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The cultural Dimension of Sustainability

Paradoxically in the age of nuclear weapons the Berlin Wall could fall only through a cultural revolution: That of the Perestroika.

This peaceful revolution was an important base for the guiding principle of *sustainable development*. At the beginning of the Nineties the hope was dominating, that all the money and the resources, which were being spent for weapons during the Cold War, could be finally used for *another development*[1], for the "war" against poverty or against ecological pollution. It is not by chance, that the *United Nations Conference on Environment and Development* took place in 1992 in Rio de Janeiro, only a few years after the end of the Cold War. In that occasion the Agenda 21 was passed by the international community. Regrettably in this document as well as in the debate on Sustainability the cultural dimension played only a marginal role.[2] Only in the last years did this dimension become more conscious. For example the UNESCO-Action Plan "The Power of Culture" (Stockholm, 1998) and the UN-Decade 2005-2014 "Education for Sustainable Development" attest it.

If the global crisis has cultural causes, then it requires also cultural solutions. There are three levels of cultural solutions:

Cultures of Sustainability

The culture is a semiotic and a normative system, we need for reducing and managing complexities. Not only religion, ethic, scientific paradigm, collective memory and lifestyles are important aspects of a culture, but also the language itself.[3] Through codes, values and norms we select information and prioritize re-action-options in our decisions. Every culture makes the *difference* between social system and environment, inclusion or exclusion or between social expected behaviour and social deviance. The "social construction of the reality" is at first a cultural one, based on the dominant culture, a subculture or an alternative culture. A sustainable development means the change of the dominant monoculture of Globalisation into a diversity of cultures of Sustainability.

Cultural strategies of Sustainability

No culture can have any effect, if it isn't communicated, thought and lived through social agents. How can we bring a culture of Sustainability to people? How can we change their way of thinking? How can Sustainability be lived?

Every culture needs *cultural media* that communicate values or knowledge to people. The first cultural medium are people itself, for example tourists or soldiers, who carry values and lifestyles through foreign countries. Another cultural medium are those social institutions that are responsible for *socialisation* (i.e. family, church and school). Other examples of cultural media are the newspapers and television commercials, Hollywood-movies and literature.

Herbert Marshall McLuhan wrote once, that also "the medium is the message". What does it mean? The medium itself is font and product of cultural values. Between cultural contents and cultural media there is a closed interaction. For example a culture based on a face to face - communication (in a small clan) is different than a

[1] Cf. Dag Hammarskjöld Foundation (1975)
[2] Kurt and Wagner (2001): 15
[3] Finke (2003): 270-271

culture based on TV and internet, which show the nature or the society more as "virtual reality". A top-down-Sustainability is different from a bottom-up one.

For a social change oriented to Sustainability we don't need only an *education for Sustainability*, *TV for Sustainability* or *arts for Sustainability*, but probably also different media and communication structures.

Sustainable culture and cultural evolution

If a culture means a kind of artificial reduction of complexity into the human limits, then we should start from the insight that every culture is a potential ideology and a cause for environmental problems – also a culture of Sustainability as human made values-system.

Not only the "contents" of a culture are decisive for its Sustainability, but also its form. Is a culture open or closed? Evolutionary or self-referenced?

The notion of "cultural evolution" comes from cultural ecology[4] and human ecology. In his "Theory of Culture Change: The Methodology of Multilinear Evolution" the Anthropologist Julian Steward wrote in 1955, that cultural ecology is the "study of the adaptive processes by which the nature of society, and an unpredictable number of features of culture, are affected by the basic adjustment through which man utilizes a given environment."

For understanding what make a culture sustainable, we should ask us what hinders or promotes the cultural evolution of people or societies.

In the cultural dimension of Sustainability these three levels of cultural solutions are interdependent and interactive. They come close to the three different main definitions of "culture", that find here a unity: the *semiotic* and *normative* notion, the *functional* notion (culture as sector of the society), the *anthropological* and *ecological* notion of culture.

Before I delve into the three aspects of the cultural dimension of Sustainability, I will spend some more words about the definition of the notions of culture, environment and Sustainability.

1. Three main notions

1.1 Culture

"Culture is a diffuse term that brings only more fog into the discussion", told me once a scientist. For the deterministic sciences it isn't very easy to consider cultural factors as relevant variables: Does culture really exist? Or are some scientific methods unable to determinate such a complex phenomenon that cannot be seen or grasped?

The rational models of the classical natural sciences seem more controllable and sure than the reality. The cultural complexity is today very often reduced only to the arts, to the functional and *functionalised* notion of culture. Is it the right way to "govern complexity with complexity", as the Nobel-Prize in Chemistry Ilya Prigogine claimed? Can this functional notion of culture express the existential meaning of cultural diversity for a society?

Sustainability needs also the anthropological, the sociological, the semiotic and the ecological notions of culture.

[4] Finke (2003): 262

We can describe the relationship between the social and the cultural processes with a concept of Pierre Bourdieu: in both cases it concerns "structured structuring structures". Once Winston Churchill expressed this idea in an easier way: „First we shape our buildings, thereafter they shape us".

Between society and culture, material and ideal factors of a culture, ground and superstructure or body and soul there is a continuous interaction ('Wechselwirkung'). Cultures define societies and subcultures concern groups – and vice versa. In his book "Sociology" (1989) Antony Giddens wrote: „No culture could exist without a society. But, equally, no society could exist without culture".

Culture threads boundaries that don't exist physically yet; they are not graspable or visible yet. They are the boundaries between integration and exclusion, the own and the foreign, order and chaos, good and evil. Cultures don't only define the boundary between social system and environment: they control the communication and the exchange between them. It is a first good motive for considering the global crisis as cultural crisis.

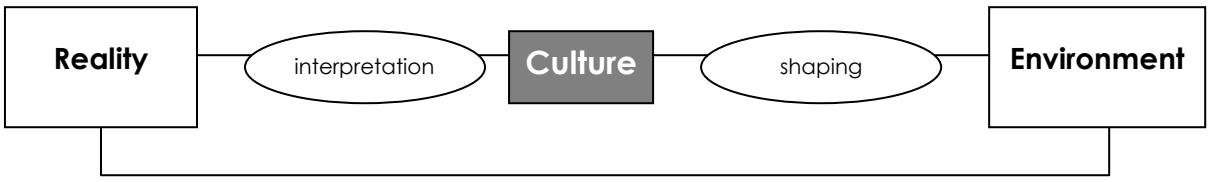
In a social system cultures have two main tasks:

A) a cognitive-communicative function in the subject – reality relationship;
B) a behaviour – and project-oriented function in the subject-environment relationship.

In Industrialisation and today in Globalisation the *construction of the reality* (task A) becomes a *construction of the environment* (task B). For example the invisible wall between "we" and "they" becomes the wall between Israel and Palestine or between Mexico and the USA. In this process the environment becomes an artificial, controlled and controllable world, that mirrors more and more the dominant world-view. That way, the contradictions, the social disorder but also the possibility of alternatives become excluded from the system, the dominant world-view seems to become more "true". But it is more an aesthetic and logical truth, only inside of the horizons of the controllable system.

This self-referenced process [graphic A] is an explanation of the global crisis as crisis of the modernisation and of the Globalisation. In this process of rationalisation of the environment, the technologies play a central role.

Graphic A: The self-referenced development-process: The construction of reality is the construction of environment is the construction of reality is…



1.2 Environment

The dominant definition of „environment“ reduces this notion to the ecological environment. The German translation of this is „Umwelt“: Um-Welt is the space out of the ordered world of the subject. In fact the separation between human being and nature, society and nature (or culture and nature) has a long tradition[5], at least in the culture that becomes globalized today: the Western one. The separation from nature is an important cultural continuity through the Christian religion, the Renaissance and the scientific Revolution.[6] On the separation of *res cogitans* and *res extensa*, of mind and body, of subject and object, René Descartes put the base for the foundation of the mechanical sciences.[7] The ecological crisis is showing to which dramatic consequences this cultural separation can bring.

The human being is a part of nature, and nature is a part of the human being. This insight is still a challenge for the cultural and social sciences, but also for the whole modern age. Therefore a cultural change oriented to Sustainability means also a paradigmatic change. For that system-theory, the theories of systems and of complexity as well as the science of ecology – amongst other approaches – offer clarifying contributions.

In the theories of system, „social system“ and „environment“ have a relative reference and not an absolute one. What we live as “system” or as “environment”, depends on the cultural and cognitive viewpoint of the *observer*. For example, for the Indians the tropical forest is their system – but for us it is our environment. Unfortunately the relativity of these two different viewpoints is covered by the structures of social inequality, in particular by hierarchical relationships. So the right of the Indians to an own culture in an own country isn’t acknowledged. Globalization transports only the viewpoint of the social centres – and not of the peripheries. This determines how we treat the tropical forest and its inhabitants.

In the system-theoretical definition, a social system is what we interpret/live as own, trusted, controllable and ordered – or what we can shape into such a state. However the environment is what we interpret/live as foreign, not controllable, not useable or as chaos. If we understand “environment” in this way, then we have not only an *ecological environment*, but also an *emotional environment* (for example the “subconscious”, in its deep psychological meaning), a *social environment* (for example people we exclude) and a *multicultural environment* (the many cultures, we live as foreign cultures). The “environment” is the unity of these different environments around a social system, a culture or a subjective viewpoint.

Our dominant culture behaves towards these environments in the same way. Max Horkheimer writes in his „Eclipse of reason: Critique of instrumental reason“, that through the rationalisation of the society through technologies, not only the external nature of the human being becomes controlled, but also his internal nature. The dominance over nature includes intrinsically the dominance over human beings.[8]

For controlling the external nature, the human and the non-human one, the subject must work together with other subjects and, at the same time, this subject has to defeat its internal nature. „Humanity“ shares its destiny with the rest of nature.

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[5] Ort (2003): 19-21
[6] cf. Prigogine and Stengers (1993)
[7] Hösle (1991): 54-55
[8] Horkheimer (1969): 84-85

1.3 Sustainability

The social and ecological demands that are linked with the guiding principle of „sustainable development", are much older than the Brundtland Report of 1987. The socialist movements demanded already in the 19th century more social fairness and equality. The contemporary environmental movement began around 1962 in the USA with the publication of Rachel Carson's „Silent Spring".[9] In 1975 the Dag Hammarskjöld-Foundation presented its document „What now? Another Development" in front of the UN-General Assembly. That document contained a definition of the goals of an alternative development-model:

(a) satisfaction of the basic needs of all the people;

(b) self-reliance and self-determination of men and peoples;

(c) Eco-development.

The civil society continues to fight for these goals, with or without a debate on Sustainability. So why do we need such a debate? Who does really need such a unwieldy word like „Nachhaltigkeit" (the German translation of „Sustainability") or a word without orientation like "durabilité" (one of the French translations)?[10] Does this institutionalisation strengthen or weaken the older social and ecological demands?

As we know, different opinions about these questions are confronting each other. But the debate on sustainable development brings also some positive news. For the first time different demands and dimensions find a unity in a common notion. At least in the theory it is acknowledged that the questions of social justice, peace, democracy, self-reliance, ecology, climate change and quality of life are closely connected. The multidimensionality as well as the systemic approach to development are a central strength of the notion of Sustainability.

The goals of the development-model of Sustainability could be summarized in the following way:

- To overcome the global environmental crisis
- To satisfy the basic needs of all the people
- Intra- and intergenerational justice - and it concerns also the questions of peace and democracy
- Balance between the ecological, economic and social demands.

The international community has acknowledged these goals and made them socially acceptable. International organisations, governments, municipalities and even companies have declared their support for Sustainability – at least as an ideal. The debate on alternatives to the dominant non-sustainable development is flowing more and more into the debate on Sustainability. This debate is carried out in a very wide way and it forms a "double bridge": on one hand between policy, science and civil society and on the other hand between South and North of the world.

The debate on Sustainability has got also several weak points. First the gap between sustainable goals and the real development seems to become wider and wider. The consequent realisation of the four above-mentioned goals of Sustainability would equal a revolution. But many governments, companies and people desire a sustainable development without radical changes. On the one hand until now there aren't concrete measures that correspond to the gravity of the situation. On the other hand we need not only new "measures" and new "solutions", but also limits to the economic growth and maybe also to the "free creative act", that is not

[9] Diekmann and Preisendörfer (2001): 10

[10] Editor's note: France has two different expressions in circulation: "développement durable" being the dominant term, and "développement soutenable" representing a more radical definition. The words "durabilité" and "soutenabilité" are to this day seldom used in France (apart from specialized circles).

automatically “good”. The most difficult thing in the modern pragmatic society is to renounce to action, to accept limits. And it is because the “strategy of sufficiency” is not the dominant one in the debate on Sustainability, although this strategy is the only one that considers the biophysical characteristics of the planet as the hard factor for any definition of development goals.

A great part of ongoing research is concentrated on technological solutions. Thereby, only one way is really promoted: continuing so, in the same way like now, without changing particular structures. Technological solutions concern often only the symptoms and not the causes of the problems.

The debate on Sustainability is also very much focused on the future, although problems like poverty, injustice or war have already a long history. There are also “traditions of Sustainability”, that are already very old. Several sustainable cultures were cancelled through Colonialism: others are today endangered because of Globalization.

There are a lot of tried and tested solutions for Sustainability. They might not need to be invented. But what hinders their realisation? A critical analysis of the hierarchical structures and of the power, that hinder the realisation of proven solutions, isn’t very well represented in the debate on Sustainability. Maybe because the story of sustainable development began at the top of the global society, and not at the bottom, in civil society. Until now the notion of “Sustainability” is used in particular by an “elite” and has not reached some critical NGO’s, the South of the world or the base of society. In the debate on Sustainability the matter of the “socio-economic inequality” is projected on the poorness in far-away countries of the “third world”. In the own country, the discount-consumers are much criticized by some promoters of Sustainability – but they avoid to criticize the structures that promote poverty, consumption and ignorance.

The structures of social inequality, i.e. the unbalanced distribution of wealth, influence, formation and information are decisive factors of the ecological crisis[11], a fact that is too often ignored. The dominant neoliberal economic policy is not compatible with a sustainable development, not only because this development model is not ecological, but also because it promotes the heteronomy of most people for the self-determination of a minority. This incompatibility is often discreet behind the belief that a sustainable development is also possible beside a neoliberal economic policy.

2. The cultures of Sustainability

The notion of „Sustainability“ suffers from a congenital defect. It was generated in the centres of the global society and it should be pushed into the “peripheries”. Such a genesis holds a danger: that of a new development model, that bares itself as a kind of new packed modernisation[12] or that finishes into a political measure of public relations.

Today what is called “Sustainability” isn’t always sustainable; what contributes to Sustainability isn’t always called so. For this motive it is important not to debate on words, but on the cultures behind them.

And also on the cultures behind the socially expected answers: If we ask people “are you racist?” or “are you for sustainability?” most answers will be in contradiction with the reality: Nobody is racist, everybody loves sustainability, but we get everyday also racism and climate change. The culture as legitimating superstructure is often a brake-factor for those cultural changes that endanger a dominant deeper structure. A social and cultural

[11] Hösle (1991): 32-33
[12] Beck (1986)

critique - and maybe a social and cultural therapy - can help in disarming this mechanism and in changing the culture as intrinsic dimension of the social and psychological structures.

A fundamental difference between the development-models of Globalisation and Sustainability is the question of cultural diversity. Following the modernisation theories cultural diversity is perceived in Globalisation very often as a perturbation-factor of "development"[13], as a colourful folklore or as cosmopolitan restaurant-mix. Instead in the Sustainability the cultural diversity has an existential and protective meaning for the whole society. Therefore we should speak about *cultures* of Sustainability: The singular notion is referring in our case only to the Western society.

2.1 The Western Culture

"The occult program of development is the westernisation of the world."[14] Because the Western culture has a great responsibility in the genesis and aggravation of the global environmental crisis, it needs a paradigmatic change: "It would be erroneous to believe, the ecological crisis could be mastered only through measures of economic policy. If the ecological crisis is rooted in structures that are produced by determined values and categories, then a radical change won't be achievable without a correction of those values and categories."[15]
Which orientation should this cultural change take?
In the space of this text I can give only few suggestions.

If we are looking for a culture of Sustainability, we should start with two questions: "How did it come herein, that the human being could endanger his planet in the way that we are experiencing actually? And considering this situation does the idea of progress still have a sense?"[16]
The 20th century was 'till now the highest point in the development of the Western society – and at the same time its deepest: two world wars, Auschwitz, Hiroshima, Chernobyl, Bhopal, a dramatic world population growth, etc.
These experiences are the most important basis for the definition of a culture of Sustainability. This culture stays in opposition to the value-system that brought society to the social and ecological catastrophes of the 20th Century.

The consciousness of "Limits to Growth" is also a fundamental aspect of a culture of Sustainability.[17] These limits are not only the biophysical or the social ones, but also the human and cognitive ones.
The consciousness of these limits undermines every kind of *human absolute* – i.e. of economic power, hierarchies and ideologies. The dialogue as exchange between different points of views is the best strategy in comprehending the complexity and in looking for the best decision. Between a real democracy, cultural diversity and Sustainability there is a natural link.

[13] Rieger and Leibfried (2004): 13
[14] Sachs (1998): 9
[15] Hösle (1991): 17
[16] Hösle (1991): 16
[17] Cf. Meadows (1972) and Hirsch (1981)

The cognitive limits originate the possibility of mistakes in the social action. Normally mistakes are a chance to learn something – but the 20th Century showed us, that it becomes more and more difficult to see this positive aspect in some kind of errors.

Three examples:

- In the modern Western society there are two persons, who carry everyday a baggage with them. This baggage, as big as a beauty-case, contains one button: for the destruction of the whole humanity.
- The disaster of Chernobyl was caused by human errors and had terrible effects: At least 15.000 deaths; handicapped children; higher cancer rates; regions that cannot be inhabited for millennia.[18] Which penalty could be "right" in this case? Does this penalty really make sense? 20 years later in Forsmark (Sweden) we were only 20 minutes before the next Chernobyl.
- Very big companies (Global Players) mean also that the mistake of a few chairmen can have the effect, that thousands of people lose their job.

These considerations and examples bear some important consequences for a culture of Sustainability and its notion of responsibility:

- Technology: We are creating a kind of technologies that has more power, than the responsibility we can take for their possible consequences in the present and in the future. This paradox defines an important principle (or maybe taboo?) of a culture of Sustainability: If the risk of a technology or of its diffusion is bigger than the human possibility to "pay" for all of its possible consequences, then this technology should be forbidden.
- Economic and political power: The power of a person to change a social reality should be only as big as the responsibility he/she can take for the consequences of erroneous decisions.
- Social spaces: Responsibility in a small social space (for example: in a city or a small factory) respected more the cognitive limits of the human being – than the responsibility that a national government or a "Global player" both need. The political and economic organisation of a sustainable society should be based on the small and not on the widest social spaces.

A culture of Sustainability considers myths like "the free economic market" or dogmas like "economic growth" or "free competition" with scepticism. To free our culture from this ideological absolutism, we need a second *Enlightenment* – and probably also a paradigmatic change.

In fact a part of the modern culture is still dominated by old unsustainable paradigms. For example:

- Descartes separated entities with subjectivity (human beings) from entities without subjectivity. Nature, plants and animals were for him like machines and "if an animal is a machine, then vivisection cannot be worse than the demounting of a clock".[19] Also today's *genetic engineering* seems to be coherent with the mechanist way of thinking of Descartes.
- Descartes also turned two self-referential logical systems into fundaments of the modern scientific certainty: mathematics and geometry. The results: The state of the development of every State is ever

[18] Editor's note: The death rates attributable to Chernobyl are a matter of great controversy. For many years the IAEA claimed only a few dozen deaths, now revised to a few thousands, while some independent researchers advance numbers in between 100 000 and 300 000 so far (i.e. not counting victims of cancers and other diseases who are still alive).

[19] Hösle (1991): 55

still reduced to one dimension (the growth of the gross national product); numbers and costs are today the most used arguments to explain the education- or health care-policies of the government. The price of scientific certainty is a dramatic simplification in the interpretation of social and human reality - and a cynical violence in its shaping.

- With his program on "mastery over Nature"[20] Francis Bacon wanted to realise, what was written in the book of the Genesis – with a small difference: through the exploitation of Nature the paradise should come back to Earth.[21] Today we begin to perceive, that a paradise without nature is a contradiction.
- In the modern specialised disciplines the part gets much more attention than the whole. This parcelling of perception and of knowledge combined with the power of technology can transform the smallest element (even the atom) into a "bomb" for the whole. The consequences can be paradoxical: While the world population is exploding, some scientists focus their competences on the development of artificial fecundation and the German government adopts a program for the promotion of childbirths.

Not only Hiroshima offered a reason for a paradigmatic change in the sciences. For the American biologist Barry Commoner the first principle of ecology is: Everything is connected to any other thing.[22] This principle should become central also in our worldview: culture is connected to nature, the economy to the community, the individual to any other individual. The systems and relativity theories, cultural anthropology or e.g. psychoanalysis offered in the 20th Century fundaments for a sustainable science that explores dynamic complexities, connections, correlations and interrelations. The precariousness of an open research and discussion on complexity is better than an "objectivity" that isolates objects from their context and makes a partial truth into an apparent certainty-without-alternatives: on this we construct and legitimate today's global social order.

In table 1 the characteristics of a sustainable culture are compared to those of the currently dominant culture. These value-systems influence of course not only the worldview, but also the daily decisions and lifestyles.

Table 1: Currently dominant culture vs. culture of Sustainability

Today's dominant culture	*Culture of Sustainability*
Self-referential models are more important than reality	Experience, emotions and environmental perception are more important than models
Monodimensional and economic centred worldview	Multidimensional world view, *systems thinking*
Globalized monoculture, standardisation, assimilation	Cultural diversity, communication between and among autonomies, integration
Quantity, functionalisation, order, control	Quality, creativity, ability to learn, dynamics, renewal
Efforts, career, status, profit, power, violence, security	Humanity, fairness, equality, self-confidence and self-determination
Competition, private property	Cooperation, common use
Industrial time, acceleration	Biological time (for example the reproductive rhythm of the renewable resources), deceleration
Growth	Balance

Source: Own compilation.

[20] Bury (1979): 48
[21] Cf. Lasch (1992)
[22] Commoner (1972): 119

2.2 The cultural diversity

People are different and live in different "habitats". There is not only one history, but many histories. The same notion can get very different meanings in different cultural or social contexts. What is proven in a particular socio-cultural context, could be false in another. All these arguments stand against the dominance of a monoculture - and for a cultural diversity. A globalized culture of Sustainability would be a contradiction by itself: There can be only "cultures of Sustainability".

Unfortunately during the colonisation many cultures were destroyed: We could have learned a lot from some of them today. Globalization is repeating the same mistake. The standardisation of the global food-production as well as the homologation of the architecture of the metropolis are causes and at the same time results of a cultural pauperization. It is visible not only on the international level, but also inside the Western society, that is centered on its economic dimension. Subcultures and alternative lifestyles have big difficulties to develop themselves in this context, or simply to exist. The decrease of cultural diversity has led to a decrease of the evolutionary ability of the social system. The assortment of answers and solutions, that we would need in order to address social and ecological problems, has become smaller and smaller.

It is the motive that convinced the UNESCO to force a stronger limitation to Globalisation. For example through the „Convention on the Protection and Promotion of the Diversity of Cultural Expressions" (UNESCO, 2005). It emphasizes the meaning of cultural diversity: „The protection, promotion and maintenance of cultural diversity are an essential requirement for sustainable development for the benefit of present and future generations."

The evolutionary ability of natural systems bases itself on biological diversity; the evolutionary ability of social systems requires a cultural diversity. Cultural processes can influence the relation between social systems and their socio-ecological environment in a positive but also in a negative way. If cultural diversity decreases, then decreases also the entire environmental perception of the society. On the one hand Colonialism, Modernisation and Globalisation have made possible the amalgamation of different cultures; on the other hand the result of this "amalgamation" was an "alarming loss of diversity"[23] and it shows how decisive it is, that cultures have equal rights and show respect for the autonomy and the self-determination of each other: "The precondition for any diversity is that the constituents that compose it, can be marked off from each other. Diversity isn't possible, where the differences become blurred. Also cultural diversity is possible, only if there are boundaries between the cultures that make them distinguishable. Every systemic diversity contains systemic boundaries, but it should be asked, which characteristics such a notion of boundary has."[24] Cultural boundaries aren't between two alternatives that exclude each other. Between ecosystems as well as between cultures there are only *flexible boundaries*: "A strict borderline is unknown in nature. The borders of all the ecosystems are *areas of contact* for organisms from all the neighbourhood systems and these areas are themselves a living space for a wider diversity of life strategies, wider than such in the centres of the systems."[25]

[23] Sachs (1998): 10
[24] Finke (2003): 263
[25] Finke (2003): 264

3. The cultural strategies of Sustainability

A culture of Sustainability offers a basis to define the development-goals and an orientation to the behaviour of institutions, groups and individuals.
It can be very inspiring to create a new coherent cultural system of "best" ideas or "best" solutions, but unfortunately it even still is not enough to make them to a reality. Being the "best goal" is not automatically a sufficient condition for prevailing in the social process. One example among many possible: In a democracy like Germany, the majority of the electorate desires more social equality and justice – but every statistics shows for many years a rising gap between rich and poor.
Therefore the definition of the goals is only a part of the job. The other part is not easier and concerns the strategy for the change-process that is necessary to reach the goals: Not the what, but the how. A cultural strategy of Sustainability points out the importance of social communication structures (e.g. organisation, participation) and communication forms (e.g. mass media, education, arts).
For the definition of a cultural strategy of Sustainability there are some aspects that I would like to underline.

Culture can exist only in the mind. There are no people without culture or values, but only people with *different* cultures and values. Because nobody is born with a particular culture, the first question is: Who or what does bring this culture to the person? What does make us catholic or Muslim?
Especially the persons, who are very close to us, exert a big influence on our *socialisation*, on our way of thinking and on our behaviour-patters. Although it doesn't mean that children always become or do, what the parents wish. At the same time it could seem sometimes easier to change the world than one's own parents, relatives or colleagues.
If we want to understand how cultural change works (or doesn't work) and what happens, when different ideas meet in a group, we can learn a lot in families and in peer groups – I mean there, where people show themselves outside of a socially expected behaviour. A cultural strategy of Sustainability means to avoid double moral standards and to work close to the core of the human being.

Nobody can bring herself completely out from the own culture and system - and it is still truer in a globalised society. The capital challenge of Sustainability is to change a culture and a system from inside.
In this change process there are different forms of *ambivalence*. For example:

- The ambivalence of legitimating process of the dominant structures. In Germany there are several institutions that support Sustainability, but they are against very concrete sustainable measures like fixing the speed limit on the highways under 130 kph.
- The ambivalence in the mixture between dominant and alternative cultures. Also in "alternative" NGOs or the left oriented parties there is competition and fights for power. Also in the dominant institutions there are people, who are fighting for a better world.
- The ambivalence of alienation. It is produced in the conflict between integration and exclusion. If I want to change my system or if I live a different culture in my group, then I risk exclusion. On one hand some people prefer to maintain their job; on the other hand also people, who seem to be conformed,

don't believe necessarily in what they are doing; not everybody lives the life he wants. In a monocultural system that teaches people to 'function', the alienation can be a frequent phenomenon.[26]

A cultural strategy of Sustainability is focused on the possibility to turn aspects of the ambivalence into forces of change. Here some recommendations:

- An ideological way of thinking doesn't permit us to see with "fine differences"[27] and to make the (own) ambivalence conscious, although it is an important starting point for a real cultural change;
- A social change oriented to a culture of Sustainability needs today new forms of alliances;
- We need structures and forms of communications, that are able to politicize the humanity of people – instead of privatizing their social problems;
- "Alternatives" shouldn't mean social exclusions and isolation. Networks can offer a kind of social security to people, who want to change something in the society and in the own life. They are ideal bridges between a functional life inside and a creative life outside.
- Every family and group, every school and university, every church and factory, every city and region can become a *self-governed laboratory* for different way of development and life (laboratories of Sustainability) – if we want.

People are a fundamental cultural media. But in the globalised society news, knowledge or values are not always exchanged through face to face communication. The mass media and educational institutions play for Modernisation and in Globalisation a very important role. Can they play a similar role also for Sustainability?
Several examples give a positive answer to this question. Without the mass media it would be very difficult to create a *global consciousness*: probably climate change would remain only a sum of experiences in different locations.[28]
"The great trip of Neil Armstrong to the moon put us into the enchantment of a new imaginary: not that of the moon, but that of the Earth […] For the first time it was possible to speak about *our* planet."[29] The televisions and the newspapers showed in 1969 that image to the people. Almost 30 years later, the German media report quite often on climate change and it contributed to bring this topic on the top of the political agenda. Also "An Inconvenient Truth", the movie of Al Gore, promoted an ecological turnabout in the USA.[30]
The mass media give us a view also into life-worlds, that otherwise would remain unknown for us. For example in the newspapers, we can read how deep the poverty of 850 Million people is. Through the work of courageous reporters we can know better, what our armies are really doing in countries like Afghanistan.
Also the schools and the universities can play an important role for Sustainability. The academies had an important role in the Enlightenment and a lot of social movements started in the last Century in the universities. Education means learning from history, obviating the same errors and opening the own worldview. Women with a higher education give birth less frequently.

[26] Cf. Schaff (1977)
[27] Cf. Bourdieu (1983)
[28] Editor's note: Indeed contemporary climate change perception has much to do with the mediation of perception. Further discussion of this issue is provided by Knebusch in this volume.
[29] Sachs (1998): 41
[30] Franz-Balsen and Kagan (2006): 3-4

But all these examples are only a part of the 'big picture': many other examples show the mass media and the education institutions as cultural pillar of unsustainable development. The information on financial markets still gets in most mass media more attention than ecological and social topics. The news on climate change is published between advertising spots of automobile industry or energy companies. Most journalists are situated in the middle class and only seldom do they look for informants in the 'under-class'. Also in the media the combination of critique and career is rare.
Weapons, violence and war are a diffused headliner in movies. The universities, which form the elites in most of the World, teach often an economic science reduced to the neo liberal models.
All these examples amplify the famous thesis of Herbert Marshall McLuhan: the medium is the message. This thesis has important consequences also for the definition of a cultural strategy of Sustainability.

What is more sustainable: an oral culture or a written culture? Such questions vanish in front of the progress of the media. A more actual question could sound like this: Does Africa need really PCs, laptops and internet connections?[31] Which consequences does such new aid programs mean for cultural diversity in this continent? Are we really conscious about the deep changes that computers had in 20 years on our own life and society? Or are we already starting the next big experiment with the other peoples?
In Western society virtuality gets sometimes more attention than reality itself – and in this artificial world climate change and social problems seem far away. A great deal of websites on internet are about sex: Also this fact earns a deep reflection.
While the medium internet becomes indeed more and more interactive, the television, movies or newspapers however remain unidirectional media. Everyday they still give us much information without giving us the opportunity to express whether they are true or false.
But there is another important aspect in the media-technologies: Every medialisation of communication makes its manipulation and control possible. Especially in the time of the global "fight against terrorism", the control on internet, emails and telephones is reinforced.

Sustainability requires a change in the dominant mass media and in the institutions of education. And it needs probably also different forms of economic and democratic organisation.

4. The cultural evolution

In the last two paragraphs we considered the level of the values and norms, of the social order and of the development goals (culture of Sustainability) as separated from the level of the communication structures and forms, of the social dynamic and of the development process (cultural strategy of Sustainability).
In the political sciences there is a tendency to see the forces of social order and of social dynamic as opposites: the conservatives want to maintain the status quo, the progressives fight for constructed ideals. But is this interpretation still appropriate?

[31] Cf. One Laptop per Child (OLPC)-Program: http://www.laptop.org

History shows that this classification is equivocal in some cases:

- Democracy is often classified as a progressive value. But in 1933 in Germany the relative majority (44%) voted for the NSDAP, the national socialist party. The more democratic societies are today often the more consumerist too.
- NGOs like Attac see Globalisation as the development-model of the (neo-) conservatives. But in the last 20 years the globalised society was the opposite of a static one. A diffused disease of this society is stress. The substitution-time of products on the market grows shorter and shorter.
- The revolutions are seen as "progressive" events. But the French Revolution (1789) as well as the Russian Revolution (1917) promoted a social dynamic through a very strong hierarchy.
- In the context of the economic way of thinking a growing purchasing power for more people is a progressive goal. In the context of the ecological way of thinking the opposite goal is more sensible.

Social order and social change as well as conservatives and progressives, are only analytical categories.[32] In every society there is an ordered dynamic and a dynamic order. In the results and process of social action, goals and means are always interrelated: They determine each other. Like in language: Every language has a grammar, but is dynamic and create dynamic through communication.

If we want to explore the differences between sustainable and unsustainable societies, the opposition conservative-progressive cannot really help us. We should look into another level: in the relationship between the social system and its environment – and I mean again not only the ecological, but also the emotional, social and cultural environment.

4.1 The systemic differences between unsustainable and sustainable societies

At first we can distinguish sustainable and unsustainable societies through the form of their boundaries with the environment. They can be rather closed or rather open, but they cannot be totally closed or totally open, because…

- In nature there are no completely closed systems. No natural system can survive without an exchange with its environment. Every system is a subsystem, that depends on a super system more than vice versa. So nature needs the energy from an external system (the solar system) to fight entropy on Earth. As a subsystem of nature, the humanity requires natural resources to satisfy its biological needs.
- In nature there are no completely open systems. The basis for the definition and the existence of a system is that it can be *differentiated from* its environment and other systems.

My thesis is that the environmental boundaries of the unsustainable societies are rather closed and more inflexible; However the boundaries of sustainable societies are more open and more flexible.
The second thesis is that the dynamic of unsustainable societies is more a *self-referential* one, oriented to the reproduction and expansion of the own fixed structures (e.g.: the people of Rapa Nui[33] cut down every tree of their island to build the enigmatic moai statues). However the dynamic of sustainable societies is more oriented

[32] Hösle (1991): 37-40
[33] Since 1722 Easter Island

to the environment (e.g.: an active limitation of the population growth to guarantee a balance with the availability and reproducibility of natural resources).
Natural systems are sustainable, because they govern the complexity of their environment with a biological diversity. The simplification of this diversity is a danger for the Sustainability of the ecosystem. This principle is valid also for the Sustainability of a society – and it is my third thesis. Because the physical and cognitive abilities of the human being are limited, the wider a social system is, the higher is the danger of simplification and violence in controlling and shaping it.

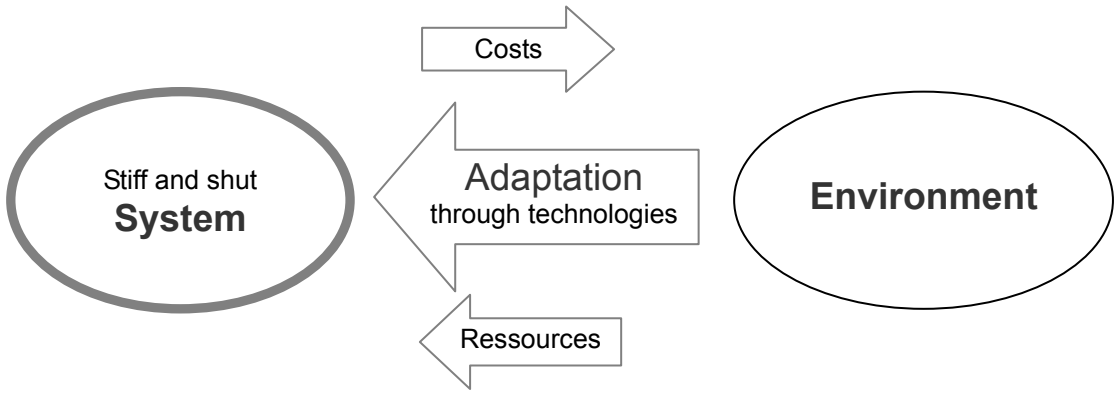
These three theses are interdependent and interactive. Therefore we can sum them up in two kinds of development models:

- *Non-evolutionary development*: oriented to the building and protection of closer and more inflexible boundaries; dominated by a self-referential dynamic, that simplifies the systemic diversity.
- *Evolutionary development*: supports and needs flexible boundaries for a more open exchange and balance with the environment; promotes a diversity of alternatives that can be useful in solving problems and in "closing circles".[34]

The fourth thesis is that non-evolutionary development models try to adapt the environment to the social system while an evolutionary development model adapts the social system to the environment. Because technologies play a central role in this process, we could distinguish in the Technology Assessment (TA), between technologies that promote a non-evolutionary adaptation and technologies that promote an evolutionary adaptation.

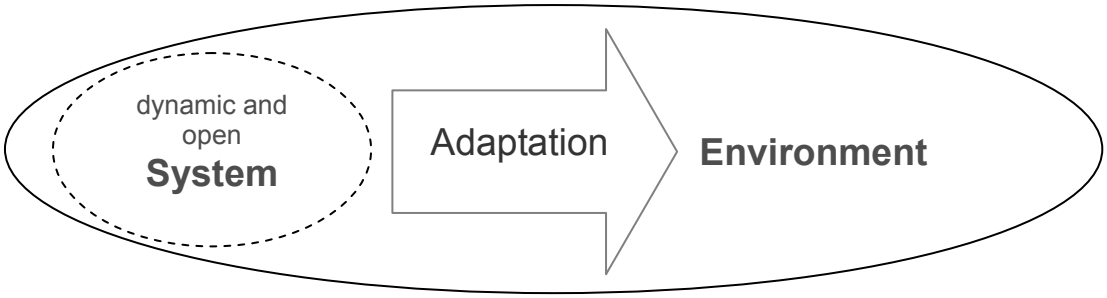
The follow graphics shows the difference between unsustainable and sustainable development models based on the four theses.

Globalisation



[34] Commoner (1971)

Sustainable Development



What is the Globalisation as "westernisation of the world"[35]: a sustainable or an unsustainable development model?

It is not easy to answer this question in a few sentences, but in my opinion several arguments and facts show that Globalisation isn't a sustainable development model – as well as its roots: the Christian mission and the American Manifest Destiny (1845), positivism and capitalism as well as modernism and the theses of Walt Whitman Rostow.[36]

After the end of the competition between the socialist systems and the capitalist systems, the economy is trying to affranchise itself from democratic control – and extends its possibility of profit in all possible areas. Globalisation turns the world into a big market – and this produces a double simplification: an horizontal one, because the whole world should be governed through one development model; a vertical one, because this development model creates the dominion of one dimension (economy) over all the others (political, social, cultural, emotional, ecological…).

In Globalisation there is only one kind of diversity that grows: the social inequality between North and South, rich and poor, governments and governed, elites and masses, producers and consumers, higher educated and low educated people. These polarisations are the base of social conflicts.

The democratic societies can maintain social inequality and avoid these conflicts only through more and more economic growth. Although they produce more than enough for all, they need a higher surplus first to finance the satisfaction of the economic needs of the citizens and then to finance a (relative) higher status for the upper classes in comparison to the under classes. The social freedom in democratic society with social inequality bases itself on an increased exploitation of nature and of the Third World.[37]

But this socioeconomic polarisation promotes social conflicts also in other States and between States. At the international level there are no democratic institutions yet that can obviate such conflicts – and the UN has to respect national sovereignty. The members of the NATO consider the USA as military guarantor of the international order. And the USA considers very often internal affairs of other nations as a matter of its "national security". This situation provokes a growing resistance in the world. China, Russia, Iran or Venezuela don't want to respect the dominant and sometimes arrogant role of the US Government. The global military expenditures are increasing above the levels of the Cold War.

[35] Sachs (1998): 9
[36] Cf. Rostow (1960)
[37] Hösle (1991): 32

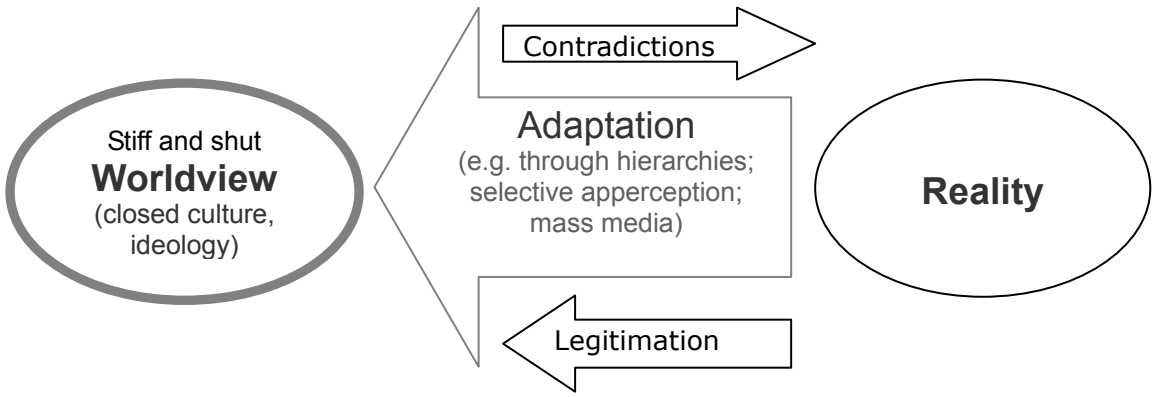
Another effect of the socioeconomic polarisation is migration flows. While Western tourists show off their wealth all over the world, the Western countries are building high walls to stop the migrants from the poor countries. In a self-referenced system the integration of migrants is more similar to an assimilation.

In front of an emergency like climate change, a sustainable society should usually invest resources towards a radical turn in the economic structures. Unfortunately, Globalisation means also that the democratically elected governments gave away their instruments to guide the economy. Then all the hopes are projected onto technologies: Does this hope have to protect the economic dogma and interests in front of the possibility of a radical change?
It is evident, that such a strategy cannot go on. The dams of Netherlands against climate changes or the walls against migrations shows only the following: the "dynamic" Western society is imprisoned in its own structures and needs always more resources to protect its boundaries. A lot of resources, which this society needs, are unfortunately outside of its boundaries.

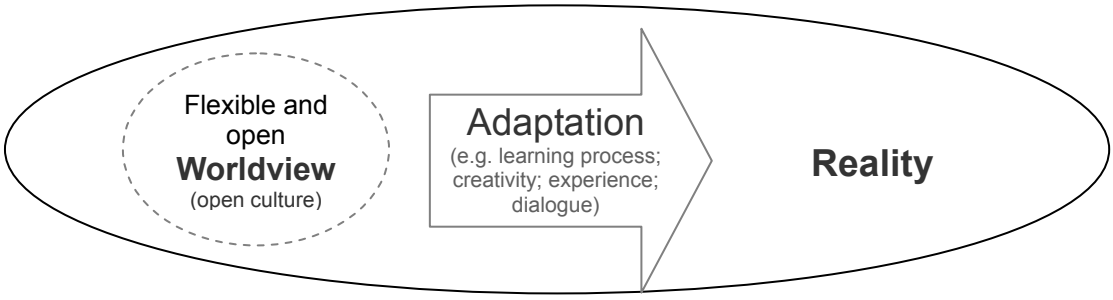
4.2 Cultural evolution

If every social development is a cultural development, then we can change the two graphics we showed above, into the following graphics:

Cultural Globalisation



Cultural Evolution



We should look for insights in defining the difference between unsustainable and sustainable development also in the relationship between worldview and reality or perception and reality. In fact this analysis can help us to understand, how it is possible that the institutions of an advanced society are working to guarantee the normal functions (*business as usual*), although a dramatic social and ecological crisis is impending.

A culture too can be open or closed in its relationship to reality. Cultural process too can be self-referential instead of being able to learn. An ideology is a closed inflexible rational model, that tries to simplify a complex reality. Every ideology tries to become more "true" through the elimination of contradictions and of cultural alternatives – i.e. inhibiting cultural diversity. Also the mass media can help in adapting the reality to the ideology.
Therefore the notion of "sustainable cultural development" is very close to the notion of *cultural evolution*.

We should not confuse cultural evolution with social Darwinism. In fact social Darwinism ignored some fundamental ecological principles. For example that the destiny of every "perfect species", that has no competition and enemies in nature, isn't the "leadership of the fittest on the world", but self-obliteration.
In natural history there were two global ecological crises: The first one killed most of the organisms, because a higher concentration of oxygen in the atmosphere was a poison; the second was the end for the dinosaurians. Today the scientists don't call the two events "crises", but *biological revolutions*: The crises opened spaces for the development of organisms that had played only a marginal role before, like the mammalians after the extinction of the dinosaurians.
The most crisis-resistant ecosystems are those with the widest biological diversity. Also "parasites" play in nature an important role in *closing the circles* of energy and material flows.[38] Also, the copulation of individuals from the same family does not always produce healthy children, but the mixture of very different genes from the same species does.
Biological evolution is the successful strategy of nature in fighting against entropy. It is a great creative and learning process of billions of years, that is registered in every gene, also in the genes of the *homo sapiens*.
The humankind needs a cultural evolution to close the ecological circles that become open through technological progress. For example the development of agriculture and of medicine caused a population growth. It is a positive development that we have less dead people and a longer life expectancy, but now we should re-establish the balance with nature, through a learning-process *a priori*.
We need a cultural evolution also in managing climate change, the danger of wars or of authoritarian development - before it becomes too late.

4.3 Hindering and promoting factors of a cultural evolution

A cultural approach allows us to understand how deep the interdependence and interaction are between macro-, meso- and micro-levels of a society. For example the individual fear in front of foreigners promotes closed boundaries on the macro-levels – and vice versa.
In this approach the goals and the process of Sustainability are the same:

- to fight or to treat the factors hindering cultural evolution;

[38] cf. Commoner (1972)

- to support the factors promoting cultural evolution and to turn them into fundaments of more open and more flexible social structures.

I could list a lot of interdependent and interactive political, economic or psychological factors that inhibit cultural evolution. But in my opinion the *combination* of the following three elements makes up a central inhibitory factor:

- *Structures of social inequality*: for example because privileged people have more influence on political decisions, whereas people who suffer more from the social and ecological problems have less possibilities to change their situation. Poor people are not educated enough to understand the systemic causes of their problems – and are more vulnerable in front of propaganda;
- *An ideology*: who has the power (cf. structures of social inequality) doesn't need to learn anything to prevail – and his way of thinking tends to become more and more closed. An unequal social system needs a particular legitimation to conserve the own structures of privileges (for example dogma like economic growth, and myths of progress);
- particular technologies (like weapons, money, mass media), that make temporarily possible a non-evolutionary adaptation of the environment to the system; of the reality to the closed world view.

In Globalisation the environment, the migrants or the alternatives are the same *alien* that should be assimilated or excluded. Sustainable is only an open system and an open culture, i.e. the continuous altercation with the alien.
The intercultural communication in cultural diversity is fundamental for the Sustainability of a society. It is the possibility to learn from each other and to offer each other development alternatives. Also critique, reflection, creativity, emotions and biological needs are *fonts of cultural energy*.[39]
Like biological evolution also cultural evolution is a *learning process* – and not only a creative one. Already in 1690 the English Philosopher John Locke wrote that the *ability to remember* is the precondition for individual identity and responsibility.[40] We could also say: Collective memory is the precondition for social identity and social responsibility. As nature saved its long experience of successes and defeats in the genes of every creature, so the common experiences should be the first teacher of a culture of Sustainability as best surviving strategy. If we want to be sustainable, it would also help, not to forget what your grandparents told you about the war and the political fights against injustices; not to forget the singing crickets and the glow-worms over the fields and the Milky Way in the night; not to forget the natural taste of the cherries in June.

5. Conclusions

The actual global ecological problems have the potential to become the third global ecological crisis in natural history - and it could mean the extinction of the new "dinosaurian": the human kind.
The cultural evolution of society is the alternative to this scenario. In 1989 the communist countries decided that overcoming their political system was better than a World Nuclear War or at least of a never ending Cold War. In the 21st Century the globalised society will need a still more radical "paradigmatic change" than 1989.[41]

[39] Finke (2003): 264
[40] Cf. Locke (1690)
[41] Hösle (1991): 26-34

In this Century there are two complexities, we have to manage at the same time: the complexity of the globalized society and the complexity of an impending globalized crisis, in which indicators like terrorism, war, poverty, growing world population, climate chaos or alienation become more and more aspects of the same *system*. This crisis-system has an ecological, a social, an economic, but also a cultural dimension. Because this crisis gets more and more an "own life", we need a systemic analysis for its research, but also systemic solutions.
Actually order and chaos are interrelated aspects of the same dominant development model: We cannot overcome the chaos without overcoming the social order. The global crisis is forcing a radical change of the social structures in a very short time. In history such transformations were very often accompanied by authoritarian developments, injustices, social conflicts and wars. Actually several indicators are showing that the 21st century is not freed from this danger. Technological "progress" itself makes this danger more acute.
At the beginning of this article I wrote that the cultural revolution of the Perestroika and the peaceful end of the Cold War were the hopes that pushed forward the process for a sustainable development. What does remain of those hopes today?
Unfortunately not much. In the Nineties we lost a great chance. After the great hopes came the great delusions. Today we are not where we wanted to be. Not only that, but we are also confronted with a kind of reactionary development, represented by personalities like George W. Bush, Silvio Berlusconi or Vladimir Putin.
How can we believe that we will win the war against poverty and climate change, if we were not able to profit from the end of the Cold War? If we were not really able to learn from all the wars of the 20th century?
Social change becomes more urgent and we have less and less time, whereas the cultural and deeper transformations need normally more time. In what can we still hope now, today?

My first hope is a paradox. To overcome unsustainable development we should learn – in a certain sense – also from Globalisation. In fact Globalisation is a cultural phenomenon without comparison in history: In only a *few years* it had deep consequences both on a global level and in the daily life of everybody. The culture of Globalisation is dominating today also in China or in India. Globalisation didn't come with the power of the weapons and of violence (like Colonisation), but through Hollywood, the television, the symbols of advertisement, the universities that form the elites; through the press agencies that control the information. This is the power of the Globalisation, the power of culture.
Another development has to act on the same dimension of Globalisation: that of culture. Of course, the culture of a Sustainability not oriented to the same values and probably needing different media and other ways of communication and forms of organisation, because also the "media is the message", as Marshall McLuhan wrote.

My second hope is a reflective look in ourselves. There are a lot of people in the Western society, who are functioning in the given social order, but dreaming of a different life and a different social order. These dreams are lived as individuals, but they are similar for a lot of people. The public space, the press, the arts, the schools are important media, that can turn private emotions/needs that find no more answers in this social system, into public debates, projects and movements. The initiatives of the civil society, the museums or the universities are ideal laboratories to experiment new ways of life, without risking social exclusion for that.

But all these institutions need new forms of communication and organisation to reach this deep potential – and I think that networks are the right way for that: They can combine different aspects, like local and global, diversity and commonality, autonomy and unity, individuality and group, liberty and responsibility, creativity and ethics. This interconnection has a big potential, but is also a challenge.

The dimension of Sustainability is not only a new research-object or a special field of science, but an integrative approach to understanding and managing both: the global development as well as our lives.

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