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Ecology

Time, Acceleration, Crisis and Climate Change

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Time is money - this proverb is as common as absurd. Absurd, because there is no reliable definition of the term “time” other than the physical one. Therefore it is not at all clear what “money” actually expresses here. The preoccupation with the idea of “time”, which many philosophers and sociologists have already grappled with more or less in vain, may appear somewhat esoteric at first glance in connection with the present combined economic and ecological crisis.

Preface

It is worth it. As we will attempt to show below, the phenomenon of acceleration is playing a central role in this crisis. And we will see that the same social mechanisms that have formed our understanding of time, our “time-concept”, are responsible for the way the present deceleration debate got under way. Therefore it is just as necessary as useful to deal firstly with the concept of time.

As far as we know, there is no proper historical-materialist based explanation of the time-concept, nor of the phenomenon of acceleration. One can find some more or less cryptic remarks[1] in the writings of Marx and Marxist scientists as well as references to certain Marxist bywords in bourgeois sociological literature, but at the most as more or less “additional” contributing factors. We will return to this later. Below we will therefore try to outline the bases of a time and acceleration theory from a Marxist perspective. This appears necessary because in our opinion the present combined crisis cannot be fully understood without an understanding of the temporal dimension of society’s development.

We cannot develop the entire problematic completely here, as a far more extensive investigation would be necessary. Thus we will focus on outlining the baselines of a dialectical-materialistic approach.

Time

One could simplify the problem and state that time in accordance with Einstein’s General Theory of Relativity is simply one dimension of the curved four-dimensional space-time continuum. But that would not contribute much. And, as the sociologist Norbert Elias states correctly, it is also useless to divide the time term simply into its social and physical aspects, contrasting “social time” with “physical time”[2]. Because human beings are an inseparable component of the natural, or in other words, the physical environment and therefore the evolution of their time concept is a function of it. Human beings cannot be conceived of without their natural environment, nor can their notion of time without the existence of the 4th dimension, physical time.

The latter is neither directional nor absolute. According to the findings of Relativity Theory it depends on the respective position of the viewer’s movement in space and is thus theoretically reversible.[3] In short, one can say that from the physical viewpoint there is no such thing as time in the sense of the usual subjective perception of “time”, meaning a continuous, vectored time-flow, a “time arrow”, but that only at different “spots” of the four-dimensional space-time different energetic states of the system exist, or in more descriptive terms: Each momentary state of the universe expresses one of the inherent possibilities of the system, to organize the existing total energy (mass is in accordance with Einstein: $E=mc^2$ nothing else as one of the states of energy) at a concrete

“time” (i.e. at a certain point of the space-time continuum). Our respective momentarily noticed existence is in the sense of the Relativity and Quantum theory one of the realised possibilities of the overall system and not the result of a temporal, directional movement.[4]

The conception of a continuous, vectored “time flow” in the sense of a self-standing, “objective” or “absolute” entity is a development from human history, which cannot be explained by genetic material. There are “built-in” timeswitches in the human organism, such as the so-called circadian rhythm, adjusted to the times of day, but these are not directional time-settings, but rather a circular operational sequence, not consciously controllable physiological reactions to periodically returning environmental changes.

We must thus, and this is not easy, take our leave of the assumption, taken for granted by human beings today, that the perception of vectored time has been unchangeable since it first existed.[5] Elias[6] and others have proven with reference to the relevant ethnological research, that a time concept such as our current one is the outcome of a long-term development process, which most probably began with a circular perception, a sense of an everlasting return. Furthermore, the German neurologist Schaltenbrand says: “The time term results only from the fact that conscious beings provided their experiences with time markings”, and, “it is not correct to build up existence out of smallest time atoms, but rather to say that the existence contains a tremendous, even if limited number of presence-situations of differing lengths, which we try to bring into a systematic order”.[7]

As we have said, no coherent sociological theory of the time has existed, till this day. Since Einstein, at least leave has been taken of the Kantian and Cartesian conceptions, in which time is set as absolute or unquestionable.

It is paradoxical that there is a host of studies about the change of the (social) time term and in particular about the question of acceleration, but the respective authors usually begin by pointing out that there is no consistent “sociology of time”. [8] This is paradoxical indeed, because without including the time concept in the debate about acceleration and its consequences the latter takes place on a quite swampy ground - acceleration is finally a function of time and thus a reflection of the former without a consistent determination of the concept of the latter seems as reasonable as a theory of swimming without secure knowledge about the characteristics of water. Without an at least provisional determination of a time term it seems scientifically dubious to expound on the phenomenon of acceleration.

From a materialist viewpoint, a definition of the time term must start out from the above-mentioned physical definition. One could presume now that, if time is in fact non-directional but we perceive it directionally, we are falling into a simple illusion. That is only partially correct: Correct in so far as there are natural energetic transitions, measurable and expressed in a temporal dimension, but directionality, classification as “past”, “present” and “future”, must be doubted in physical terms considered an illusion. Incorrect, because this directionality is a human thetic, and thus represents one of the possible ways of dealing with the phenomenon of time so as to make it “useful” for the social life of the species.

What we understand as “time”, generally qualified as “social time” in sociology, the conception of a vectored time-arrow, therefore is the realisation of one of the possible subjective ways of dealing with physical time.

How humans deal with physical time, as previously mentioned, has fundamentally changed over the course of history. In primitive societies, as far as we can gather from the relevant empirical socioethnological research, only time-settings existed, deduced from the periodic changes in the natural environment, and related to vital activities, for example the annual sowing or harvest.

In an agrarian society the determination of times for sowing and harvest is a vital condition for subsistence under

given environmental conditions (climate, seasonal change). For example, it is different in climatically favoured regions or in pre-agrarian societies, in which such a time-setting for subsistence is more or less insignificant. But this regulation (still) does not imply the development of a time consciousness in the modern sense. It sets the beginning of the social process of development of time perception, but does not yet refer to directed processes, but to circular ones. And these beginnings of time setting – because as stated an absolutely and objectively assignable “time” does not exist – referred to the observation of periodically returning natural phenomena (New Moon, sunrise, Solstice), and thus in no way abstracted “time” from the natural environment. The time term at that time referred exclusively to collective nature-related activities; “individual time” did not exist nor was it necessary. It was (still) an “integrative time” in the sense that it did not separate humans and their activities from the natural environment, but positioned them within the latter, not individually, but collectively. That correlated with production conditions at the time, because in the context of the agrarian subsistence economy, work was directly linked to circular natural phenomena (seasons).

Therefore, corresponding to what Elias[9] and, with reference to the former, Garhammer[10] also point out, except in activities related to subsistence, time setting was not necessary. (Lingering relics of this are the extremely “lax” approach to time by modern standards, still found today in certain societies, where “punctuality” is rather unknown.)[11]

A further point, which one must be considered in terms of development of the time term in history, is harnessing technical possibilities (by which we do not mean time devices in the first place, as these are a rather secondary phenomenon, because they represent merely a reflex to an before-existing/newly emerging necessity and not a cause), which initiated a dissociation from “natural time”. The discovery of fire and thus of lighting is a highly relevant example in this respect, because it made a certain emancipation of humans from natural day-night cycles possible for the first time.

We can therefore state that the beginnings of a determination of fixed times had a direct relationship to the mode of production of the respective society, or, in other words, to the level of the productive forces, referred both in terms of the need for and/or the extent of a differentiated time-setting as well as the technical possibilities of emancipation from the nature-referred rhythmic cycle.

Further differentiation of time perception occurred accordingly complementary to the increasing social and technical differentiation of the respective societies. Each increase in social complexity required a functional, but also a temporal adjustment according to the ever-closer relations among ever-more complex social functions. This process can be deduced very clearly, notably from the continuous advancement of time measurement systems - from the observation of the stars on to the water clock, the mechanical clock, the ship clock (indispensable for positioning in shipping traffic) up to the atomic clock -, which took place complementary to the respective differentiation of social functions.[12]

A proof of time-setting's dependence on social needs is also the way it was handled differently in various regions for a very long time. The development of conventions concerning world time and time zones was a relatively recent occurrence; one can interpret this as a result of incipient globalization. Thus it was a consequence of the gradual extension of local and regional interdependences within the sphere of production and distribution. The system-theoretician Niklas Luhmann[13] expresses it in the way world time means synchronization of individual social systems concerning time orientation. That is a relatively late achievement.

Acceleration

In recent years (once again) a violent debate has broken out on the question of the reasons behind and consequences of observable acceleration in all areas of life. Rifkin characterized this newly awakened interest as follows: "Until today time consciousness existed directly beneath the surface of consciousness, and has always influenced and shaped the experience of our species, but never enjoyed much open attention as a key force in the historical process. Now time consciousness has stepped to the surface of our collective consciousness and begun to offer a variety of new metaphorical chances to re-evaluate and rethink the political process again".[14]

It is also necessary here to clarify first of all what one is talking about, when speaking about acceleration.

Physically, acceleration is an exponential function: the change of speed per time unit. But whose speed? It is necessary to differentiate here. On the one hand we have to investigate acceleration in the area of transport. Here the available data is clear, so we won't return to it.

We can say something similar respecting the acceleration of production processes, which naturally are intertwined with developments in the field of means of transport. Fordism would not have become possible without the development of engines appropriate to driving conveyor belts. In addition, the acceleration in information transmission, from the jungle-drum and the marathon runner, the optical transmission of news by light signals up to the post office, telegraph network, telephone and Internet, falls into this category, which we would like to call technical or material acceleration.

Today's acceleration discussion suffers partially from the fact that "detiming" of socialtheoretical practice, determined by Pierre Bourdieu[15], appears paradoxically to certain of those authors, dealing with the phenomenon of acceleration, so as to restrict their view as Rosa does to specific time periods. Due to this partially ahistorical outlook, they are coming to absurd conclusions.

Because, as e.g. Rosa[16] himself is diagnosing, there have been periodically returning debates (and complaints) over the last 200 years about increasing acceleration of "life". Usually they referred first to the feared health consequences of the increasing speed of different means of transport (railway, automobile and even bicycle), but in the last century with the differentiation of the respective sociological disciplines also a discussion started about the sociopsychological and thus socio-political consequences of acceleration. In each case, the different protagonists then stated a more or less worrisome new dimension of acceleration.

The fact is, the history of humankind can also be rightly viewed as a history of acceleration. However the latter, as we already proved in the section over the time, should not be seen as a phenomenon *sui generis*, as some kind of human "drive" or objective natural phenomenon. Just as the development of a time term represented a response to needs, resulting from certain conditions of production and subsistence, acceleration also represents such a response. Two points are central: on the one hand the generation of a social surplus and on the other private property of means of production and its consequences. The first generation of a social surplus as a condition for the social differentiation in terms of division of labour can be understood as an initial acceleration phase, in the sense that this differentiation again generated a further increase of the social surplus e.g. by the availability of better tools.

At first, this still involved procedures that generated acceleration in terms of production, as due to the positive effects of the division of labour/specialisation, products required for subsistence could be produced in shorter time than before. But that still did not mean acceleration in the sense of an overall social speed increase. In today's language we would say that it simply produced more "spare time".

The next "acceleration boost" could roughly be connected to the beginnings of exchange between different populations. This provided an incentive to the development of means of transport, as their use allowed goods

intended for exchange to be transported more easily and faster, whether through breeding appropriate domestic animals or developing the wheel.

Up to this time however we could not speak of “forced acceleration”, apart from temporary phenomena, such as direct obligation to bring in a harvest before the heavy rains or the like, because these pertain to initially mentioned cyclic phenomena and not a continuous acceleration.

Directly forced acceleration developed only with the formation of commercial capital and private ownership of the means of production. The substantial mainspring thereby represents the law of the tendency of the rate of profit to fall[17] and the resulting efforts to increase the speed of capital turnover. In the context of the existing mode of production these are objective obligations, which are no longer left up to individual or collective freedom of choice. A regular compulsion for the acceleration originated only with the formation of the trading capital

The law of the tendency of the rate of profit to fall has the consequence that the respective capital owners try to compensate this trend through different measures. Beside other means such as compression of labour costs the major instrument for the question of acceleration is shortening of the time between production of the respective goods and their sale. This shortens the time during which the capitalist cannot dispose of what is “dead capital” for him, in this phase.

Entrepreneurs who would today still transport their products by sailboat or oxcart to the market, would encounter a crucial competitive disadvantage in comparison to competitors using airplanes or trucks, because they would recover the capital used for production of the respective goods with a far greater time delay and in the meantime could neither realize the surplus, nor get any interest on the invested capital (moreover, it is possible that he had to pay interest for any credit in the meantime).

The degree to which corresponding turnover speed has increased since medieval trade empires such as Venice can be estimated via the simple example that at the time merchants of Venice, who had fitted out a ship, had to wait up to two years (or longer), depending on the region they were dealing with until they could realize their profits and/or recover the invested capital, not to mention transport risks at that time.[18]

Whereupon also Marx already referred to: “The main means for the shortening of the circulation time are improved communications. And herein the last fifty years brought a revolution, which can be compared only with the industrial revolution of the last half of the last century. In the country the paved road was pushed into the background through the railway, on the lake the slow and irregular sailing boat through the rapid and regular steamer line, and the whole globe becomes embraced by telegraph wires. The Suez channel opened Eastern Asia and Australia for steamer traffic. The circulation time of a consignment of goods to Eastern Asia, 1847 still at least twelve months, now approximately is reduced to approximately just as much weeks”.[19]

Complementary to the acceleration which took place in fits and starts (by the development of new means of transportation, which in each case represented a qualitative leap, for the distribution of raw materials necessary for production or pre-products as of finished goods (rowboat / sailing-ship / steamship / motorboat; oxcart / horse carriage / railway / automobile; airship / airplane / rocket) also took place within the range of production. Breathtaking acceleration of the production cycles took place from manual production to manufacture up to Fordism and full automation.[20] And when production and distribution could be hardly be sped up much more, the next development, “just in time” production was introduced, cutting down on warehousing of raw materials and pre-products, thereby reducing the temporary accumulation of dead capital.

A further point, compelling an ever-higher turnover rate, is the acceleration of innovative cycles. Take the

aforementioned example of a producer of a good such as fashionable clothes. If he shipped these via sailing ship around the Cape of Good Hope from Asia to Europe: he would not only face the aforementioned disadvantage of the low turnover in terms of “dead capital”, but would also realise that in the meantime fashion had changed and face a total loss of his invested capital. Acceleration within the communications field is also a direct consequence of this fundamental pressure, which results from the unconscious inevitability of the development of means of production and respective modes of production. The beginning of information transmission via artefacts (from smoke signals to the stagecoach up to satellite telephone and Internet) did not arise from desires for private communication, but primarily by social activities such as trade, as well as war.[21]

That secondarily a diffusion of acceleration technologies took place among the entire whole population, due to three substantial reasons which we cannot explain here in depth, but should at least mention for the sake of completeness:

On the one hand acceleration processes within the range of the material sphere have repercussions on the consciousness of people acting in an appropriate social context.[22] In a society in which an increase in speed can be converted more or less directly into material advantages, and in which this material advantage is the benchmark for positioning within the social context, “time”, speed and acceleration (more or less unquestioned) become values in themselves. And in such a way it comes down to a classical dialectic reciprocal effect between the acceleration processes flowing from the described objective obligations and the consciousness flowing from these processes that reacts in turn to the material sphere.[23]

Secondly the diffusion of artefacts providing general acceleration beyond the originally intended practical use follows the principle, that for an acceleration of the rate of turnover of the capital also the one, who is indispensable for the increase in value realization, i.e. the customer, as well has to be “accelerated” – on several levels. On the one hand simply by offering him for example public or individual means of transportation in order to provide him the possibility of acquiring the respective products in the shortest time possible.[24] On the other hand by claiming through appropriate mechanisms of manipulation, i.e. advertisement, that faster is better (an example is the development in the field of information technology, advertising the ever-higher speed of microprocessors, which 90% of users most probably do not even realize).

This happens by calling on the consciousness resulting from the described dialectic acceleration process.

The third point is the tendency of capital, to open a market as large as possible for (acceleration) products, which have been developed through significant expenditure. (This is a phenomenon to be found not only within the field of acceleration technologies, however as we will see, it particularly devastating effects in this field.) Therefore, again through utilization of the mentioned consciousness, the respective products are adjusted for a mass-market.[25] (In this context we had to thematize the necessary social-psychological precondition for the production of such a mass-market, e.g. for individual means of transport, i.e. the tendency towards individualisation accompanying the formation of the capitalistic economic and social order. Since this would go beyond the scope of this work, we prefer to simply refer to this issue.

We can thus state in summary that acceleration in all areas of life can be detected everywhere and sometimes lamented, in the base or superstructure, under the conditions of the capitalist mode of production is not a deliberately steered process, but the product of necessities inherent to the structure of this production system and which the individual acting in this system has to obey with upon pain of his or her downfall.

Crisis and Climate Change

What has all of this got to do with the present crisis? In order to answer this question, one must first look into the nature of the crisis. It is twofold:

On the one hand it is a classical overproduction crisis. The reason it appears in the consciousness of the mass of the population as a financial crisis has something to do with the fact that the outbreak of the crisis took place with a substantial delay. In accordance with the macro-economic data the worldwide depression already taking place now already had to be expected approximately 15 years before.[26] The reason for the delay was in short the consequence of the enormous blister of private and public debt over the last 20 years. The final blowout of this credit bubble produced the impression of a crisis "of financial capitalism".

In reality for more than fifteen years already there has not been adequate purchasing power compared to the enormous growth in production capacity – a fundamental characteristic of an overproduction crisis.

Secondly it is a profound ecological crisis, primarily resulting from the consequences of unrestrained emission of climatic harmful so-called greenhouse gases - primarily carbon dioxide - over the last 150 years, by the destruction of the "green lungs" of the earth by clearcutting the rain forests, and the rise of meat production (methane emissions), as well as further factors, which cannot be described here in detail.[27] In summary: without a reduction of the greenhouse gas output by around 90% at the least up to the year 2050 we will enter an irreversible process, which will make large parts of the earth uninhabitable either by floodings, desertification/lack of water or other consequences of climate change.

This combination of economic and ecological crisis is tremendously explosive for an obvious reason: One of the main causes of the looming climatic disaster is precisely acceleration in all spheres of life over the last 150-200 years, thus within the industrial capitalist phase. The development and exponential increase of modern individual traffic is a striking example. The carbon emissions of traffic constituted about 14% of the total output in 2000, 76% of it related to the road traffic, far over half this from individual vehicles.[28] In the meantime by the increase of the individual motor traffic in the so-called emerging countries the portion continued to rise.

In addition, the irrational type of worldwide production and distribution is responsible for a large share of the increase of long-distance traffic with the ensuing greenhouse gas emissions.[29] (What is less known, by the way, is that in terms of energy and environmental balance the by far the "dirtiest" means of transport is the ship. Navigation constituted 10% of the traffic-related emissions in 2000.)

While the examples just now specified are common to most people interested in environmental policy, one speaks less about another point: about the increase of output, with respect to the durability of products. The latter points are of substantial importance, because current attempts of management of the economic crisis all focus on economic growth.

Let us regard two well-known (German) examples of this strategy: the "scrapping premium" for old cars and the discussed issue of so-called consumer coupons:

– Ongoing subsidies to individual traffic via the former measure are justified officially by the argument that they lead to conversion to new, pollution-free vehicles. This is of course nonsense. Firstly, with regard to ecological balance the production of a new vehicle releases so many greenhouse gases that it is environmentally better to drive old cars without catalysts for at least another ten years longer than to buy new ("clean") ones. These are simply subsidies to the car industry, which are clearly counterproductive environmentally. Secondly it is a fact that further promotion of individual traffic overall is completely irresponsible from an environmental standpoint.

– So-called consumer coupons again demonstrate the unconscious logic of the ruling economic system with rare clarity. It is imperative to produce, and in the case of doubt the citizens are coaxed to acquire what may be completely useless rubbish for them, so as to redeem the consumer coupons, in order to keep the utilization of capital going on under all circumstances. Any production of goods however requires a more or less large energy input, once again at the climate's expense. One cannot argue either in such a way that the problem could be solved by conversion to climatically neutral forms of energy. Because the ecological balance of the respective forms of energy is (with exception of biological gas facilities) in more or less extent negative as well. The growth rates necessary for the continuation of the present economic system cannot be reached in a climatically neutral manner - not at all in an economic system, which incorporates predetermined breaking points into its products, to accelerate turnover and sticks to single-use products instead of sustainable circular flow economy.

Deceleration?

To get back to our topic, this means the solution lies in reducing harmful acceleration. The current debate about "deceleration" characteristically predominantly takes place on the individual level, for example in terms of "traffic avoidance", while the institutional level attempts to exorcise the devil climate change with the Beelzebub of CO2-certificates. (On the subject of the individual-psychological approach to "deceleration" the German author Oliver Schmid in his satirical novel "The best novel of all times" recently created a suitable monument with the figure of the "diplomized decelerator").

By this we do not wish to imply that it is not meaningful and necessary to struggle also on the individual-psychological level for a change in consciousness. But this must not be done in a way that has the effect of masking the fact that the real causes of time-handling and acceleration lie in the makeup of our social system and on the basis of the latter no deceleration to the extent urgently necessary can take place.

Moreover, respecting the already described inseparable dialectical connection between mode of production and "speed consciousness" an individual change of consciousness on mass level independent of a change of the material base is simply not possible.

We must think of something more intelligent – or risk our own downfall.

Translation from German: Marie Lagatta/Thadeus Pato

Notes

[1] For example, in chapter 4 of the third volume of Capital, dealing with the speed of turnover of capital. We will come back to that later. Karl Marx - Friedrich Engels - Werke, Band 25, "Das Kapital"; Dietz Verlag, Berlin/DDR 1983

[2] Elias, N.: *Über die Zeit*; ("About time"), Suhrkamp 1988, p.XV

[3] You can find a popular explanation of this subject in the German magazine "Spektrum der Wissenschaft Spezial" Nr. 1/2007

[4] In this respect we must disagree with Elias' opinion that in addition to the four dimensions there is a "fifth", which

he defines as humankind's ability to synthesize. In the sense explained above, this is also the realisation of one of the possible energetic states in the framework of the four-dimensional space-time.

[5] We will not deal here with the epistemological problems, which result from the Heisenberg uncertainty principle or the quantum theory; we would just like mention Virilio's attempt to include them into the respective considerations. (Virilio, P.; Rasender Stillstand; Fischer Verlag 1997)

[6] Elias, op. cit., p.XVI ff.

[7] Schaltenbrand, G. (1988): Bewußtsein und Zeit. ("Consciousness and time") In: R. Zoll (Ed.): Zerstörung und Wiederaneignung von Zeit. Frankfurt am Main

[8] i.e. Rosa, Hartmut: Beschleunigung ("Acceleration"); Suhrkamp 2005, p.23 ff. Rosa first points out in reference to Pierre Bourdieu that there is no consensual sociological or philosophical theory of time, and then without any clarification of the term or at least an attempt at one formulates as a hypothesis for his work: ".....that modernisation is not only a multilayered process "in time", but at first and above all means a structurally and culturally very important transformation of the temporal structures and horizons...."

[9] Elias, op. cit. a.a.O

[10] Garhammer, M: Wie Europäer ihre Zeit nutzen ("How Europeans use their time"); edition sigma 1999, p. 48 ff

[11] on this subject: Levine, R.: Eine Landkarte der Zeit ("A map of time"); Piper Verlag 1999

[12] On the history of time-measurement cf. Levine, op. cit. and Rosa, op.cit.

[13] Luhmann, N.: Weltzeit und Systemgeschichte ("World time and system history"); in: Lutz (Ed.): Sonderheft 16 der Kölner Zeitschrift für Soziologie und Sozialpsychologie; 1972

[14] Rifkin, J.; Uhrwerk Universum, ("Clockwork Universe") p.253, Kindler Verlag, Munich 1988 (re-translated from German)

[15] Bourdieu, Pierre: Sozialer Sinn. ("Social sense")Kritik der theoretischen Vernunft. Frankfurt am Main 1993

[16] Rosa, op. cit., a.a.O.

[17] cf.: Mandel, E.; Der Spätkapitalismus ("Late Capitalism"), Suhrkamp Verlag, Frankfurt 1972, especially p. 459 ff.

[18] cf. W. Shakespeare; Der Kaufmann von Venedig. ("The merchant of Venice"). By the way there were already banks at that time, which offered risk capital in return for profit-sharing, what in some cases led to bankruptcies – speculation has been risky for a very long time....

[19] Karl Marx - Friedrich Engels - Werke, Band 25, "Das Kapital", Bd. III; Dietz Verlag, Berlin/DDR 1983; p.81

[20] In economic science this is expressed as “increase of productivity”

[21] For instance, the World Wide Web did not originate with the US Department of Defense by accident.

[22] Figuratively a few authors such as McLuhan, but also Virilio and Postman express that as “shrinking of space”.

[23] The extent to which the velocity delusion has reached an irrational stage can be seen for instance in the production of automobiles such as the 1000-PS-Bugatti by the enterprise Volks(!)wagen. (meaning people’s car!)

[24] This can take place through selling cars but also through online-ordering on the Web, including a 24-hour delivery service.

[25] The production of real mini-racing cars for children is also an example both of how to open additional markets as of how to set speed and acceleration as “values in themselves” in the consciousness from an early age.

[26] Respecting the subject “delayed crisis” and the related debate about Kondratieff’s long waves of conjuncture we will discuss this in another context in the next time.

[27] Source: The reports of the IPCC (International Panel on Climate Change), which you can access on the Internet. However, aspects of the prognosis are already outdated, the situation has worsened considerably in the meantime.

[28] Source: IPCC report

[29] A small example is the sale of American, Australian and South African wine in Europe, and the corresponding export of European wines to these countries, although the quality is not very different.