

TURNINGPOINTS

- Because ending poverty requires the end of violence -

What is a good life?

Towards a new economy. How do we do?

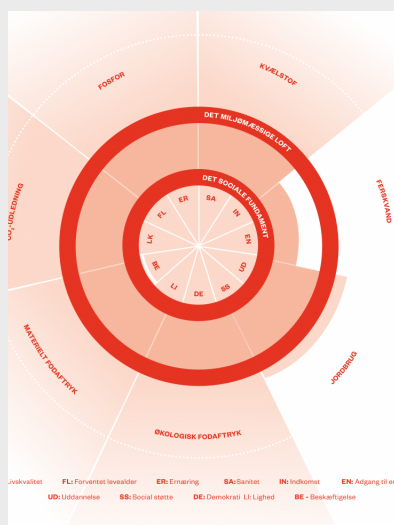
"Will it be possible for all on earth to achieve a good life without going far beyond the limits of what the planet environmentally can cope with?"

Three researchers from the Institute of Sustainability at the University of Leeds set out to investigate this question. They therefore collected data regarding welfare and environmental impacts from 150 countries in order to identify the countries closest to a balance between resources consumption and welfare.

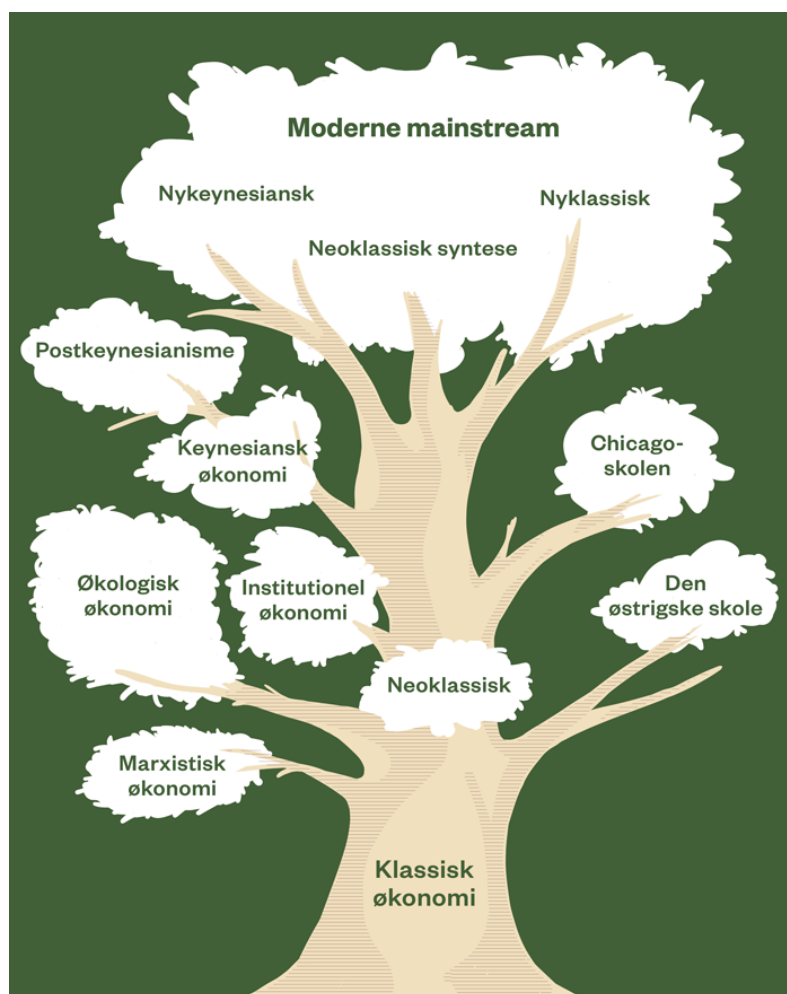
The result was not uplifting.

"At national level, it was not a particularly optimistic picture we found. There is not a single country that is both able to do well on the social scale and at the same time is within the limits of the planet's capabilities in relation to environmental sustainability," says Andrew Fanning, researcher on the research project."

- Sebastian Gjerding, Information, 6. oktober 2018



- The Doughnut Model



Sofie Holm Larsen, Information

Theme: Economy

In this issue, we focus on economics because the current economy is not sustainable in three key areas:

- It is not ecologically sustainable
- It is not sustainable in relation to human life and development
- It is not sustainable in terms of a fair distribution of the jointly produced wealth

The Pass It On concept addresses the range of underlying assumptions on which current economic thinking is based.

The creation of value in TurningPoints



TurningPoints tries to re-define common ideas about ownership, leadership and expertise and generates a number of new economic and humanistic ideas that society worldwide needs urgently.

TurningPoints prevents violence. Economically prevention is 16 times more effective than human rehabilitation and reconstruction of infrastructure.

TurningPoints reduces social conflicts, which in turn will prevent violence and social unrest.

TurningPoints is a constructive, fair and peaceful way out of both direct and structural violence.

TurningPoints spreads economic prosperity, which will help create additional jobs and consumption.

TurningPoints is governed by an ethical code that directs production towards sustainable products and services.

TurningPoints propagation will lead to a restoration of production to consist of sustainable production and products.

TurningPoints hope to release creativity to an unprecedented extent.

The most basic assumptions in the current economy are as follows:

- that the rules of the economy are natural (and can not be changed)
- that the free market's natural rules will regulate themselves
- that the economy reflects an egoistic human nature
- that society does not exist (as a community)
- that linear growth is necessary

There are several more assumptions, but the above mentioned are absolutely central. These assumptions from the 17th century we will have a look at below. Here we will see find that these assumptions today - in our highly technified and global world - destroy human beings and nature, create extreme inequality, and put nations up against each other in futile wars.

What is economy?

The term 'economy' originates from the ancient Greece, and is composed of two Greek words: *oikos* and *nomos*.

Oikos means *household*. And *nomos* mean *norms* or *rules*. In one: the rules of residence.

Already at this point, it becomes clear that the rules are something we decide ourselves. We decide if we want to live under the same roof, and we decide which rules we want as for how we allocate the benefits of the house.

So, economy is about who belongs to this community and about the rules for how the benefits are to be distributed.

This thought has historically been transferred to the greater community: the nation (house) and politics (legislation and rules).

In other words:

The economy is a social construction, almost ...

Thus, the current economy is *not* nature, but has been created by humans. The financial rules can therefore be changed.

This leads to the following considerations:

- Who are 'we'?
- What rules do we want in our 'house'?

Two criteria must be added:

- What are the limits of the nature?
- What are the limits of the human being? As an individual and as a social being?

We must realize that the physical resources of the Earth are limited, and that the biosphere is an exceedingly complex system on which human life is dependent - in terms of both unpolluted air and water.

This is challenged especially by the notions of competition and linear economic growth. The economists of the 1700s probably could not imagine the technologies we take for granted today.

What are the limits of the nature?

Today, humanity can produce itself into an uninhabitable planet with extreme weather, water shortages, conflicts, wars and refugee flows, if growth is not made sustainable.

The UN Climate Panel has calculated the cumulative CO₂ emissions that have taken place since the pre-industrial era and then produced a CO₂ budget for future emissions in order to limit the global warming to less than 2 ° C.

About half of the maximum emissions were already released in 2011. What we know today is the following:

- From 1880 to 2012, the average global temperature increased by 0.85 ° C.
- The seas have been heated, the amount of snow and ice has fallen and the surface of the sea has risen. From 1901 to 2010, the global average sea level increased by 19 cm, as the oceans grew due to warming and ice melting. The extent of the sea in the Arctic has decreased in each consecutive decade since 1979, with $1.07 \times 10^6 \text{ km}^2$ istab per. decade

There are alarming indications that important tipping points that will lead to irreversible changes in the major ecosystems and planet's climate system have already been reached or exceeded. Ecosystems that are as diverse as the Amazon rainforest and the Arctic tundra can approach thresholds for dramatic changes through continued warming and drying.

If we want to stay within the ecological limits, humanity must begin to respect them. They look like this:

- To avoid dangerous climate change, the concentration of carbon dioxide in the atmosphere must be kept below 350 parts per million.
- With regard to the limitation of soil cultivation, care must be taken to ensure that at least 75 % of former forested land remains forest.
- When it comes to the use of fertilisers, we must add a maximum of 62 million tonnes of nitrogen and no more than 6 million tons of phosphorus each year

Newton's physics I

The physics of Newton influenced science of his time fundamentally.

The thinking of Newton, influenced the physical research, the philosophical and social scientific thinking, and led to a further separation of spirit and matter. This separation 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* and *res extensa*, respectively, which consisted of the undisturbed (consciousness) and the distributed (physical objects).

This division enabled scientists to treat all material as 'dead material'. As something they could divide, and thus observe a world of material diversity, of different things - that is isolated atoms. The world had been reduced to a machine consisting of emptiness, atoms and laws. This world view was the point of departure for Isaac Newton, who developed the mechanical laws that would come to form the basis for classical physics. Newton put up physical experiments with ramps and slits, etc., and could from the results he got challenge God: did physical bodies always fall straight down and with a constant acceleration?

Newton's physics II

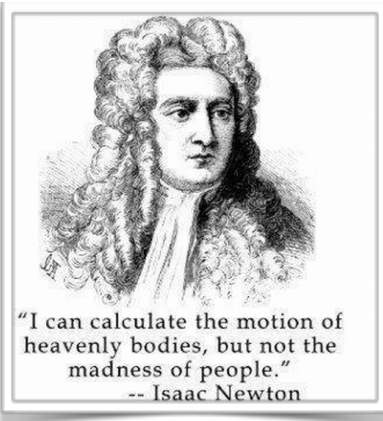
The challenge was heresy:
Would God interfere?

The Newtonian mechanical model of the universe became a dominant and fundamental model for all scientific thinking. And with that, it created an image of a monotonous God who ruled the world separated from above and beyond with his divine power and its laws. 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."

Capra, 1975: 58

The scientists of the day: Hobbes, Descartes, Smith, Mill and even Locke all used Newton's mechanical physics as inspiration in their thinking about state, economy and society. Locke described himself as "a mere under-labourer to the incomparable Mr. Newton."



In the future, our production should stay below these limits if we want to ensure the survival of the biosphere and thus the stability of our individual and collective lives.

The question is: what economic thinking can with record speed push us in the right sustainable direction?

What are the limits of the human being?

In our current economy, a large part of production's financial profit goes to business owners and to shareholders. This transaction takes place between people with unequal power, which means that business and equity owners earn still more money on workers' production. In that process, money is transformed into capital, which causes the business owner to continue to grow richer while the worker continues to become still poorer and more alienated to his own creativity. People can not tolerate it. Individually, they become ill - physically or mentally. And collectively, societies develop in which a compensatory way of spending money tends to turn into greed. Such consumption is without any upper limit, and therefore clearly a threat to nature. The current economy, therefore, is neither socially just nor ecologically sustainable.

Therefore, let's take a look at what economy we need to end, so we can get an idea of what new economic models we need to develop.

The economic schools

There are several economic schools. What differentiates them are their key ideas, the time and place they originated.

They can roughly be differentiated as follows:

- Merkantilism (1536 - 1776)
- The Classic Economic School (1776 - 1871)
- The Neo-Classical Economic School (1871 - 1945)
- The Keynesian economical (1945 - 1980)
- The Neo-liberal Economic School (1980 - 2019)
- Today's economic theories and models (2019 -

We will briefly give an overview of the most promising economic schools, show what they believed in, and the laws and regulations they found. There are, therefore, some schools missing. You can find them described and discussed in our 'background paper' on our website. Finally, we will show where we are today and how we - maybe - can move on.

Merkantilism (1536 - 1776)

The ideas of the current economic system rest on the Liberal

confrontation with the politics and economics of absolutism.

Absolutism in Europe consisted of a number of Royal houses, that ruled based on their monopoly of power. Today, one would probably denote this type of rule as a dictatorship.

The economy of absolutism was mercantilism, which was a violent variant of trade with the world. The purpose was to develop a monetary economy and to collect the largest possible amount of money in the form of precious metals within the territory of the state.

Therefore, the population should sell more abroad than it bought. In gunboats and armed, seamen and merchants sought to buy whole goods. A favorable trade balance could be achieved by developing exports and by limiting imports.

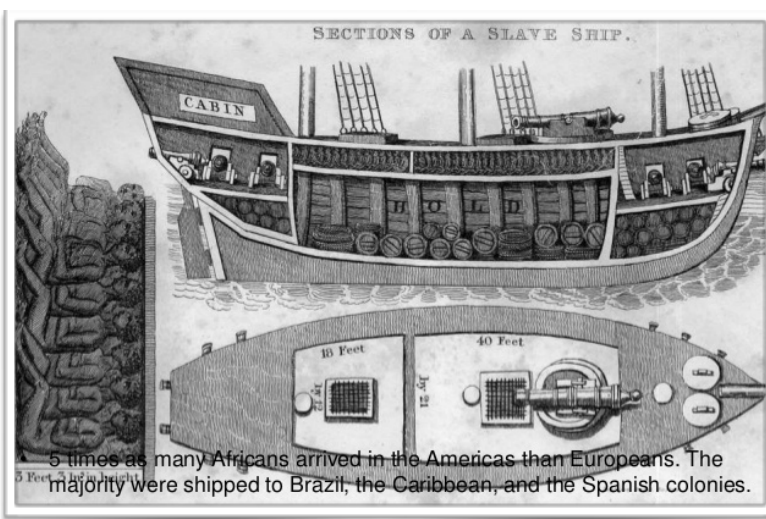
The mercantilist means to achieve that:

- ban of import
- imposition of duty
- development of import-competitive industries
- transport of goods on the country's own ships only

Mercantilism led to an aggressive trade policy, to which other countries responded aggressively. One resort was to conquer colonies with which the Prince or the King could establish a favorable trade balance.

A key economic concept from this time that the economy still uses is therefore, 'trade balance': That a state has 'traded' more than another state, and has therefore become richer and stronger.

Absolutism was oppressive both politically and economically.



Newton's physics III

Because Smith was so impressed with Newton's new mechanical physics, he built both his free market economics and division of labor on Newton's ideas and methods. The free market's law regarding supply and demand fitted perfectly with the new mathematics that Newton and Leibniz developed - and economics evolved to be perceived as dealing with continuous variations consisting of very small amounts that could be described most effectively with this mathematical technique.

The classical and neoclassical economists thus based their theories on the Newtonian ideas and laws of mass, gravity, equilibrium, movement, etc; and economics had to meet the requirement of scientific objectivity: as a physical world that was described as an objective reality 'out there' - *ein ding an sich*. Out there linear time, mass (atoms), gravity, equilibrium, etc. ruled - all 'things' that could be described in linear patterns of action-reaction. A kind of science that could be used to predict physical movements using mathematics. This predictability it was hoped could also include economics.

These ideas regarding physics were rewritten to become economic forces that could predict the behavior of economic atoms (people) on the free market (in the social space). Smith imagined that the balance mechanisms of the free market would be almost immediate. He described economic adjustments as 'fast', 'that they happened soon' and 'persistent', and he described prices as 'gravitating' in the 'right' direction. Small producers and small consumers would stumble (collide) into each other on the market with equal opposite powers (forces) and equal mass (information). The people in this market were nuclear-isolated individuals who acted exclusively in their own interests.

Adam Smith - the invisible hand



Adam Smith claimed that by the means of an invisible hand a 'natural harmony of interests would develop'.

By following each our "private vices", we will undoubtedly and mysteriously serve the public. Such a thought formed the basis for Adam Smith's idea that an "invisible hand" ruled the selfish behavior of every single individual on the free market. In spite of being motivated by selfishness, this approach will by it self turn 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."

- Adam Smith

The liberal rebellion

This rebellion was based on the lack of basic freedom of absolutism, and the rebellion was therefore called 'liberalism' - freedom. The survey had two tracks: political and economic liberalism.

Both tracks shared these goals: peace, material growth and security. In the following text we will follow the economic track, but occasionally get into the political track as the two tracks of the liberal project are so intertwined.

The Classic Economic School (1776 - 1871)

The classic economy started with Adam Smith and ended with the transition from Mill to the neoclassic economists. Of the classical school, Smith, Richardo, Marx and Mills are considered among the most important, and they departed from the same concepts and assumptions when discussing the economy.

This economic thinking was a showdown with both the absolutist powers, based on religious support, and with a religiously justified economics. Therefore, they placed great emphasis on being scientifically in their thinking, and to that end, they obtained most of their ideas from the contemporary physics developed by Newton.

Nature, animals and humans were described as resources and as machines. Man's consciousness came from God, not from the body, and was therefore inexplicably separated from this.

All this was part of the free market. The resources, animals and people could be described as something that was subject to predictable mechanical laws.

The dominant law of the free market was competition - the answer to Newton's free atoms that gravitated and collided.

The main hypothesis for the free market was that all human beings acted out of self-interest, and that the sum of these interests would gather in an equilibrium, as in the physical nature.

Another central law was that it was only human work that could produce value.

Karl Marx (1818-1883)

To many's surprise Marx is recognised as a member of

the classical economy, despite his strong criticism of David Richardo's economic theory. This is so because Marx accepted and used most of the concepts of classical economy. Marx' criticism, for the same reason, is to some extent caught by the most central assumptions and concepts of the classical economy. One of these was the theory that value alone could be created by human work. Both Richardo and Marx accepted and used this idea. Machines could only re-pay the work people had put into them.

Marx's economic thinking, however, was far more extensive than the economists of his time, and included a great deal of philosophy and sociology thinking.

Central economic theories of Marx consisted in showing how money transformed into capital and what sociological and social consequences this had.

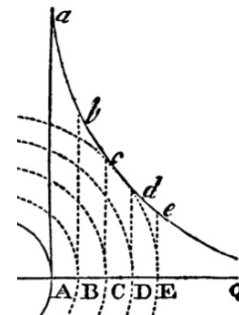
In capitalist societies, Marx pointed out, the economic profits are taken by the owners of the production, who also determines the working conditions. This was a transaction between people of unequal power, which meant that business owners earned more money on the work done by the workers than the workers themselves. In that process, money that was otherwise thought of as an abstract means for exchange was transformed into capital, as business owners expanded their business through, for example, buying more workplaces. The premise that money could be converted into capital was, according to Marx, based on a specific social relationship, which itself was the product of a long history. Marx's fundamental criticism of the neoclassical economy consisted in that economists by narrowing their field of study into the economic core process evaded the ethical issues of the economic distribution.

The consequences of the unequal power relations in the labor market between employer and employee led, according to Marx, to a situation in which the working person disposed of his own commitment and determination to the employer and that it as a consequence was alienated to both himself and to the execution the work performed. Particularly regarding this issue, Marx used Hegel's thinking.

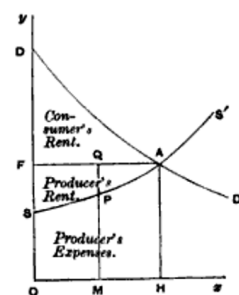
Another central theory that Marx produced was the

From physics to economics

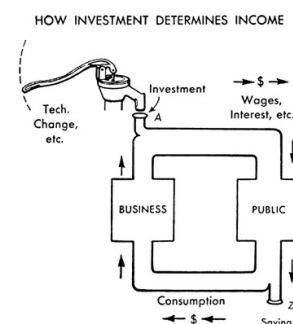
The 17th century scientists were inspired by Newton's drawings of the world of physics. Below is a section of Newton's 'Principle of fluid mechanics':



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

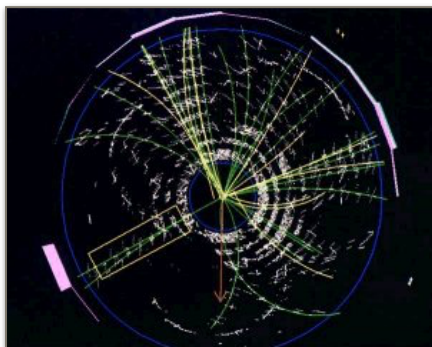


This understanding of economics probably led Paul Samuelson into his 1948 drawing of economics as a 'Circular Flow Diagram', in which it is presented as a closed hydraulic circuit:



E = mc²

Throughout the 1800s, atoms became increasingly hot topics for science. Previously, atoms had primarily formed a philosophical concept that could be used in logical arguments in different sciences. This was about to change. 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 particles, 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.



theory of labor's organic composition - which consisted of the relation-ship between the human being and the machine. This composition was influenced by market competition and would lead to recurrent economic crises, and partly to the fact that capital would accumulate on fewer and fewer hands.

The Neo-Classical Economic School (1871 - 1945)

The neoclassical economy started in 1871 with what has been called the 'marginalist revolution'. Independently, three economists: William Stanley Jevons, Carl Menger and Léon Walras developed a new economical thinking. What the neoclassical economists wanted was to find economic laws for how the market reaches the price of a product. In the classical theory, the price was an expression of manufacturing costs. But Jevon's, Walras and also Marshall saw it rather as a function of supply and demand. They operated in their calculations with an equilibrium-point that occurred where the added benefit of purchasing an additional item would correspond to the additional cost of making it.

In the transition from classic economy to neoclassical economics, the confrontation with the former religious and traditional ties was still important.

Previously, work and trade had been restricted by ethical considerations. Work should serve the needs and wishes by the community, and the economy should therefore be *fair* and *reasonable* in terms of pay for work and price of goods.

This was not perceived as 'free' but as constraints attached by former repressive and absolutist systems.

The neoclassical economic school, among other things, therefore changed its attention from human needs to the balance between supply and demand on the free market.

This balance ratio could be described and calculated without ethics and in mathematical formulas.

The economy and the free market were increasingly perceived and described as a 'science' that reflected a economical locked up by natural laws, which could be described by science, but with which politicians should not interfere.

Keynesianism (1945 - 1980)

However, a central challenge was that the market economy had large fluctuations, which meant that businesses had to close and that people became unemployed.

And unemployed people are hungry, frustrated and angry - ie. politically unstable.

Marshall's student, John Maynard Keynes tried to solve this problem by proposing that the state should employ workers during periods of economic depression. This work force could be used to maintain, improve or expand the state's infrastructure. Likewise, the unemployed could be educated to work with new technologies that were on their way.

Neoliberalism ((1945)1980-2019)

Neoliberalism's main point of view is that there is no complete knowledge of economics and that it would therefore be best to leave it to itself. The neoliberalist thinkers were therefore strong opponents and critics of Keynesianism. Whenever the market is out of balance and in crisis, the reason is that governments and central banks have been interfering.

For the same reason, the neoliberal thinkers are against the mathematical models of the neoclassic school of economy.

Because, if the market economy is to be free, it does not make sense to try to manage it using abstract mathematical models.

The neoliberal breakthrough came in 1980 when Prime Minister Margaret Thatcher and President Ronald Reagan joined forces to test the neoliberal theories. Since then, the neoliberal school has dominated economic policy and debate.

Today's economic thinking (1990 - now)

Economic theory development appears to have two tracks: a mainstream track which consists of so-called 'neo schools' trying to further develop the thinking of the old schools; and another track of heterodox economic schools, in which two especially distinguish themselves: the ecological economy, and the circular economy.

Linear and circular economy

In a linear economy, extracted raw materials that is turned into goods sold and consumed eventually end as waste products. In a circular economy, the process is changed to ensure that as much as possible is recycled and reused so that waste becomes a resource.

Atoms of 'emptiness'

To get a better grip on the aspect ratio, you try to 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



The testcenter, CERN

enlarge the cherry tree up to a size corresponding to St. 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.

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.

Fields of probability

The distinction between substance and empty space had to be abandoned when it became evident that virtual particles could spontaneously emerge from the emptiness and disappear again without the presence of a nuclear particle or another strong interacting particle being present. (...) this emptiness is 'the physical vacuum' - as it is called in the field theory - it is not a state of sheer nothingness, because it contains all the potential forms in the particle world. These forms are not independent physical entities, but rather they are manifestations of physical vacuum. (...) From its role as an empty container of physical phenomena, emptiness is now understood to be a dynamic entity of the utmost importance.

Objects in the quantum theory have dissolved into wave-like probability patterns of interrelationships, and so are not actual massive 'things'. The sub-atomic particles do not make sense when the physicist attempt to described them as isolated entities. Rather they must be seen as the interaction between the construction of the experiment and the measurements.

Classical axioms such as mass, space, weight, linearity, causal effect, etc. have to be abandoned or re-written entirely.

What will this do to economic theory; to theory about leadership and organisation?

The modern mainstream schools

Because the economic schools today are so widely branched, and in continuous development, all of them have not been included. But to the mainstream schools may very well include the new Keynesians, neoclassical synthesis, neoclassical, etc.

Since the mid-1990s, the focus on the development of recent economic theory has focused on the apparent discrepancy between the theories of the economy and economy of politics. The field has been expanded due to new national data sets that enable hypothesis testing on comparative economic systems and institutions.

The economic issues included in the theory development have included the division of nations, origin and degree of change of political institutions in relation to economic growth, development, financial markets and regulation, backward economic structures, reforms and transition economies, the role of culture, ethnicity and gender in explaining economic results, macroeconomic policy, environment, justice and the relationship between affairs and economic policy, theoretically and empirically.

The Neoclassical School at the University of Chicago focuses on the 'free market', libertarianism and claims the point of view that people are best left to themselves. They are also opponents of mathematical formalism. The Monetarist schools were more open and attempted to use the theories of Keynesianism at the macro level, even though they, like the Neoclassical school thought that the neoclassical theories were right and that the market itself would fix everything.

New political economy, treats economic ideologies as a phenomenon that, based on Marxist tradition, can explain the political economy.

International Political Economy (IPE) is an interdisciplinary field that includes different actors' approach to actions.

Political economics and legislation is an attempt in development of legal theory to engage explicitly in the political economy's literature.

Thomas Piketty's approach to economics has led him to propose the reintroduction of political considerations in the economy, and that economic theory generally should involve other types of scientific knowledge in the development of economic theory so that the robustness of economic theory could be strengthened.

The heterodox economists

Today two ideas stand out: the ecological economy and the circular economy. I will focus on the ecological economy as it is the most basic breach with classical and neoclassical economic thinking.

Ecological economics is not a narrowly defined economic school, but rather a wide range of ideas that exceed academic disciplines and combine elements of both natural and social sciences.

However, common to the ecological economists is that they think the economy is 'embedded' in nature. This is probably the most crucial difference to traditional understanding of the economy.

The very basic point of view is that the human economy and ecological systems are more intertwined than traditional economies will accept.

In economic mainstream, the climate impact of the biosphere is reduced to so-called 'externalities': costs incurred by persons outside the market-economy transaction.

In other words, the ecological impact of production is defined as something that is external to the market (which is central!); as minor side effects which we can easily deal with. However, the reality is that these 'externalities' are greater than the 'internalities'.

Ecological economists thus do not see the 'externalities' merely as exceptions, but on the contrary, they regard them as fundamental prerequisites for the economy, which, as the population grows and production increases, will gain increasing importance.

Mainstream economists, according to ecological economists, overestimate what the market is capable of solving.

Conclusions regarding the current economy

We have now outlined the various economic schools. Now follows a brief of what the assumptions are that lock this economy into a non-sustainable thinking.

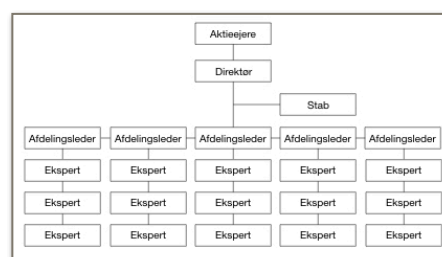
Because Newton is so crucial to Smith's and his contemporary thinking, we have to involve him in our understanding of the 17th century's economists understanding of the economy.

Newton's organisations

"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 organisational 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 and begin to explore what has become known to us in the twentieth century. We need to expand our search for the principles of organization to include what is presently known about the universe."

Margaret Wheatley, 1992, p. 6

The cultural being

If our knowledge of physics has changed radically, the question is how this will affect economy, businesses and the perception of people?

And can we actually use physics to understand economics, organizations and people?

No, we can not, not if we listen to the philosopher Ole Thyssen. He says the following:

"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."

Ole Thyssen says that physics can not understand biology; that biology can not understand psychology; that psychology can not understand sociology. But that they all form the prerequisite for the next level of understanding.

A central problem, however, has been that Newton's dead mechanical physics did not provide a basis for an understanding of consciousness, memory and learning.

Here are 12 crucial assumptions that have affected the economy until today, leading to the fact that contemporary economy is not sustainable:

1. Newton divides reality into God, emptiness and mass (atoms), and describes the universe as a dead mechanical clockwork
2. Smith, et al. uses Newton's mechanical physics for their economic concepts and models
3. Smith's economic thinking is focused on external mechanical factors (forces), cause-effect relationships, equilibrium, linearity, even logical causality (either-or), etc.
4. Smith invents an economic space: 'the free market' where the forces of the invisible hand work rules
5. Smith assumes that people only act in their own interests
6. Smith assumes that people only act rationally
7. The neoclassical economy changes the economy from being ethically based to trying to be scientifically based. In this way, the economy loses its ethical and moral dimension
8. Marx points out that the division between business owners and workers causes money to become capital, which creates social opposition, and ultimately violence
9. Marx points out that the division in owner and worker positions create alienation, ignorance and passivity of the worker
10. Marx points out that competition in the market affects the organic composition of capital and that it leads to recurring economic crises (depressions)
11. Marx points out that the division between money and capital monopolises the economy
12. Polanyi points out that nature, people and money are fictitious goods, and that the idea that these can be treated as ordinary goods has led to two world wars

The bond between the Newton world view and contemporary economy's world view makes it blind to what the economy necessarily should be able to take into consideration:

1. Meaning
2. Consciousness
3. Memory
4. Learning
5. Development
6. complexity
7. Chaos and Order (Cosmos)

Thus, the Newtonian economy can not help us out of the

problems we face today. It can not help us understand the physical phenomena that lie outside the physical world which Newton deals with.

The limitations of Newton

The close connection between economy and the Newtonian world view creates unforeseen problems for other scientific areas, because Newton's mechanical physics can neither understand nor explain the individual's consciousness, memory or capacity for learning. Similarly, Newton's mechanical worldview can not explain collective complex, chaotic learning processes as they occur over time and in society. For the same reason, the Newton world view can not understand or explain ethics or morals. Both of these are placed in a divine God - in which nobody believe in any longer.

The central problem for understanding consciousness in Newton's mechanical physics consists in where the unity of consciousness, the characteristic indivisibility of human thought, sensations and feelings can be placed.

It is this unity of human experience that holds the thousands of sensory impressions together, which forms the basis for all other characteristics of this experience, of being conscious. The many separate features of apples, cakes or more general sensory impressions in human consciousness are connected and constitute a whole. But how?

If this 'entity' did not exist, people could not be conscious, could not remember, learn, develop a language, or experience something. There would be no 'I', no personal identity or subjectivity. According to Danah Zohar, this 'entity', this 'unity' is the most crucial feature of consciousness.

This 'entity', Newton's physics can not explain.

All of the classical Newtonian physics and the mechanical technology, which is based on this worldview, is about isolated and separated entities, physical or biological components and how they interact mechanically in this space of separation. But no process within classical physics can explain the unity of human consciousness.

In order to understand the human consciousness, memory, learning, language and identity that lead to human economic actions, it is therefore necessary to change the foundation of the economy from a mechanical Newtonian worldview to a physique that can form a basis for these dimensions, and even open up for an ethics in relation to nature and human beings.

Consciousness

In the 1960s, Karl Lashley tried to find the physical place, the substance, in the human brain where the memory lay. He trained animals and selectively destroyed parts of their brain. At one point or another he had to find the place where the memory was situated. He could impair the animals' ability to perform the learned, but not complete wipe out their memory, unless he killed the animals.

Lashley believed that all his experiments had shown was that learning was an impossibility. And yet, it's a daily experience that it was happening.

One of his students suggested that he read an article about holograms, which was a lensless form of photography that produced a three-dimensional image and that the brain worked the same way. The most interesting thing about the hologram was that one piece contained it all and that it was all contained in the piece. Perhaps the brain made images that, like the hologram, can not be destroyed?

Lashley's student, Karl Pribram, suggested that the brain in order to see, hear, smell, taste performed complicated calculations of the information frequencies it catches in a network of nerve impulses that flow along and between the cells through a network of fine fibers. These fibers carry slow waves as the impulse crosses the cell; and that these waves perform this computation process?

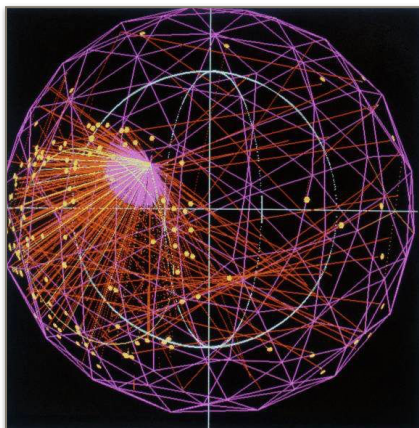
Quantum Economics and Organization?

With the new world view of quantum physics, a new understanding of the biological nature and of human consciousness follows.

This creates new opportunities for establishing new organisational and cooperative forms based on new forms of trust and cohesion; new forms of mutual commitment and higher meaning.

What will these economies and organizations look like?

It's hard to say. Especially because the new worldview is so different from the mechanical, and because it is far more dynamic and changeable than the 'dead' mechanic worldview.



But - it is not organizations that are based on linearity, cause-effect, power and control or on 'external' learning:

"First I no longer believe that organizations can be changed by imposing a model developed elsewhere. So little transfers to, or even inspires, those trying to work at change in their own organizations. Second, and much more important, the new physics cogently explains that there is no objective reality out there waiting to reveal its secrets."

Wheatley, 1992, s. 7

So, with the expansion of mechanical physics into quantum physics, there hope is created of solving this ancient problem, it seems:

"Quantum physics involves many highly intriguing and mysterious kinds of behaviour. Not least of these are the (non-local) quantum correlations which can occur over widely separated distances. It seems to me to be a definite possibility that such things could be playing a role in consciousness thought modes. Perhaps it is not too fanciful to suggest that quantum correlations could be playing an operative role over large regions of the brain. Might there be any relation between a 'state of awareness' and a highly coherent quantum state in the brain? Is the 'oneness' or 'globality' that seems to be a feature of consciousness connected with this? It is somewhat tempting to believe so." (Roger Penrose in Danah Zohar's A Quantum Mechanical Model of Consciousness, 1990: 61f)

Quantum systems are actually reminiscent of the way in which separate neurons (particularly fine atoms ...) all over the brain co-operate to produce a focused state of consciousness:

"...nerve cells in the human brain are sufficiently sensitive to register the absorption of a single photon (mirroring the passage of an individual electron from energy state within the atom to another) - and thus sensitive enough to be influenced by the whole panoply of odd quantum-level behaviour, including indeterminism and non-local effects."

Danah Zohar, A Quantum Mechanical Model of Consciousness, 1990: 72

This coupling of consciousness, thinking and sensing to quantum mechanical physics is necessary if we are to understand human development, an inspirational conversation or a good idea, because with the mind defined by the definitive laws of classical physics, the human being can not actually exceed itself and let go of the thought processes; There is no basis for a 'free will' or 'conscious intention'. "No physical brain mechanism obeying the determinist laws of classical physics could account for freedom of thought or will, nor for any of then free actions that might follow from. them."

Danah Zohar, A Quantum Mechanical Model of Consciousness, 1990: 62

Thus, Newton's worldview can not form the basis for and explain the economy that Smith established.

The question is if quantum physics can explain a child's joy in celebrating birthday, eating a layer cake and getting presents?

No, it can not. But quantum physics can form the basis for an understanding of the consciousness that can remember, think, speak and express joy in celebration.

And quantum physics, complexity and chaos theory can give us the foundation to understand the weather and plant systems we are so dependent on.

This is where the 'natural' limits of the economy are to be found.

But it can not explain why some people find joy in Bach, while others find it in Pink Floyd. Here we are in the world of meaning and identity - in the worlds of psychology and sociology.

This is where the *economical act* is born.

A new model is both necessary and realistic

Consequently, this review lead to a business structure based on the following::

1. Nature and animals are not machines. Plants are complex organisms that can grow and develop in interaction with the surrounding nature. Animals are alive, conscious, can develop and feel pain.
2. People are not isolated mechanical machines, but rather 'fields of consciousness' that are related to and can 'quantum-sense' other people. This connection occurs in what physicists today call the 'field', 'the being' or the 'vacuum'.
3. Economy is an ethical-social construction
4. Economic activity is embedded in a physical-biological reality with limits it must not exceed
5. Economic activity affects people's self-awareness (- alienates or develops -)
6. Economic activity is part of human learning and development
7. Economic activities create power and rules that can end in conflict and violence

Pass It On must in its economical behaviour change its views on the following areas:

1. Physics
2. Biology
3. Psychology
4. Sociology
5. History

Practical information

TurningPoints

The purpose is to develop the world away from poverty and violence by establishing jobs and developing the police.

TurningPoints is the coordinating unit of the two focus areas that make up each their own branch under TurningPoints: Pass It On (Jobs) and Politeia (Teaching).

Pass It On

Creates jobs that create jobs, that creates jobs, that...

Democratic, independent companies. Self-sustaining with profit sharing.

Politeia

Teaches the police in conflict understanding, conflict resolution, and how to build a police that the people trust and which the people dare to turn to when necessary.

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All of these layers of knowledge and understanding form part of a world view of what an economy is. If one of these layers fails or is greatly distorted, it will affect all the other layers. If a theory is highly distorted in its view of biology, it can not be of any use in understanding psychology. A new understanding of physics changes the understanding of all the laws - changes what we think about human beings in economies and in organizations.

A Pass It On company must therefore base its construction in and express the following:

1. Express goals, ethics and meaning in everything it does
2. Exercise care for physical and biological nature
3. See people as connected 'fields of consciousness'
4. Stay open and curious and in constant growth
5. Stay 'anti-authoritarian' and non-violent
6. Develop and keep the capacity to take the 'stick' from the authority in the form of non-violent action