if we remain on the lower level. The concepts of physics are blind to the fact that humans are organisms. This gives rise to descriptions of new concepts while maintaining continuity; because the biological laws do not put the physical laws out of effect. Again, there is a leap from biology to psychology because psychological concepts can not be reduced to biology. Biology can not relate to the elementary fact that people live from meaning. But despite the fact that the individual seems to be the most concrete of all there is, there is again a leap from psychology to sociology because every society organises human actions, consciousness and needs in a system. A human being can not, therefore, be understood merely as an individual. Its essence is as Sève expresses it, "excentered" so that you need to go the necessary detours of social relationships to understand its actions. No biological insight into the essence of the biological needs can understand why a monk suppresses his desire or can understand the connection that a need first wins an identity in the process that suppresses it."* <sup>65</sup>

Human economic actions should therefore be properly analysed as excentric actions, where the usefulness and meaning of the meanings find their meanings in societal relationships, and not in a constant physical reality that is just blind to interpreted social conditions.

When the economy envisions fundamental constant factors in economics, they draw more on physics than on philosophy, history, anthropology, sociology and psychology, which is peculiar since economics is composed of human interpretation and action and therefor should be subject to the humanistic and social scientific methods, recognitions and limitations. Ideas, thoughts, meaning and feelings do not gravitate like Newton's falling bodies. People think, remember and learn - and therefore change behavior, both individually and collectively. Falling physical bodies remember nothing and learn nothing, they just gravitate, and at the same speed or with the same power every time.

Human behavior must therefore necessarily be interpreted and *understood* from 'within', while physical laws on Newton's must be observed from the 'outside' and then *explained*. A physical observation can be repeated without the body recalling what happened earlier. The theory can therefore be tested again and again. Conversely, a human being, a group and a culture can remember and learn, and a theory can therefore not be tested again and again. A test will cause patterns of memory and changed behavior. Therefore, testing human beings or societies can easily be a test of the previous test.

By so crucial and unilaterally using Newton's mechanical physics, economists like Adam Smith make such a fundamental mistake that it excludes the economical theory from being a science. It resembles more to an ideology and a power system than to being a science.

As we will see later, the challenge to economy today is that Newtonian physics no longer stands alone, as it did in Smith's time. Newton's physics has not been resolved, but can today only be understood in conjunction with the theory of relativity (the very large) and quantum physics (the very small).

So if Newton's physique still applies to a particular area of the physical reality, why is it so



bad to use it as an inspirational basis? Because Newton's model of the physical reality, founded the rationality and reason for the entire scientific thinking. In the mechanical paradigm, a wide range of contexts were explained based on simplistic mechanical causality. A paradigm consists of the following 'axioms',<sup>66</sup> which are intertwined and so support each other:

1. Reason, God or Big Bang, or something completely different...
2. Purpose / ethics / morality
3. What is a human being?
4. Gender
5. Space
6. Mass
7. Time
8. Logic (linear-logical, circular or paradoxical)
9. Consciousness
10. Act
11. Development / history / growth
12. Conflict

All of the above axioms support and influence each other's credibility, so if science changes one of the characters (as they have already done in the field of physics), this will affect and change all the other axioms fundamentally.

In other words, what we mean today in the field of economics are witnessing - and in many other scientific areas too, including sociology - is nothing less than a theoretical collapse. However, the economic collapse is more visible than the sociological collapse.

### **- The new physics - the opening of a new economic paradigm?**

The thinking that Newton proposed, influenced the physical research, the philosophical and social science thinking, and led to a deeper separation of spirit and matter. This was most clearly formulated by René Descartes in the 17th century. His philosophy was based on a division of reality into two distinct and independent areas, namely in *res cogitas* (consciousness) and *res extensa* (physical objects).

This formulation allowed scientists to treat all material as 'dead' matter. As something they could divide, thus looking into a world of material diversity and of different things, read: atoms. The world was reduced to a machine consisting of atoms and laws. This view of reality was outlined by Isaac Newton as the basis of classical physics. Newton built ramps and slits, etc., and with these tests, he could test the laws and also challenge God: did bodies always fall straight down and with constant acceleration, or would God interfere? This question has since been raised in the theoretical dispute between Einstein and Bohr.

The Newtonian mechanical model of the universe became a dominant and fundamental model for all scientific thinking. And with that followed an image of a monotonous God who ruled the world from above and beyond with his divine power and laws. Because of this, Newton wrote the following:

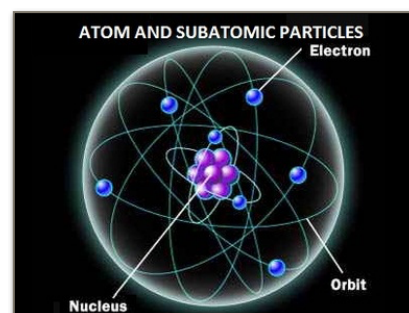
*"All these things being considered, it seems probable to me, that God in the Beginning form'd matter in solid, massy, hard, impenetrable, moveable Particles, of such Sizes and Figures, and with such other Properties, and in such Proportion to Space, as most conduced to the end for which he form'd them; and these primitive Particles being Solids, are incomparably harder than any porous Bodies compounded of them; even so very hard as never to wear or break in pieces: no ordinary Power being able to divide what God himself made one in the first Creation."*<sup>67</sup>

What the scientist - in our case the economist - was looking for, became logic in this paradigm,



the unchanging and eternal mechanical laws of the one God, that governed all economy. However, this thought of physical reality was about to change fundamentally.

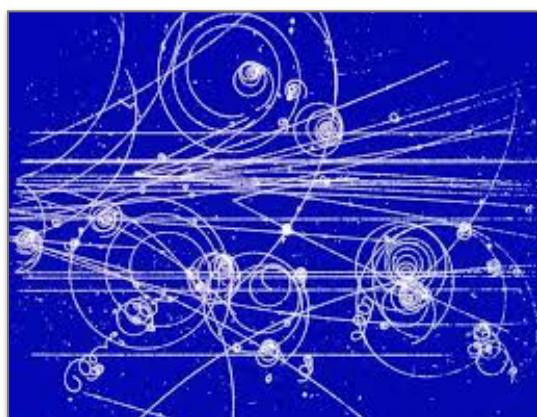
It was about 1900, that serious questions were raised about Newton's mechanical physics. With the discovery of the X-rays, signs were identified that showed that the atoms could have an inner structure and that they were not of an unbreakable nature. Other forms of radiation were discovered, and Ernest Rutherford discovered that these rays, alpha articles, were very fast 'projectiles' useful for exploring a sub-atomic level. The world Rutherford penetrated into was surprising and spectacular. Instead of meeting hard solid and unbreakable particles, which had been the belief in for more than 2000 years, the physics encountered 'large spacious areas', in which very small particles moved about round the atomic nucleus.<sup>68</sup>



The atom did not turn out to be massive, but to consist mostly of emptiness and energy. The smaller the room - the higher the speed.

To get a better grip on the aspect ratio, you can imagine an orange on Earth's size. In this sumptuous orange the atoms would be the size of cherries. Lots of cherries tightly compressed. In the cherries the core would be so small that the naked eye could not see it. Here we have to enlarge the cherry tree up to a size corresponding to Sct. Peter's Church in Rome. If the cherry was so large, the core would be the size of a spruce salt. Around it would dust would whirl in the huge space.<sup>69</sup>

This planetary reality was a reality that was far removed from the former Euclidean and Newtonian 'massive' reality. In addition, nature "replied" to the researchers when they sought to penetrate into this world, with paradoxes that were not understandable, or perhaps rather seemed unreasonable in relation to the perceptions of the scientists. The sharper the questions of the scientists, the sharper the paradoxes became. The scientists had to accept that these paradoxes arose because they attempted to describe sub-atomic events based on traditional physical concepts.<sup>70</sup>



Depending on the questions of the researcher, the particles replied by either being waves or particles - the researcher's observation became defining what would be the "response."

Rutherford's experiments had shown that, rather than being small hard particles of undegradable matter, the atoms consisted of huge space, in which really really small particles whirled about. The formulation of quantum theory made it clear that even these small particles had nothing in common with the classic physics's notion of solid objects.<sup>71</sup>

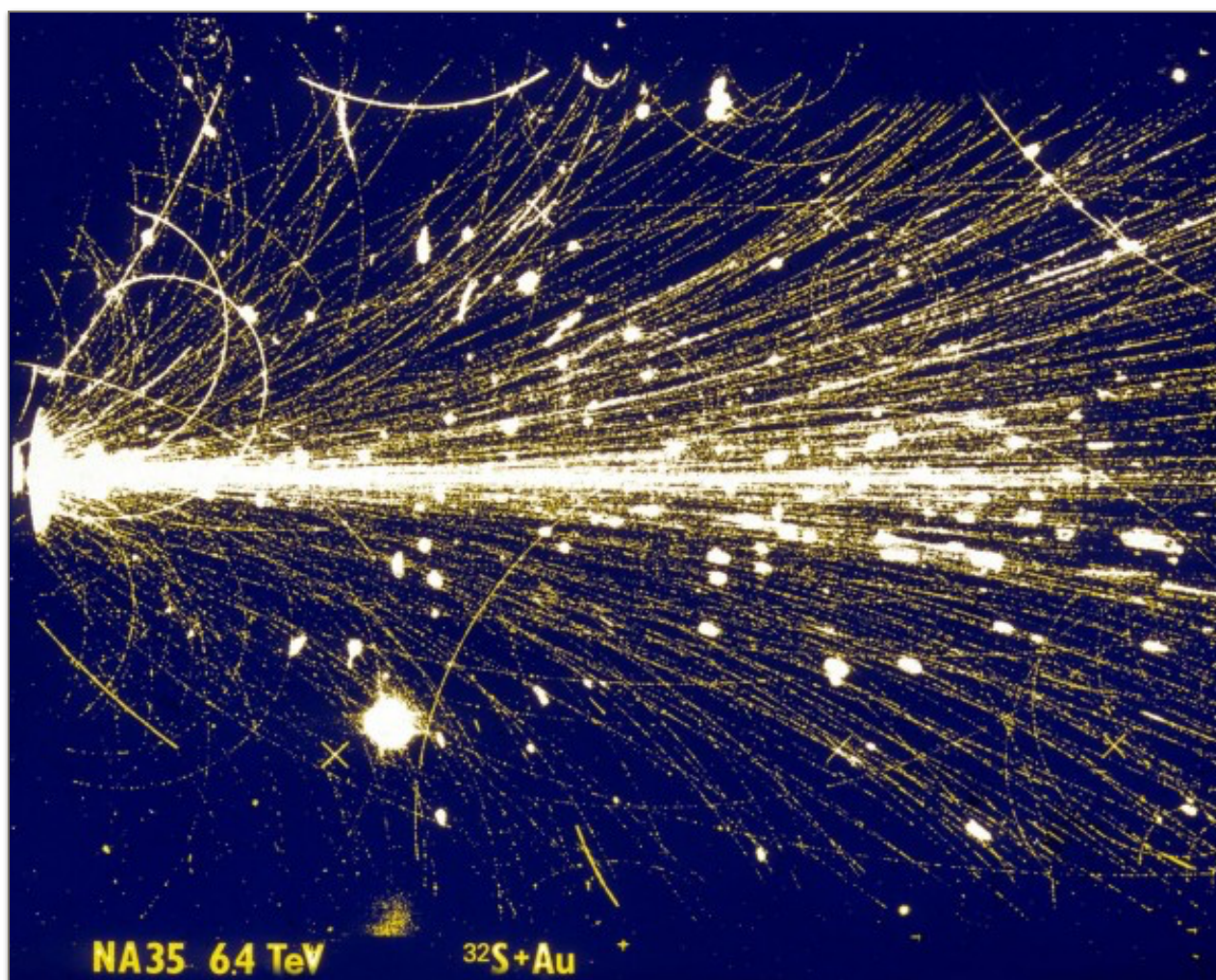
The sub-atomic particles are very 'thought-up' entities, which are of a dual, almost paradoxical character. Depending on how they are observed, they sometimes appear as particles and sometimes as waves. They can thus be a particle with a very small volume, and at the same time be a wave that covers a very large area of space - all depending on the method of measurement.

This paradox questioned the very foundation of the mechanical paradigm - the notion of the reality of the substance - it might not exist at all? <sup>72</sup>

Contrary to the mechanical image of reality, which claimed that objective matter existed, recent physics, based on high-energy re-



search and theories, claims that substance does not exist in certain places, but rather that it *tends* to exist and that even this is not certain at certain times and ways. <sup>73</sup>



When talking about particles and waveforms, it must not be understood as real three-dimensional waves of sound or water waves, but as probability waves in abstract mathematical form - the human perception of 'reality' - what we see is our own ideas and perception. <sup>74</sup>

Quantum theory has thus invalidated classical physics with its classical understandable concepts of solid bodies and strictly deterministic laws of nature. Objects in quantum theory are dissolved to consist of wave-like probability patterns of interconnections, and thus are not actual "things." Therefore, the sub-atomic particles do not make sense when attempting to be described as isolated objects; they must be observed as an interaction between the test-layout of an experiment and the results of the measurements. <sup>75</sup>

As it thus turns out that the physical reality can not be broken down and viewed as isolated independent entities, quantum theory reveals a fundamental unity of the universe.

*"The fundamental role of nonlocal connections and of probability in atomic physics implies a new notion of causality that is likely to have profound implications for all fields of science. Classical science was constructed by the Cartesian method of analysing the world into parts and arranging those parts according to causal laws. The resulting deterministic picture of the universe was closely related to the image of nature as a clockwork. In atomic physics, such a mechanical and deterministic picture is no longer possible. Quantum theory has*



*shown us that the world cannot be analysed into independently existing isolated elements. The notion of separate parts - like atoms -, or subatomic particles - is an idealisation with only approximate validity; these parts are not connected by causal laws in the classical sense.”<sup>76</sup>*



Physical science has thus developed its knowledge, moving away from Newton's mechanical model. In spite of this fundamental development, which has taken place in sub-atomic physics, old traditional and erroneous Newtonian ideas still influence major parts of social science today. At Newton's time, neither economics nor sociology were developed as they are today. So, when thinkers used the thinking of physics as a starting point, is somewhat understandable, but that the social sciences and economics are still maintaining this Newtonian physics as a point of departure is less understandable.

**The International Research Center, CERN, where physicists perform sub-nuclear investigations by colliding the energies or particles together at very high speed**

*“The scientific thinking of today's medical sciences, psychiatry, psychology and anthropology is a direct extension of the 17th century Newtonian-Descartian model of the universe. As all of this model's basic assumptions have been transcended by the physics of the twentieth century, it seems only natural, sooner or later, to expect profound changes within all the scientific branches directly derived from it.”<sup>77</sup>*

In most scientific fields, the Newton-mechanical paradigm constitutes the foundation for our scientific ideas, methods, research constructions, questions and analyses - this paradigm thus constitutes the worldview we hold within. For the same reason, we often come to the same con-



clusions and the same solution, which, however, does not solve the fundamental problems we face, for example, the economic idea of growth, that life is meaningless and random, and that it develops only through struggle and selection in which the strongest wins.

If now physics have exceeded this paradigm, will it then not be the most consistent course to look at what effects it has on the concepts of other sciences, and in this case on our thinking about economics? I think so, and so does Margaret Wheatley:

*“Each of us lives and works in organizations designed from Newtonian images of the universe. We manage by separating things into parts, we believe that influence occurs as a direct result of force exerted from one person to another, we engage in complex planning for a world that we keep expecting to be predictable, and we search continually for better methods of objectively perceiving the world. These assumptions come to us from seventeenth-century physics, from Newtonian mechanics. They are the base from which we design and manage organizations, and from which we do research in all of the social sciences. Intentionally or not, we work from a world view that has been derived from the natural sciences.*

*But the science has changed. If we are to continue to draw from the sciences to create and manage organizations, to design research, and to formulate hypotheses about organizational design, planning, economics, human nature, and change processes (the list can be much longer), then we need to at least ground our work in the science of our times. We need to stop seeking after the universe of the seventeenth century.”* <sup>78</sup>

## 10. The critique by the new physique

The inspiration that has influenced the development of the economy to the present thinking is, as shown, Newtonian physics. The Newtonian-mechanical interpretation of the physical reality causes severe distortions in economic theory. Thus this inspiration has a devastating effect on the understanding of nature, human consciousness, culture and society, and ultimately on economy itself.

The idea seems to be that like atoms which can connect and become molecules, but still and always remain unchanged, liberal individuals can participate in society, they can even affect society, but society can not affect them. Such assumptions can lead to perceiving the external world and other people than ourselves as means for our own selfish goals. We can thus become completely absorbed in ourselves, lost in ourselves, while the tangible perception of the external world or other people and that this ultimately turns on ourselves: we become a thing to ourselves... alienated.

An individualist society, is not necessarily a coherent community. It is not an emerging whole, where the ‘parts’ acquire new qualities through a creative participation in something larger than the ‘selves.’

*“Adam Smith’s ‘invisible hand’ is emergent only in the loose sense that unexpected or unforeseen general patterns or laws suddenly appear or become noticeable. For instance, timekeeping is an emergent property arising when the parts of the clock are assembled in the right way. The apparent law of ‘survival of the fittest’ in Darwinian biology or the laws of thermodynamics that describe the behaviour of mechanical systems are also emergent in this sense. But the individuals (or atoms) that participate in these emerging patterns don’t themselves change.”* <sup>79</sup>

The cogs in a watch remains cogs. A cog does not learn anything. A dog continues to live its



individual life, regardless of whether it happens to be among the strongest. The individual human being remains as he was, and he stays alienated from (ignorant of and unmotivated) any new pattern - simply a passive actor in a theatre of which he is not aware. Likewise, the liberal individual is not defined by its relations to others or to the invisible hand. In such a mechanical model, 'society' can only be reduced to the sum of individuals and all our private selfish interests.

Both classical physics and classical liberalism leave their believers stranded in a vacuum. Classical physics has no inherent spiritual, ethical and moral dimension. The liberal community itself has no 'higher self,' no 'superego dimension.' It has a commitment to individual freedom, but no commitment to a common social justice and commitment. Under this influence, there is a serious danger that the West's self-understanding, politics, economy and production will be hostile to all other cultures and traditions. <sup>80</sup>

*"When all citizens are either alienated or caught up in the narrow business of each fighting his or her corner, no national or global consensus can arise. No true national or international interest can ever evolve. ... When all meanings are private and/or exclusive, no larger meaning that is the shared meaning of all can ever emerge. In a contract society, meanings will always be private and in opposition. A contract society is an atomistic society. Where individuals band together in groups of parochial or restricted meaning it will always be a tribal society."* <sup>81</sup>

The consequences of a mechanical paradigm are that it will lead to an atheist, mechanical and materialistic understanding of the world; that it will reflect a deep alienation from one's core personality and cause a lack of real self-understanding. It also means that people unilaterally will identify with only a part of their being. Such a limited understanding of themselves and all living is, after all, a sense of alienation, that life is meaningless, which will lead to greed, competitiveness and ambitions that can never possibly be met. On a collective scale, such thinking leads to alienation from nature, a belief in 'unlimited growth' and a compulsive adherence to the external and quantitative aspects of existence. Being in the world in this way is utterly destructive and self-destructive on both individual and collective levels. <sup>82</sup>

*"The conceptual and imaginary division of the world, characteristic of mechanical science, tends to create a state of serious disharmony and has dangerous consequences. It tends not only to divide the indivisible but also to unite what is incompatible and to create artificial structures - national, economic, political and religious groups. Being confused about what is different and what is not, means being confused about everything. The inevitable result is emotional, economic, political and ecological crisis."* <sup>83</sup>

*"In transcending the the Cartesian division, modern physics has not only invalidated the classical ideal of an objective description of nature, but has also challenged the myth of a value-free science. The patterns scientists observe in nature are intimately connected with the patterns of their minds; with their concepts, thoughts and values. Thus the scientific results they obtain and the technological applications they investigate will be conditioned by their frame of mind. Although much of their detailed research will not depend explicitly on their value system, the larger paradigm within which this research is pursued will never be value-free."* <sup>84</sup>

In transcending the Cartesian division, the new physics has not only invalidated the classical mechanical claim for a neutral and objective description of nature but has also challenged the idea of a value free science. The patterns observed by scientists in quantum physics are closely



linked to their own paradigm, with all the axioms their paradigm is made from. The scientific results they achieve depend on the technologies they use and their paradigm's axioms. Although much of their research will not be explicitly dependent on their value system, the greater paradigm governing research will never be free of deep values and axioms.

*"In transcending the metaphor of the world as a machine, we also have to abandon the idea of physics as the basis of all science. According to the bootstrap or systems view of the world, different but mutually consistent concepts may be used to describe different aspects and levels of reality, without the need to reduce the phenomena of any level to those of another."* <sup>85</sup>

*"According to (the) bootstrap philosophy, nature cannot be reduced to fundamental entities, like fundamental building blocks of matter, but has to be understood entirely through self consistency. All of physics has to follow uniquely from the requirement that its' components be consistent with one another and with themselves. This idea constitutes a radical departure from the traditional spirit of basic research in physics which had always been bent on finding the fundamental constituents of matter. ... In the framework of S-matrix theory, the bootstrap approach attempts to derive all properties of particles and their interactions uniquely from the requirements of self-consistency. The only 'fundamental' laws laws accepted are a few very general principles that are required by the methods of observation and are essential parts of the scientific framework. All other aspects of particle physics are expected to emerge as a necessary consequence of self-consistency. If this approach can be carried out successfully, the philosophical implication will be very profound. The fact that all the properties of particles are determined by principles closely related to the methods of observation would mean that the basic structures of then material world are determined, ultimately, by the way we look at this world; that the observed patterns of matter are reflections of patterns of mind."* <sup>86</sup>

In his 1951 textbook on quantum theory, David Bohm described some interesting similarities between quantum processes and thought processes, thus continuing the famous statement of James Jeans from two decades earlier, saying, "Today there is a broad consensus that ... the flow of knowledge is heading for a non-mechanical reality; the universe begins to look more like a big thought than a big machine."

*However, "Newtonian organisations have no existing structures that foster emotional intelligence, let alone structures that foster the creative abilities of spiritual intelligence. Newtonian organisations have no inner capacity for fundamental transformation."* <sup>87</sup>

The dominant Western business model departs in a culture that has grown out of the entire Western thinking tradition. It has been strongly supported by nation-state language, and the concepts and categories of Newton Mechanical Science, and therefore contains fundamental assumptions like mass, emptiness, power, causality, predictability, control and what needs to be taken for granted. Thus, CEOs manage their analyses and future scenarios in a language that refers to market forces, market predictions, cause and effect chains, and "best possible" methods and solutions. Power and control are central features of this Newtonian business paradigm. Efficiency is one of its core values.<sup>88</sup>

*"David Bohm described this world view as "the virus of fragmentation." "For fragmentation is now very widespread," he said, "not only throughout society, but also in each individual; and this is leading to a kind of general confusion of the mind, which creates an endless se-*



*ries of problems and interferences with our clarity of perception so seriously as to prevent us from being able to solve most of them ... The notion that all these fragments are separately existent is evidently an illusion, and this illusion cannot do other than lead to endless confusion and conflict.”* <sup>89</sup>

This fragmentation is now so widespread that it covers not only the whole community but also every individual; and it leads to some kind of general confusion of the mind, creating an endless number of problems and disturbances with our perception to such an extent that we can not solve them. The very idea that all these fragments are separate existences is obviously an illusion, and this illusion leads to infinite confusion and conflict.

*“... business today is killing business because it is locked into a short-term, problem-solving, profit-maximising mentality.”* <sup>90</sup>

The dominant causes of stress in most people's lives today are most likely caused by a loss of general meaning and purpose of life. Living and working life change so quickly and so constantly that much of what we take for granted no longer fits into our lives and that we seem to have lost key orientation points. New technologies, job cuts, job redeployment, corporate break-ups and mergers, the constant new CEOs, the continuous and strange offers of empowerment and autonomy, short-term contracts and their diminishing loyalty commitment and trust - all this is introduced into our job lives on a continuing basis. And that's just the stress related to job life and business. In our private lives, we experience the erosion of moral and religious certainties, changes in family and relationships, constant mobility, loss, divorce, retirement and death of loved ones. Twenty-first-century life has become like the Caucus Race in Lewis Carroll's *“Alice Through The Looking Glass.”* Someone says: *“Let's play a game!”* - but there are no rules and no clear sense of the player's limits. Someone shouts *“Begin!”* And we start running around. So, at some point, someone shouts *“Stop!”* There are no winners and no losers. We have no idea what this is all about! We are left with no outcome for our effort - except stress and endless fatigue. <sup>91</sup>

*“When all meaning are private and/or exclusive, no larger meaning that is the shared meaning of all can ever emerge. In a contract society, meanings will always be private and in opposition. A contract society is an atomistic society.”* <sup>92</sup>

*“If we want to transform the structure and leadership of our organisations, we have to address transformation at this fundamental paradigmatic level. We have to change the thinking behind our thinking.”* <sup>93</sup>

## 11. Nature as material (materialism)

In the Newtonian-mechanic economy, nature is an objective reality, something out there, separated from the spirit of humanity or consciousness. A lifeless passive and willless physical mass, that can possibly be combined into living biological units. The human being is partly outside this biological-physical world. The physique the human being is composed of has nothing with the human subjective world of culture. There is a profound difference between the laws governing the ontology of the physical-biological worlds and the laws governing the human subjective-cultural world (the epistemological world), and the two worlds can not be mixed together.

The economic building of theory departs in this kind of thinking about economy and human life. The economic theories of Smith, Ricardo, Malthus and Mill were to be scientific - ie. have an objective foundation, in order to be constant and predictable - be distinct from human subjective-cultural world. In other words, economic theory should not be mixed with ethics, morals or human life - it was therefore a relief for the economists that the economy was detached from the medieval idea of fair pay and fair prices.



When the economy was first separated from God, ethics and morality, these could lead to considerations about the different values of natural resources, for example the question of why a prerequisite of life, water, could be cheaper than diamonds? Considerations and calculations of commodities, land lots and work led to the first theories of limited supply in a market and to considerations of the benefit of a commodity. These questions led William Stanley Jevons, Carl Menger and Leon Walras (1834-1910) to discard key ideas of Ricardo's classic economy, which pointed back to ethical and moral aspects of economics. The new theory became the theory of supply-and-demand. In this thinking, the focus was changed from ethical-moral consumer considerations to a focus on an economy in which it is the individual consumer who decides the utility of a given product - and it is the total demand on the market that, according to the natural mechanical economical laws, determine the price of the product.

Thus, in the time of development proces of just two economic schools, the overall focus changes from ethics and morals to objectivity and science. Nature, as part of this development changes to become a constituting neutral 'commodity' that the producers can freely transform into goods in a free competitive market. Virtually all attention is then on focused on the market. And worried thinker's statements about the Earth's limited resources are referred to the market's own regulation: the price of the goods would limit consumption and the development of technology would introduce replacement products. With this point of departure, production and work started to transform nature into goods for the market and consumption.

These general ideas about science and reality create an economic thinking and theory that has no ethical or moral brakes as regards to the consumption of natural resources, animals and humans. Such an economy can not appreciate 'consideration' for future generations' joy by experiencing an unspoilt mountain scenery, instead it observes useful resources for the production of a mobile phone; this economy can not recognise and justify an ethical limitation of animals' suffering during long transports to their slaughter, instead it observes useful meat for the production of burgers; this economy can not recognise and justify an ethical limitation of how human labor is consumed and worn down in a competitive market - it can not understand the historical, cultural and psychological pain it imparts to human society in the most economically efficient production: child labor, assembly line work at an accelerated pace, the infinite differentiation of work operations into least but most effective bodily movements, which for the acting person, is completely without meaning, yet physically depriving and mentally degrading.

The current economic theory's avoidance of social issues is closely linked to the economists' failure to understand ecological issues. The debate between ecologists and economists has been ongoing for four decades, and has clearly shown that the majority of today's economic thinking is anti-ecological. Economists can not relate to the fact that the social and ecological dimensions of life are interrelated, but rather treat them all as 'goods' without considering the many ways these 'goods' are related to the rest of the world - regardless of whether they are man-made or naturally occurring, persistent or non-persistent, etc. Ten dollars of coal is equivalent to ten dollars of bread, transport, shoes or education. The only criterion for determining the relative value of these goods and services is their market value: all values are reduced to a single criterion - the private profit.

It is not easy for the uninitiated to understand the abstract and very technical language of modern economy, but when these obstacles are overcome, the major mistakes in today's economic thinking become very visible.

Since the current economy's conceptual framework can not take into account the social and environmental costs generated by all economic activity, economists tend to ignore these costs and call them 'external variables' that do not fit into their theoretical models



This way of economic thinking is strengthened by Newtonian science and technology, and by Darwin's survival of the fittest, as well as of the capitalism's own natural "laws of movement:" the law of competition, the law of profit maximisation, the law of capital accumulation, etc. This lack of self-reflection has led to a reckless pursuit of 'business-as-usual' ruthless chasing for competitive advantages in a world where resources are constantly being emptied. This is not at all sustainable.

Economical and technological growth is considered crucial for almost all economists and politicians, although it should be clear by now that unlimited growth in a limited environment can only lead to a disaster. The belief in the necessity of growth is a consequence of excessive faith in expansion, self-absorption, competition, and can also be related to the Newtonian beliefs of absolute, infinite space and time. It is a reflection of linear thinking; of the erroneous conviction that if something is good for an individual or group, more of the same will necessarily be better.

The competitive self-asserting approach to business is part of the legacy of John Locke's atomistic individualism. This thinking is unable to handle the complicated social and ecological contexts that today characterise mature industrial economies. The prevailing belief in politics and business is still that the common good will be maximised if all individuals, groups and institutions maximise their own material wealth - what is good for General Motors is good for the United States. The whole is identified by the sum of its parts, and the fact that the whole can consist of either more or less than this sum, depending on the relationship between the parts, is ignored. The consequences of this reductionist error have now become painfully visible because political-economic decisions increasingly collide with each other, tearing down the social cohesion and destroying the natural environment.

The global occupation of growth resulted in a remarkable resemblance between the capitalist and the former communist economies. The two dominant representatives of these so-called opposing value systems, the US and the Soviet Union, however, really weren't that different. Both were dedicated to industrial growth and hard technology, with increasingly centralised and bureaucratic control, whether through state control or by 'private' multinational companies. The universal dependence on growth and expansion has become stronger than all other ideologies.

In a way, the common belief in growth can be justified because growth is a vital feature of life. Women and men have known this since ancient times, as we can see from the terms used in ancient times to describe reality. The Greek word "*physis*" - the root of our modern terms regarding physics and physiology denotes 'to grow.' In fact, evolution, change and growth seem to be essential aspects of reality. What is wrong with the current concepts of economic and technological growth, however, is the lack of goals and qualities of this growth. It is widely believed that all growth is good without acknowledging that in a limited environment there must be a dynamic balance between growth and decline. While some things must grow, others must disappear so that their components can be released and recycled.

Most of today's economic theory is based on the notion of undifferentiated growth. The idea that growth can be obstructive, unhealthy or pathological, is not included. What we therefore need is a differentiation and qualification of the term growth. From excessive production and consumption in the private sector, growth must be channeled to public service areas such as transport, education and health care. And this change must be accompanied by a fundamental shift from a focus on material property to inner growth and development.

The most serious consequence of continued economic classical-mechanical growth is the exhaustion of the planet's natural resources. The degree of this development was predicted with mathematical precision in the early 1950s by geologist M. King Hubbert, who attempted to present his hypothesis to President John F. Kennedy and also to subsequent US presidents, but



he was rejected and was generally perceived as nut-case. Meanwhile, history has confirmed Hubbert's predictions down to the smallest details, and he has recently received several awards.

Hubbert's calculations and estimates show that the production and discharge curves of all non-recyclable natural resources are bell-shaped, not unlike the curves showing the rise and fall of civilizations. At first, they increase gradually, and then they rise dramatically, peak, and then fall sharply and eventually gradually ebb out. Hubbert predicted that oil and natural gas production in the US would peak in the 1970s, as it did, and then begin descent, which continues today. The same calculation predicts that world oil production will reach its highest point in the 1990s and world coal production in the twenty-first century. The important aspect of these curves is that they describe that each natural resource is completely used up - from coal, crude oil and natural gas to metals, forests and fishing areas, and even oxygen and ozone. We can find alternatives to fossil fuel energy production, but this will not stop the drainage of our other resources. If we continue the current patterns with undifferentiated growth, we will soon have exhausted the reserves of metals, food, oxygen and ozone, all of which are crucial to our survival.

One of the predominant features of today's economies is the occupation of growth - linear growth. To the market nature and labor seems to be a boundless mass of resources that the productive person can use without any end. A key problem in this unregulated consumption is that consumption does not know the balances, limits and biological contexts that make the biosphere live. This is the same biosphere that produces the pure water and the oxygen that man can not live without.

The laws regulating the market are not biological-organic laws but economic laws, which means that the market can react differently - and perhaps too late - when critical biological-organic limits are exceeded and biological areas break down to a reality that can not create clean water and oxygen. Or put it another way: maybe the market survives, but what if the biosphere does not survive for the same reason?

A forward-looking question to the economy must be, how it can be changed so that everyday economy is regulated according to the boundaries of nature, humans and cultures? As can be seen, this question can not come from economy itself.

## 12. Man as a machine

What is work really? Can animals work? Can robots? How does work differ from other human activities - eg. play, party, hobbies, etc?

Work has already been described economically in relation to frameworks, content, value, needs and usefulness. As with human needs, work can best be understood if it is understood as an 'excentered' concept, rather than if it is understood as an essence, something in itself.

If we first look at the external and absolute framework for work, then a basic prerequisite for the continuity of work would be that the person who performs the work survives from day to day. Out of this consideration, the 'iron law', is derived that wages tend to go level at the minimum level necessary to maintain a worker's life. Biological life that is. Not his or her psychological or social or cultural life. If the salary goes below the 'iron law' minimum, labor can no longer be maintained - as is seen in many places in the world. Children, sick and elderly die, while people with sufficient physical strength have to move somewhere else where they can sell themselves as labor.

The content of the work itself consists of the process in which human beings initiate, regulate and control their activity in transforming natural materials into goods or services that others will buy and use. Let's hear what Marx thought:



*“We are not dealing here with those first instinctive forms of labour which remain on the animal level... We presuppose labour in a form in which it is an exclusively human characteristic. A spider conducts operations which resemble those of the weaver, and a bee would put many a human architect to shame by the construction of its honeycomb cells. But what distinguishes the worst architect from the best of bees is that the architect builds the cell in his mind before he constructs it in wax. At the end of every labour process, a result emerges which had already been conceived by the worker at the beginning, hence already existed ideally. Man not only effects a change of form in the materials of nature; he also realises his own purpose in those materials.”* <sup>94</sup>

Here Marx clarifies that for a sequence of actions to be called work, there must be a ‘purpose,’ ‘goal,’ ‘decision making,’ ‘regulation’ and ‘control’ of the course of action that comes from the working person.

If we now turn to Aristotle in his description of what defines an act - including work - he argues that there for humans is a difference between ‘moving’ and ‘acting’. He does so, because the human being is the only creature that develops *logos*, meaning, thinking, concepts, language and thus: human actions.

*Therefore, he can say that for humans it applies that meaning + moving = acting*

The difference between the movement and the act is the action of meaning. Thus, the human concept of action can be used to describe general human behavior, and to distinguish how a private person deliberately acts, and what happens by chance.

Aristotle points out in his Poetics, that when we consider something as an act, and not just as a random occurrence or movement, this is connected with the fact that we experience the incident as a occurrence with a conscious purpose or meaning of the person or persons who caused the incident. Eg. there is a difference that a person coughs because he experiences the situation as being embarrassing (an act) and that a person just coughs because his throat is irritated (by a slight infection maybe). The addition of meaning to the occurrence is the addition of cultural, religious, historical and political contexts that come as whole systems of opinion and interpretation. Thus, a human action, human need, is always already inside a system and can not be understood without this system. The concept of the human being and the human action can not be separated from thinking, interpretation and meaning - without transforming the human action into a random occurrence.

The same applies to Marx’ understanding of the concept of working, which for Marx is just a sub-concept to the concept of action. Work can not exist without carrying some form of meaning for the person who performs it. If this happens it reduces the human being to a beast, Marx argued. That is why Marx criticises the definition of work advocated by Smith and Ricardo.

Because with Smith, we find a division of the work process work as a completely professional based course of action, where the worker unfolds a meaningful professionalism in the production of the product. Smith then divides this work into many simple operations, as a larger quantity can be produced which can be sold at the same or a lower price on the market. In the words of Adam Smith:

*“One man draws out the wire; another straightens it; a third cuts it; a fourth points it; a fifth grinds it at the top for receiving the head; to make the head requires two or three distinct operations; to put iron is a peculiar business; to whiten the pin is another; it is even a trade by itself to put them onto the paper; and the important business of making a pin is, in this manner, divided into about eighteen distinct operations, which in some manufactures, are all*



*performed by distinct hands, though in others the same man will sometimes perform two or three of them.”* <sup>95</sup>

Smith doesn't enter into an understanding of what this division of work into many very simple operations entails for the workers. And Smith continues to mention the very simple operations as if they were full of meaning - and therefore work. But it is precisely in the simplification of the production process that the individual operation is simplified so much that the professionalism and meaning that previously related to the operations disappear.

This development takes place at the same time as the decision-making elements of the work process, which lie in the professionalism, are also separated from the work process. The decisions related to the work process was separated to take place in other specialised departments under a centralised management, which would coordinate and make all decisions.

This division separates 'meaning' and 'movement'. While meaning are being made by engineers and management, the 'movement' is made by the workers body.

This division into 'meaning' and 'movement' is at the same time a process that leads to a division into power and powerlessness, which in turn leads to a process in which money are transformed into capital.

## **- Alienation**

When a producer previously acquired an animal's 'labor' or today acquires a robot's ability to perform certain operations in a production, then the producer acquire only the animal's or the robot's capacity to 'work', because the two are identical.

In the human being, unlike the animal and the robot, this unity of the motivational power of work and the performance of work is not inseparable - that means that the producer can separate the worker's mind and spirit from his bodily movements.

As we have seen before, the human being is capable of carrying out a wide range of different work processes exactly because it comes with a *logos*. This logos is rooted in a complex system of interaction processes between tools and social relationships, between technology and society. It is this capacity that makes the human being unique and at attractive as labor. It is capable to adapt to a certain situation without being informed with detailed instructions on beforehand.

So this 'unity' of understanding and execution can be divided in the human being. The conceptual idea of the purpose and result of the work process must still prevail and govern the performance, but an idea devised by one can be performed by another. The foundation of work is the human consciousness, but the unity of understanding and execution can be separated in the individual and then reaffirmed in the group, factory, community or society as a whole. So, the human ability to perform 'work', must not be confused with the power of something like a non-human body. According to Marx, human work, whether exercised directly or stored in the product as tools or in domestic animals, represents human's only resource in confrontation with nature.

For people living in social groups and societies, work is a category in its own right that can not be replaced by anyone else - simply because it is a human capacity. Only one, who is the master of the work of others, will confuse labor force with a tool or a machine that is able to carry out operations. This master will consider everything that makes his mill work: steam, horses, water or human muscles - as equivalents, as 'production factors.' For individuals or communities who manage and distribute their own work, the difference between using labor and using any other force is the difference around which the whole economy is turning. And from this point of



view, this difference is crucial because every individual is the owner of a part of the total labor force available in the local community, in society and within humanity.<sup>96</sup>

## 13. Money as commodities

Capitalist production requires exchange relations in the form of goods and money. What separates capitalism from other economies is the acquisition and sale of labor.<sup>97</sup>

The division in worker and manager / owner leads to the division of money and capital, which is the process that leads to a division of power and powerlessness, which in turn causes the community's money by the business owners can be transformed into capital.

In order for this to happen, three factors must exist universally in society: 1. The workers must be separated from the means necessary for production, and only be able to access these by selling their labor to others; 2. Workers must be free from legal bindings such as serfdom and slavery that prevent them from freely deciding over their own labor force; 3. The purpose of the employment of the employee must be the increase amount of capital of the capitalist. The work process therefore begins with a contract or agreement about the conditions for the worker's sales of their labor force and the purchase of the capitalist by the same.<sup>98</sup>

The problem for the employer is that when purchasing the *logos* of the labor force, he simultaneously purchases an indefinite quality and quantity in the work process, which in its potential is infinite, but which in its realisation is limited, precisely because of its subjective human constitution, its previous history, the general social conditions. These factors affect both the work process and the quality of the products.

Therefore, when people are forced to sell their labor to another, they also give up their interest and motivation for the work process, because it has now become alienated. From this point, human work will rise as a force against the human being itself - and will grow as the worker works harder and more.<sup>99</sup>

## 14. Conclusions

There are two statements relating to two positions that dominate this review, and that is Adam Smith's theory and statements that the free market will lead to peace - the liberal peace thesis - and that is Karl Polanyi's theory and statement that the free market can not be done and that liberalism leads to war.

Polanyi's criticism of liberalism's idea of the free market was based on analyses of the state's role in the economy. In his criticism, Polanyi distinguished between genuine and fictional goods. For Polanyi, the definition of a genuine product is that it is produced with the purpose to be sold on a market. By using this definition, nature, people and money become fictional goods. Work is simply human life, commodities are nature, and the supply of money and credit in modern societies is created by state policies.

The liberal failure consists in believing that fictional goods (nature, people, money) behave in the same way as genuine goods. That is why they believe that it is possible to separate economics and politics, but as Polanyi points out, actual existing families can not accept the arbitrariness of liberalism as it will destroy human's life projects and create physical, mental, social and existential pain.

Polanyi's analysis of the economy in the time up to the two world wars showed that it was liberalism's mistakes about genuine and fictional goods that led them to invent the gold standard which they claimed would create a boundless world of growing prosperity. But instead of creating peace and prosperity, the gold standard caused severe financial crises - where the



people were thrown on the streets, starved and treated as things - and ended it all in two bloody world wars.

Today's liberal project is still founded on the illusion that millions of people all over the world will continue to accept that the richest 1 % attributes the surplus that the 'working community' produces daily while the workers are forced to survive in a precarious economy where they must see their children lack social care, learning and basic health. No parent can bear to be exposed to such an economy. Such a situation transforms economy into politics - not science.

As today's inequality and social insecurity grows, political-economic dissatisfaction will grow and national cohesion will shrink. In this situation, instead of realising that today's economies have failed, the parliaments try to derive social fear and dissatisfaction by inventing both internal and external enemies: unemployed, refugees and Russians. Often, such a policy results in fear expressed in political fundamentalism, which does not accept strangers, foreign convictions, religious rites, decorations and dresses. This policy also dominates the Danish Parliament, as well as other Parliaments today.

When people are treated as 'things' and 'ressources', they become not only politically angry, they also become mentally stressed and politically unstable, looking for explanations and deliberations - simple or complex.

Some of the causes of the stress are that private competing companies in the spirit of Smith, are forced to divide the work into the least possible operations, because of competition, while at the same time increasing the speed and quantity of production. In this way, the work loses its meaningfulness, while at the same time it increase its rate of wearing people down.

If we want to understand what work is, we must turn to Aristotle, who said that work is 'intelligent' human action. He thus attached work to the *logos* of the human being, which it uses to develop meaning and decisions with. In this definition, neither an ox nor a robot can work, because they do not own *logos*. At the same time it is the human *logos* that makes the human being both indispensable and problematic for the employer.

When an employer at Smith's time acquired an animal's labor, or if an employer today buys a robot's ability to perform certain operations in a production, then the employer attributes the movements of the animal or robot to the animal or robot's structure. This 'unity' can not be separated - as this will kill the ox or destroy the robot.

However, when the employer buys a human being, the 'unit' between the motivational power of the capacity to work - unlike in the animal and the robot - is not inseparable, which means that the employer can divide the mind and the body of the human being.

When human beings are forced to sell themselves, their physical labor or their knowledge to an employer, they also sell their freedom, their decision-making capacity and the end-product to the employer, and in this sales process they become alienated. From this sale on, the work will only rise as an alien force against the worker and it will only grow bigger the more the worker works, whether the work is carried out in a private company, a cooperative, in an NGO or in an association. The owners and managers use the employees' knowledge, thinking and lives, and treat them as replaceable nuts and bolts in an economic machine - in which they will let them go if they consider them to be worn out or problematic in other aspects.

## **- Economics is not physics**

When the liberals keep pulling Smith from the stable, they refer to economic theories developed in the 1700s. However, the 1700s was a highly divided class society where 80% of the population were farmers, where production took place with primitive technologies, etc. In other words,



they use theory from a primitive and backward society in a highly developed society like Denmark. This sounds a little crazy, so why do they do that? They probably do so in order to appear scientific, and to hold on to their privileges.

Countless critics have subsequently pointed out that this theory, this equation does not add up. They have also pointed at a fundamental problem in the construction: and that is the immediate inspiration or linking from physics to behavior. Here economists are probably looking for constant 'forces' and 'factors' that can explain the economy. The problem is, that they seek for answers in a wrong place - and that they commit a fundamental scientific error.

Economy is, as we have seen before, composed of human *logos* and actions, and therefore the economy should be subject to humanistic and social scientific methods, recognitions and limitations.

Ideas, thoughts, meaning and feelings do not gravitate like Newton's gravitating bodies. People think, remember and learn - and therefore change behavior, both individually and collectively. Human behavior must therefore be *understood* from within their universes of meaning, while physical bodies must be *observed* from the outside and then *explained*. A physical observation can be repeated without the falling body recalling the event. A theory regarding physics can therefore be tested again and again. Conversely, a human being, a group and or culture can remember and learn, and a theory of understanding and learning can therefore not be tested again and again.

Economic learning and behavior can therefore not be put into the same formula as a gravitating body. Human behavior can change as a result of learning and culture, and this change may have a paradoxical nature and not be subject to mechanical-linear cause-effect, which is impossible to predict.

So, what liberals refer to as an economic reality and the realities of the market are just ideology and historical constructions of a very large extent. Capitalism is an ideological construction from the 18th century - not a natural law.

The capitalist economy today in for a fundamental and inevitable revision of its basic concepts and theories that will be so radical that the question is whether economy as a science will survive. The most appropriate approach is probably not to abandon economy completely, but to abandon its current erroneous anchoring in the Newtonian paradigm. A new economy must, in order to become useful, take a point of departure in an interpretive, caring approach to nature, people and the goal of our joint work.

### **- To conclude:**

1. The Newtonian economies deduce theories from physics to behavior. This is a fundamental failure
2. The failure of the Newtonian-economic theories also points to an outdated physics. The theories of the Newtonian economies originate from the 18th century
3. The economic theories originate from the 1700s, and are based on a community dominated by local agricultural production, gender and class division. Today, the world is globalized and production and economies are scattered on many kinds of production. Agricultural production occupies only 3-5% of the population, where it previously occupied 70-80 %.
4. The free market that Smith invented does not exist anywhere
5. The natural economic laws, which Smith's invisible hand should hold, consists of mistakes



6. Newtonian economists mix different laws that contradict each other: they both claim that the market determines the price and at the same time that there exists an equilibrium governed by a natural economic law. Logically, both can not be true at the same time
7. The project of the Newtonian physics consisted in establishing a physical reality in which God did not interfere
8. The Newtonian economy's project consists of a project in which God, the Church and other powers do not interfere - in other words, an economy is constructed without any ethical superstructure. Therefore, it had to place great emphasis on the fact that the economy was a science in line with physics
9. An economy that derives from Newtonian physics can not understand, explain and relate to the human need for meaning that the human being is an interpretative, understanding and meaning-driven creature
10. Such an economy can not understand consciousness, memory, learning and meaningful behavior



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