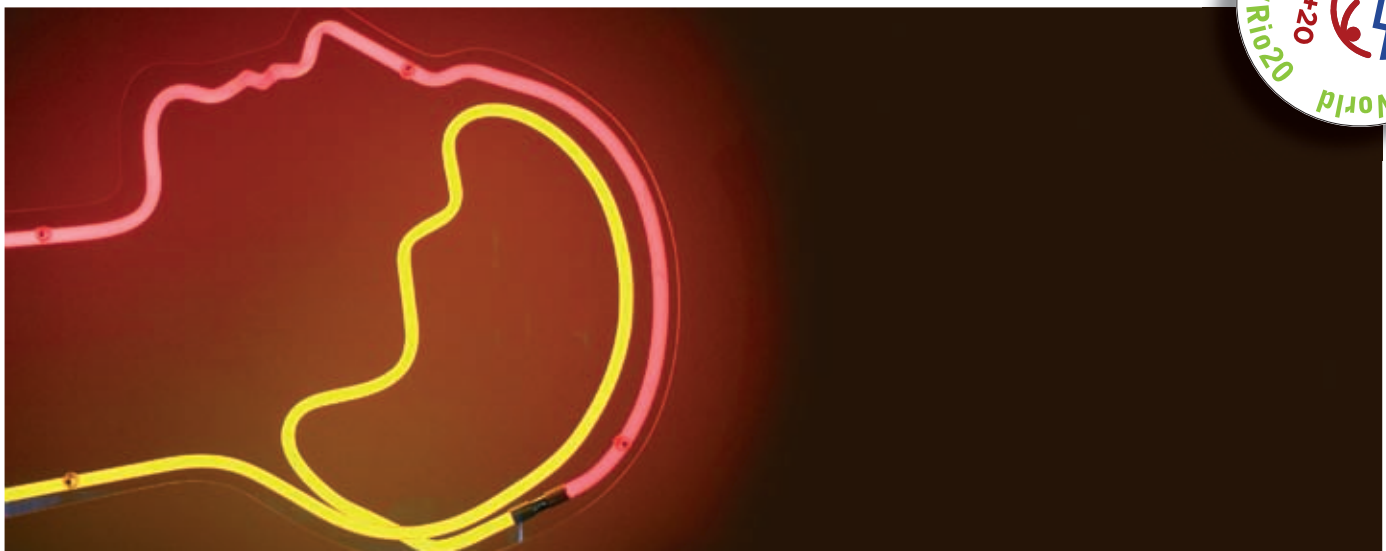
VOLUME 14

Mental Infrastructures

How Growth Entered the World and Our Souls

By **Harald Welzer**



HEINRICH BÖLL STIFTUNG
ECOLOGY

MENTAL INFRASTRUCTURES

HEINRICH BÖLL STIFTUNG
PUBLICATION SERIES ON ECOLOGY

VOLUME 14

Mental Infrastructures

How Growth Entered the World and Our Souls

By Harald Welzer

Edited by the Heinrich Böll Foundation

About the author

Harald Welzer is the director of the Center for Interdisciplinary Memory Research at the Institute for Advanced Study in the Humanities in Essen and Research Professor of Social Psychology at the University of Witten/Herdecke. His main foci of research and teaching are on memory, group violence and socio-cultural climate impact reserach. Welzer is the author of numerous publications, most recently: *Soldaten. Protokolle vom Kämpfen, Töten und Sterben* [Soldiers. Protocols of Fighting, Killing and Dying] (with Sönke Neitzel), *Das Ende der Welt, wie wir sie kannten* [The End of the World as We Know It] (with Claus Leggewie) and *Climate Wars*.

The author thanks Susanne Quehenberger and Vanessa Stahl for research and thoughts.

Mental Infrastructures
How Growth Entered the World and Our Souls
By Harald Welzer

Volume 14 of the Publication Series on Ecology
Edited by the Heinrich Böll Foundation, 2011
Translation: John Hayduska

Design: graphic syndicat, Michael Pickardt (designed by blotto design)
Title photo: Dierk Schaefer, flickr.com
Printing: agit-druck

ISBN 978-3-86928-060-8

Order from: Heinrich-Böll-Stiftung, Schumannstr. 8, D-10117 Berlin, Germany
P +49 30 28534-0 **F** +49 30 28534-109 **E** info@boell.de **W** www.boell.de

CONTENTS

PREFACE AND INTRODUCTION

In light of the recent financial and economic crisis, criticizing the all-powerful paradigm of economic growth has once again become socially acceptable. Climate change, and the Japanese nuclear disaster in particular, have also prompted intense reflection. Can our economy really continue to grow forever? Is our consumer society sustainable? Can economic growth in industrialized countries even be considered a legitimate goal if the world economy has already reached its ecological limits and well over a billion people are still going hungry? Will we be able to continue in this manner? These are the questions social psychologist and journalist Harald Welzer explores in this essay.

Most criticism of growth focuses on the political and economic spheres of the growth imperative. The apologists here assert that the existence of interest rates and the international competition for business relocations give rise to the capitalist growth imperative. A further argument is that steady economic growth is essential to sustain the substantial level of public debt and to maintain social security systems that ensure social redistribution.

The economy and politics are certainly drivers of growth. But they are also key players when it comes to changing course. In his essay, Welzer aims to illuminate how people – both as individuals and in social contexts – are tightly interwoven with the growth-oriented society and way of life.

Growth as will and representation not only pervades corporate headquarters, stock exchanges and ministries, but also our heads, the author argues. Material goods no longer serve just our basic needs for food, housing, health, education and vitality. They also provide indicators of social status, relationships and cultural preferences.

Indeed, they shape our sense of belonging and identity. We are all familiar with the desire for something new, for increasing income, for possessions, and for ever more exotic vacations. According to Welzer, the idea of endless growth has been embedded in our emotional and cognitive lives since the Industrial Revolution. It finds its expression in our career preferences and plans for professional advancement, as well as our quests to discover the "real me" or a "higher level of understanding". People today actively pursue happiness – they want to make something of their lives, not just once but again and again, constantly striving to enhance their sense of satisfaction. "Novelty is seductive in its own right here. It offers variety and excitement; it allows us to dream and hope. It helps us explore our dreams and aspirations for the ideal life and escape the sometimes harsh reality of our lives," writes Tim Jackson in his book *Prosperity Without Growth: Economics for a Finite Planet.*

As Harald Welzer shows in his essay, this desire for novelty, for consumption and growth is enshrined in our inner worlds as "mental infrastructure" – in the desires, hopes and values of each individual. As a result, the system not only colonizes our "lifeworld" (Habermas), through it we also continuously construct the system that we "deserve".

While Harald Welzer's observations initially appear theoretical and abstract, they do have very direct practical and political consequences: The "great transformation" that is supposed to beam our society into a sustainable future and prevent the collapse of the biosphere calls for more than just technical and political solutions. It also has a socio-psychological and cultural dimension. Economic innovation and an evolving business framework, solar panels and eco-taxes alone are not enough. Sustainability also requires social innovation and social transformation.

Welzer builds on four decades of discussion related to sustainable lifestyles, sufficiency and ethical consumer behavior, and takes the lifestyle debate to a new level. The issue is not just a matter of making recommendations for good behavior – well-intentioned advice to leave your car at home now and then, or to eat less meat. Wondering how much, in terms of material possessions, would be enough for personal satisfaction also falls short of the mark. This is also evident in postmodern LOHAS (Lifestyles of Health and Sustainability) consumers: While they are often highly sensitive to environmental issues, their ecological footprints are still much too large as, in the name of self-fulfillment and individual satisfaction, they will buy iPads, video projectors and vacation in the Seychelles. If the great transformation is to succeed, then a deeper level of self-reflection will be required. We must see through the mechanisms and principles on which our ideals and desires, our ideas and feelings of satisfaction are founded, as these are dictated to a large extent by our mental infrastructures.

Welzer shows how we, in shaping our own personality models and biographies, continuously drive ourselves to (consumer) growth and to acquiring ever more. Recognizing this is the first step in the right direction. And that, in turn, is the foundation from which to address the growth imperative, not only as a system, but also personally – to resolve it in our mental infrastructure. Perhaps we will then come closer to the conviction that "less is more", or be able to find a different answer to the question "How much is enough for a good life?"

It will take two things to change these mental infrastructures: new guiding principles, and active, hands-on testing of new designs for living. At any rate, the triad of "progress, prosperity and growth" that has shaped our mental infrastructures since the Industrial Revolution can hardly serve as the foundation for a society striving for responsibility, sustainability and fairness. But how can we turn our "restless desire" around into a fulfilled life that does not continually demand something new? We need, Welzer says, a narrative that we can tell about ourselves – from the perspective of a possible future: Who do I want to have been in the past? How do I want our world to be structured in twenty years, and how do I want to leave it to my children?

To answer the question of how one will have wanted to have lived in 2030 or 2050, and to develop visions to that end that move people and establish new identities, we must move beyond the abstract. Our efforts must involve trying out concrete life plans. The business-as-usual of the material and institutional infrastructure surrounding us at all times (supermarkets, highways, universal availability and performance pressure) has tremendous power over us because we navigate it on a daily basis and therefore necessarily affirm or support it. Our mental infrastructure will not change unless we ourselves all start to live and experience actually different lives.

For that reason it is nevertheless important to leave the car behind and take the train more often, to explore local regions rather than exotic destinations, and, from time to time, to put our families and friends before our careers. Such actions will not immediately improve the world – for that they are too isolated and powerless – but because such behavior can give each of us an enhanced awareness and a certainty of what living a good, sustainable life is like. It is also a matter of putting anxieties and inhibitions aside and of trying new things, in social interaction and in better harmony with the natural foundations of life. As Welzer concludes, it is only when the protests against airports turn against air travel itself that they will represent a tangible intervention against the material, institutional and mental infrastructures of the growth era.

Countering the growth imperative that characterizes our system may also be more successful with economic and societal models based on limited growth. Starting at one's own end then does not entail the idea of being able to improve the present situation immediately. If we go beyond the market and practice small-scale "commoning" based on reciprocity and exchange rather than increasing profits, we will be in a position to develop the outlines of a post-growth economy and bring a society that honors earth's ecological limits within closer reach.

Berlin, April 2011

Barbara Unmüßig
Member of the Executive Board of the Heinrich Böll Foundation

Tilman Santarius
Head of International Climate and Energy Policy

1 Growth as mental infrastructure

The ascendancy of economic growth as the key concept of economic policy in industrial nations took place with astonishing speed. It is only a few decades ago that growth began to play a prominent role in economics, yet today, the position it holds in economic theory is quite disproportionate to the value policymakers ascribe to it as a virtual silver bullet for achieving general prosperity, reducing social inequalities, combating unemployment and the like. Today, no politician can afford to promote economic policies that would renounce the civil religion of growth; as a rule, they either bank on the traditional definition of growth to define political goals, as is the case with conservative parties that espouse economic liberalism and with social-romantic leftists, or – in the case of green parties and parts of the social-democratic spectrum – they want to decouple economic growth from resource consumption, something they call qualitative growth. Regardless of how realistic these ideas of decoupling may be (for criticism thereof, cf. Paech 2011; Sommer/Welzer 2010), their propagation underscores the unbroken prominence of economic growth as a central category of *realpolitik*. Furthermore, the uncontested position of growth also obviates the need to develop a Plan B – such as a vision for a controlled-growth or post-growth society. Just as Germany's post-war social democrats relied on growth as an instrument of pacification to mitigate social inequality, democratic parties today focus on growth as a single strategy to maintain an economically and socially fragile status quo.

The fact that all parties lack an alternative to growth not only underscores how unassailable the concept has become, it also shows that the development of alternative strategies for a sustainable world threatens existing economic and social forms. Any consideration of an economy without growth therefore blatantly contradicts the capitalist economic principle, which is founded on the production of surplus value, and any individual steps toward a post-growth society – such as local barter economies and currencies – automatically challenge customary forms of monetary economics and the financial industry.

In this respect, the issue of economic growth is always linked to that of our current social model that, for the last two centuries, has been a tremendous success. It is therefore hardly surprising that few want to tamper with it. In fact, the current debate on decoupling on the one hand and the development of other indices of wealth and happiness on the other serves above all to maintain the illusion that we can make a sufficient number of minor adjustments in order to reduce the negative environmental consequences of economic growth while

leaving our present system intact. This illusion, which is neither scientifically nor economically sound, illustrates just how magically compelling growth has become. As mentioned above, this is in odd contrast to the concept's period of historical prominence, thus raising the suspicion that the paradigm's preeminence has not only economic and political reasons but also a deeper, mental dimension, too. The following essay will address this dimension.

The lifeworld is not only shaped by material and institutional infrastructures, but also by mental ones. Ideas about freedom, mobility, happiness, and the like are shaped equally by historically specific economic and social formations, and by life and biographical patterns. External worlds always find an echo in our internal worlds because – as neurobiology has shown – we have a malleable brain that, during ontogenesis, incorporates environmental experiences into its developing neuronal architecture. Thanks to this unique neuroplasticity, we must regard the human brain as a bio-cultural organ (Shore 1996; Markowitsch/Welzer 2009; Huether 2001; Tomasello 1999), the development of which is not only affected by biological, but also cultural circumstances. This neuroscientific perspective, which has only come to prominence recently, has a forerunner in the social sciences in the civilization theory of Norbert Elias, who documented the parallelism of psychogenesis and sociogenesis by studying stages of civilization and formation of personality (Elias 1969). And with the figure of the doubly free wage laborer, Marx had already explained the connection between the capitalist economic system and the formation of the subject – as did later Max Weber in *The Protestant Ethic and the Spirit of Capitalism*, or Georg Simmel in *The Philosophy of Money*.

Such considerations and references to theory are entirely absent from the current debate about growth, as well as in notions for a third Industrial Revolution (BMU 2008) and a post-carbon society. Alternatives to growth and strategies toward a post-carbon society mainly focus on technology and policy; lifeworlds and mentalities are absent from the technoid scenarios of the "third Industrial Revolution" and the political modes of the day. A look at the genesis of mental infrastructure in the early industrialized countries thus seems overdue, as it can provide clues to the sociological and psychological hurdles and locked-in structures that make the transition to a post-growth society so exceptionally difficult.

For the purpose of this paper, it may be sufficient to note with reference to Sachs (2010), Miegel (2010), Seidl/Zahrnt (2010), Jackson (2011) and others, that the economic growth dynamic is directly linked to the age of fossil fuels, i.e. the age of industrialization: The use of fossil fuels – coal, oil and natural gas – was a precondition to the enormous productivity gains that enabled rapid economic growth. While pre-modern economic growth has been estimated at about 0.05 % per year – and even that low rate is attributed primarily to population growth – early industrialized societies achieved enormous growth rates that, to this very day. Many economists and business policy makers consider to be the ideal of a functioning economy. As Jürgen Osterhammel has shown in his monumental study of the 19th century, it would be overly one-dimensional to attribute the

"transformation of the world" solely to the use of fossil energy sources. Interdependent development processes in trade, knowledge and technology further heightened the impact of this transformation, as did, not least, the development of nation states; otherwise, the initial limitation of industrialization to England, Germany and North America cannot be explained. Driving factors behind concepts of growth will therefore also be found in the market, in science, and in colonialism – and not just in energy production; it is, so to speak, a socio-technological configuration transforming the world. Along with it, ideas about the nature of development, progress, growth, education and the like also evolve. The notion of perpetuity as linked to continuous growth could only be established, once the economy had been liberated from the limits biology had put on value creation. In this process, development, progress and growth also find their subjective correlates, for example the self-observing and accountable "Economic Man".

Considering this, it is rather amazing that the concept of growth did not enter economic theory until relatively late. The Great Depression is cited as the core period here, and above all the competition between the political systems of the capitalist states and the (Soviet) communist hemisphere – a race suitably gauged in commensurable growth rates. However, it was not until the postwar years that the concept of growth received its decisive boost, when Western European societies relied on steady economic growth to achieve a relative reduction in social inequalities and ensure the widest possible participation in the growing prosperity. At the same time, the economic growth paradigm became linked to the state's responsibility to safeguard it. The close coupling of the normative idea of social peace to continuous economic growth is probably most responsible for making limitless growth paradigmatic for today›s economic and social policies. Institutional infrastructures regulate growth; the material ones manifest it; and mental infrastructures translate it into lifeworlds, equipping the inhabitants of growth societies with the associated biographies and notions of self.

2 From external constraint to self-constraint

To begin with, any conception of growth must be based on the supposition that a future state is characterized by some surplus or another in comparison to the present. The idea of growth therefore presupposes a vision of the future, and that category – as odd as it may seem today – was largely nonexistent until the 17th century. References to the future were only made in the context of the *adventum*, the return of Christ at the end of days – and not as an attainable alternate state of earthly existence (Hölscher 2010, p. 25). This lack of a future in classical cosmologies is also attested by the fact that most grammars of the time do not have a future tense; today›s future tense is a grammatical workaround from the late Middle Ages (ibid.). In other words, the idea of a future extension or expansion of some aspect of life is historically quite recent. The same applies to its subjective correlate, the future as seen in the context of an individual life, the autobiography.

Biographies and curricula vitae in the current sense are themselves a product of modernity: Autobiography and individuality are less pronounced or nonexistent under social conditions characterized by a static balance of power, a seemingly immutable order. This is because the ambitions and achievements of individuals are less decisive for their place in such societies than their station and social status at birth. Only with the thrust of individualization made possible by the vast manpower needs of emerging industries and the resulting dislodgment of labor from traditional relationships can we begin to speak of biographies and curricula vitae in the modern sense. While individuals were tightly integrated in corporative, local and domestic contexts in pre-modern conditions and their social position could not, or only very rarely, be changed through their own efforts (Imhof 1996; Brose/Hildenbrand 1988; Kohli 1988), the "doubly free wage laborer" (Marx 2008), appearing for the first time as a social type, became responsible for his own biography. This fluidization of social positions was even more pronounced among artisans, merchants and manufacturers, and it is no coincidence that the great *Bildungsromane*, from Goethe›s *Wilhelm Meister* to Moritz' *Anton Reiser*, were written during this formative period. The nascent field of pedagogy developed a biography model led by the idea that, under certain circumstances, an individual's "aptitudes" can be "developed" to a greater or lesser degree. This is the point, when the idea enters into contemporary awareness that people are not locked into a divinely given lot, equipped with an unchange-

able personality, but that they can "educate" and "develop" themselves, "grow" and "achieve something" and "make something of themselves". Sayings such as "life is what you make of it" are a pithy expression of this biographical model, and would have been inconceivable in pre-modern societies.

Even though we now regard it as "natural", a biography subject to powerful expectations shaping the self, one that presupposes a high degree of orientation towards the future only arose as a mental formation with the establishment of modern societies. Sociological theories, especially Norbert Elias' theory of civilization (1969) show how historical transformation processes can effect modifications at the level of individual behavioral – i.e. how sweeping changes in governmental organization, the economy, mobility, communication, etc. can alter the individual, its behavior and subjectivity. Briefly put, Elias' theory states that as a society develops, chains of action constantly become longer due to the division of labor and differentiation of functions; as a result, the interdependencies between individuals grow continuously in both quality and quantity.

Naturally, individuals involved in such processes are not aware of them – regulations of this kind take place in practice, not in the consciousness – but, for exactly that reason, they are all the more powerful. They manifest themselves in long-term behavioral changes, which also point to a reconstruction of the internal state of mind, of the psychology of individuals, over the course of the civilization process. Elias' theory describes a progressive change in the relationship between external and self-constraints. While feudal rulers maintained their power by threatening to use and by using force, modern societies are characterized by a steady decrease in the level of direct violence, i.e. by a dwindling of external constraints. At the same time, however, the individual's self-constraints – the rules that a person follows without being subject to external enforcement – increase. The implementation of the industrial working day can serve to illustrate this: As described by Edward P. Thompson (1966), during the early phase of industrialization workers were disciplined into putting in their 12 hours with the threat of violence. On Mondays in particular, workers frequently failed to show up and literally had to be whipped into going to work. Later, the eight-hour industrial working day, which had been established after considerable struggle, became the seemingly natural standard that dictated the sleeping, waking and recreational rhythms of all members of society, from toddlers to pensioners. Today, the natural goal of our efforts is no longer to shorten working hours, but to actually *have* work – a libidinous dimension of work that a 19th-century industrial worker would have found downright perverse. Both in fact and in our awareness, the Blue Monday has become a distant memory: External constraint has evolved into self-constraint.

Overall, no other epoch in human history has brought forth a comparable degree of temporal synchronization as the 19th century. The development that brought forth not only the rhythms of the industrial work day, but also the harmonization of international railway time standards and the division of the world into time zones, culminated in a standardized worldwide time regime (Osterhammel 2009, p. 119), a historically recent phenomenon that has been internalized with such astonishing thoroughness that, today, we are hardly aware that the modern era no longer knows the "natural rhythms of time".[1]

Changes in social structure lead to the emergence of new social forms and practices, and thus to psychologically different people with different needs. The social significance of categories such as punctuality, self-discipline, accountability, "good work" (Lüdtke 2002) and the like indicates the development of biographies, the subjects of which are highly aware that their own welfare and success does not depend on external or divine powers, but above all on themselves and their successful adaptation to the evolving social fabric. Phenomena such as this indicate that sociogenesis and psychogenesis are two sides of the same process. The idea of growth is therefore not only enshrined in business and politics, but also in the psychological structure of the people who grow up in such societies.

1 One only needs to look at Flemish paintings of the 15th and 16th centuries – for example Brueghel's pictures of the seasons – to make the startling realization that the persons they depict are not living in sync with one another: for example, people who are simply sleeping can be found in the midst of merchants, ice skaters and laborers.

3 Infinite growth

The mentalities and identity formations that deeply affect, to this very day, the perceptions of ourselves and our world, our interpretive models and our goals in life were shaped by the historical constellation of early industrialization, the Enlightenment, the Protestant culture of accountability, vocational structures and the credit economy. The internalization of what one can and should be was naturally not only a liberation from the external constraints of positionality, it was also associated with completely new, previously unknown needs of self-orientation and burdens: For growing individuals, once they not only *can*, but *must* "make something of themselves", categories such as personal responsibility, discipline and will power will become important. For as wage laborers are free from feudal constraints to hire themselves out wherever it suits them, they are also, as Marx put it, free to "sell their own skins" – the secure outlook, the security of supplies once provided by their unfree existence have also been severed. "In this perspective, the historical process of individualization means that the individual no longer relies on its social position or membership in a social aggregate to define itself, but on an independent program for his life" (Kohli 1988, p. 35).

While pre-modern lives consisted of a largely featureless stretch of time before death, which was at least followed by the pleasing prospect of a happy afterlife, the freedom to choose one's own life path also led to the imperative to produce "a life's work on earth" (Brose/Hildenbrand 1988, p. 13). With this imperative, a continuous need for orientation and self-assurance arose. The actual and perceived need to "seize as much of the world as possible within one's self", as Wilhelm von Humboldt put it, creates increasing pressure to deal economically with one's self and one's life. This, then, can also be "managed" more or less successfully, and such life management calls for monitoring, a sense of measure and observation, in short: a high level of self-constraint.

"As much world as possible" – this emphatic formula internalizes the perpetual bourgeois insistence on "better, further, more": Even the self has become a continuous chore to develop – with defined stages and goals; biograph-

ical success has become measurable. "Economic Man"[2] (Joseph Vogl) is characterized, as we all are, by the need to record his own progressive development and justify it, both internally and externally, in a precise and ever more tightly-knit universe of testing, balancing and accountability. Economic Man and his strategic self-observation initially took shape – as described by Max Weber in his famous book *The Protestant Ethic and the Spirit of Capitalism* – in the form of middle-class entrepreneurs and professional people who chronicled meticulously their business activities, constantly looking for improvements to processes and procedures: "A company's accounts represent a business diary that records business transactions as they occur – and which very soon becomes a written discipline of continuous self-monitoring; it is therefore no coincidence that accounting is seen as one of the origins of modern diary writing. Every day becomes a day of reckoning that is judged by its returns" (Vogl 2009).

Joseph Vogl describes the commercial practice of bookkeeping as an instrument that allows the ongoing monitoring and control of changing events. Bookkeeping administers events by selectively recording them in various registers – memorial, journal, and ledger – and defines them as either profit or loss. Events are recorded along a time line and within specified time units equally valid for all events. This form of notation ensures continuity, thus making it the prerequisite to experience growth.

For merchants, the introduction of bookkeeping meant that they entered a state of virtual sleeplessness, becoming restless and vigilant, "a subject of continuous self-monitoring and annual statements of account, a subject that thus creates its own mundane biography" (Vogl 2009). No time may be wasted and no action may be unproductive; and since success in business and success in life are identical, the same reportable standards apply to both business and life.

It is interesting to note that with the emergence of such "inner-worldly asceticism" regarding the monitoring and preserving of every unit of life, the value of products and the quality of the work required to produce them also changes: For pre-industrial craftsmen and artists and their clients, the objective was to create a specific object or work. The work was done once the product was completed and remuneration based on exactly that product. The purpose of the work was thus to create the final product, which was then consumed by the client, as are the wages by the contractor. Industrial production, on the other hand, no longer revolves around the creation of an individual product as an end in itself and the work required creating it. It is a system in which continuous work generates an essentially infinite series of products for the creation of surplus value – i.e.

2 Economic Man must not be confused with the economic fiction of *Homo Economicus* – that walking bundle of responses that reacts to stimuli that promise him an advantage. It is astonishing how long this image of humankind persisted in the minds of economists, despite the fact that behaviorism had fallen out of favor in other disciplines many decades ago. This can be deemed a further indicator of the content-related sclerosis in economics, and we can hope that the surge of vitalization driven by behavioral economics in recent years will be sustainable.

capital, which is then immediately invested in the improvement of production or the expansion of the product range in order to push the system's horizons further toward infinity. Nothing is ever finished; the work never stops. This model not only involves an inversion of the means and ends – work and money become the ends, the products and their production mere means – but also the essential "incompleteness of action" and a fundamental "futility of production" (Vogl 2008, p. 336). As we can see, this is not only the root of the idea of limitless growth that is essential to furnishing the infinite universe of consumable objects, but also the source of the mentality of an individual that is never complete and always growing – Economic Man.

4 Energy and mobility

Parallel to this development of the incompleteness of action and never-completed growth, the perception of time changed, not only because of the above-mentioned industrial working hours, but also due to the tremendous acceleration of movement in space, which commenced in the 19th century with vehicles powered first by steam, then by gasoline – the industrialization of space and time, as Wolfgang Schivelbusch called it in *The Railway Journey: The Industrialization and Perception of Time and Space* (1977/1987). This industrialization that included the perception of space and time has led to an ever-accelerating form of mobility in which gains in minutes over distances of hundreds of kilometers appear to warrant gigantic investments. In the modern era, the resulting notion of "time gained" corresponds with an often-overlooked aspect of another striking gain in time: increased life expectancy. While, around 1800, the average life expectancy of the world's population was 30 years, it had risen, by the year 2000, to 67 years, with considerably higher figures for industrialized societies (Osterhammel 2009, p. 258). Only this increase in life expectancy made it possible that something akin to a personal future could enter people's imaginations, thus making the planning of one's life conceivable. At the same time, the retreating limits of life expectancy, which have been continuously pushed further by both the welfare state and medicine, support the idea that this, too, is a process of continual growth. And another thing: Economic Man, as an individual with a personal biography that must make the most of its life time, no longer considers himself part of a hyper-temporal generational context, in which his own life time is merely one episode in a succession of linked lives, but is restricted to his own life and its temporal limits as his frame of reference (Ullrich 2006, p. 26). This is a further reason to make the most of one's available lifetime – saving as much time as possible, using it and accumulating it.

Interestingly, not only does overcoming temporal and spatial limitations have a mental correlate, this is even more so the case for the category of energy – which attained prominence in the 19th century, in particular with the use of fossil fuels. In the early industrialized countries, the change of the energy regime from biomass to coal and oil not only created a profound difference between the West and all other countries (Osterhammel 2009, p. 936), it also enhanced all things "energetic", something not to be found in other parts of the world: "Accordingly, the West, rich in energy, cast itself as 'energetic' and stood up to the rest of the world. The cultural heroes of the era were not contemplative idlers, religious ascetics or silent scholars, but practitioners of energetic *Vita activa*: tireless

conquerors, intrepid travelers, restless researchers and imperious captains of industry. Everywhere they went, assertive Occidentals impressed, frightened or bluffed their interlocutors with their personal dynamics, which were intended to reflect the excess energy of their home societies" (Osterhammel 2009, p. 937). A particularly remarkable characteristic of this social type is the notion of the energy-based cultural superiority of Western (white); the racial doctrine emerging at that time classified the "races" not only by their physical characteristics, but also according to their supposed performance ability and energy.

The nascent field of psychology, too, is permeated with the language of energy coined during the Industrial Age: The ability to measure nerve activity, an almost forgotten historical achievement of 19th-century psychology, is based on the discovery that such activity involves *electrical energy*; Helmholtz was able to demonstrate that its conduction requires a certain amount of time. Early experimental psychology focused on measuring the intensities of stimuli and the energy thus required; the new field of psychophysics was marked by great achievements in the optimal adaptation of operating personnel to the requirements of technical devices. But it would be quite wrong to situate the concept of mental energy solely on the scientific side of psychology; the works of Sigmund Freud are infused with the mechanics, hydraulics and energetics of the industrial age; the concept of (free and bound) "energy" plays just as big a role in psychoanalysis as the "drives" and their "dynamics". Other prominent concepts include "displacement", "stasis" and "condensation", as well as the "economy" of the inner life. Even the famous *Language of Psychoanalysis* (Laplanche & Pontalis 1974) contains descriptions worthy of an engineer, stating, "psychological processes consist of the circulation and distribution of a measurable energy (drive energy) that can be increased or reduced, and that can be the equivalent of other energies".

The related perceptions of the subject have shaped an educational approach that not only assumes that human subjects develop, i.e. grow in physiological and psychological terms, but that development can be promoted or disturbed in numerous ways. Ideas pertaining to restraining and controlling sexual energies, for example, also play an important role, as Michael Hagner recently illustrated (Hagner 2010). The invention of school as an institution for the upbringing and education of *all* members of a society is also associated with the development of early industrialized countries. In addition to imparting knowledge, a major focus of the institution was its disciplinary role. The educational regime served to instill virtues such as punctuality, cleanliness, thoroughness and orderliness with the aim to shape a social character capable of functioning with the synchronization required by a society marked with a high division of labor. A further effect of schooling in early industrialized countries that is not to be underestimated is the practice of instilling competitiveness, as well as the measuring of individual performance using grade systems. This process remains in effect today: Not only are school enrollment rates and literacy rates considered central markers of "development" (Osterhammel 2009, p. 1131), all aspects of learning and

education are still being measured according to performance – something that has become even more pronounced through the G8 and the Bologna Process. Today, students can hardly imagine the existence of educational content without a specific purpose, or biographies not based on competition and documented performance. Learning appears to be the mere accumulation and storage of ever more knowledge and information.

5 Work and growth

Regardless of what the decisive factors were in the genesis of the described fundamental boundlessness of self, work, production and resource use – "the Industrial Revolution, the use of steam engines, the organization of the division of labor, industrial pedagogy, physiological models" (Vogl 2008, p. 336), the individualization and creation of biographies, the application of biological and evolutionary principles to the field of economics, as well as the Protestant model of inner-worldly asceticism and accountability – its outcome, at any rate, is the astonishing transformation of substance into mere states of passage: Each manufacturing operation is only the precursor to the next; every product the predecessor of the following; each work step only a preliminary act in an endless chain of repetitions. No purpose will ever be reached, but money can be multiplied infinitely, and productivity increased without limits. While work was previously seen as *molestia*, or toil, it is now ennobled as an *opus*, or productive activity – *the* key anthropological concept of the 19th century, as Joseph Vogl writes (p. 337): "According to this new understanding, wealth that exceeds the needs of all is 'productive', as is work that does not cease when a need has been satisfied" (p. 338). This is the exact form in which work is understood in national economic theory: as an unlimited, endless activity that does not have a specific, limited, product-related objective, but is dedicated to the ceaseless creation of value – consequently the never-ending production of "growth". Marx referred to this process as the disappearance of concrete labor into exchange value. Just as work thus becomes incessant, each moment in life, each stage in the sequence of life's events and every euro in the bank becomes merely the preliminary stage of the next moment, the next stage, and the next euro. So for the self: The self in every biography is only the predecessor of a self that has still more to accomplish.

Such a mode for the production of goods and the creation of value generates a constant self-transcendence in business as well as personality. In principle, both are geared toward overcoming the limits of the self, interminability and infinity, and thus systematically toward non-stop growth. A stationary economy is the exact opposite thereof and thus completely unthinkable – it is immediately associated with a stagnation of wealth and personal development. The emotional note that always comes into debates whenever it is proposed that we could simply stop growing betrays the role growth has assumed within our emotional frameworks.

Self-transcendent growth has its correlate in every modern biography: The principle of infinity exists not only externally, but within one's self. Hegel had already characterized the outlined type of work as constantly-deferred enjoyment and inhibited desire (cf. Vogl, p. 339), while Max Weber described the associated social character as "Specialists without spirit, sensualists without heart" and bitterly notes: "This nullity imagines that it has attained a level of civilization never before achieved" (Weber 2006).

Under capitalism, the "professional person" first appears on the scene, and with him the category of infinite growth, in the outer as well as in the inner world. The formation of this social character began 200 years ago and has since undergone a steady evolution. The mental infrastructure of a subject that ever regards itself as nothing but the precursor of its next step up the ladder is reflected in concepts such as "lifelong learning" and "productive aging", and in esoteric quests to discover one's "true self" and a "positive way of living" – endeavors that have as little chance of ever achieving their goals as have the self-exploiting fetishes of the laptop users who populate the world's trains, planes and waiting areas: None of them will ever be done.

6 Finite resources and death

Max Weber clearly recognized that this great new machine for the continuous improvement of productivity and production of surplus value needs a constant supply of fuel to remain in operation – the fossil fuels coal, oil and gas. Only the end of their availability could mean the end of this model of infinite growth, but until then it is an economic and social order that determines the form of existence and inner life of all those living in it – there is no other option. "The Puritan," writes Weber, "*wanted to work in a calling; we are forced to do so. For when asceticism was carried out of monastic cells into everyday life, and began to dominate worldly morality, it did its part in building the tremendous cosmos of the modern economic order. This order is now bound to the technical and economic conditions of machine production which today determine the lives of all the individuals who are born into this mechanism, not only those directly concerned with economic acquisition, with irresistible force. Perhaps it will so determine them until the last ton of fossilized coal is burnt.*" (Weber 2006).

Here, all of the elements that determine the current *shape* of early industrialized societies come together: a model of the economy, society and the subject that perceives of itself as a culture representing a constant preliminary stage to a fictitious next stage; a technology that relentlessly promotes productivity increases; a fuel that keeps the machinery running; and a form of civilization that endows all of its members with a biographical model that stipulates interminable, self-transcendent growth. What Weber was not yet able to realize was that the all-encompassing culture of growth would reach its dreadful terminal point not only once all resources had been exhausted, but that this would happen earlier as a consequence of the damages it has caused and that undermine its own basis for survival. Yet, the category of finiteness is as disconcerting to this culture as death is to the individual. Neither are on the cultural agenda – otherwise it would hardly be possible to promote, in all seriousness, "lifelong learning" – will this help us to cope better with the worms in the grave?

As brief and abridged as this historical reconstruction may be, it shows that the physical and institutional infrastructure of the modern era altered the mental infrastructure of its inhabitants. Unnoticed by us, the pressures to continuously develop and optimize the self have long since become self-constraints – and that to such an extent that hardly anyone questions the point of it all. Therefore, if we raise the issue that economic growth is bringing us ever closer to the functional limits of the system, and therefore to collapse, we are not only referring to the outward manifestations of growth ideology, i.e. built structures, or structures

enshrined in regulations and procedures, but also to how the concept of growth has become entrenched in fundamental ideas about ourselves.

In this connection, it may be worth noting that the fetish of growth informed not only the West, but also the former socialist countries, including East Germany. They all saw themselves as firm precursors to the ideal world of communism, and growth indicators were the milestones on the (also rather endless) road to that goal (Weiding et al. 1986). The slogan *überholen ohne einzuholen* [overtaking without catching up] was coined in 1959 by East German party leader Walter Ulbricht and is paradigmatic for the socialist countries' intention of making limitless growth a responsibility of the state.

7 The global and flexible personality

The quickening pace of economic and technological innovation and the fluidity and globalization of capital and production facilities has also lead to an increased fluidity and globalization of biographies and individual life stories. While the standard capitalist biography, consisting of school, a phase of pre-vocational or academic training, a working life and a relatively short retirement period, remained, for several decades of the post-war era, a predictable pattern, this has largely been broken up since the 1980s and been replaced by an ongoing project of self-optimization, an adaptation to the constantly changing conditions and requirements of the working world: incessant reviews, innovation and change not only transform *what* individuals are, but also *where* they are what they are. The flexible self is ultimately nothing but a relay station of the various functional requirements that intersect with his or her lifetime. The subject of such a biography is always a continuous preliminary draft, and that not only on a temporal, but also on a spatial plane.

Hartmut Rosa refers to this as an accelerating process of shrinking the present: the general reduction of the period in which there is confidence in the future with regard to the stability of conditions for action (Rosa 2005, p. 184). This shrinkage is certainly not limited to the time horizons for the positional and local conditions of a biographical sequence, it also applies to relationships, which, since the 1970s, have increasingly become patchwork structures (Keupp 1999) – structures marked by greater variance and lower durability. Both Keupp and Rosa emphasize that external changes in temporal and spatial structures translate into inner conditions: "The acceleration of rates of social change to an intra- rather than intergenerational pace is mirrored in language that avoids identity predicates and uses temporary markers instead. People speak of working (for the time being) as a baker rather than being a baker, living with Mary rather than being Mary›s husband, going to the Methodist Church rather than being a Methodist, voting Republican rather than being a Republican, and so on. This use of language indicates that the awareness of contingency has increased even where actual rates of change have not yet done so: things (jobs, spouses, religious, political commitments) could be otherwise, they could change at any time because of either my own or other people›s decisions. Although increased contingency is not equivalent to acceleration, it surely contributes to the perception of slippery slopes and time pressure." (Rosa 2009, p. 99).

It is important that these trends toward greater open-endedness simultaneously make the present moment ever more important and more fluid: each station of the present is always already the putative transit point to what will come next. We are thus not *here* in the present – we are just passing through.

8 Consumerism – what products say about us

Mental infrastructures are not just tied to major sociocultural formations such as biographical regimes. They are also – and perhaps above all – shaped by daily routines, habits, patterns of perception and interpretation that, in turn, are formed by the material and institutional infrastructures of the external world. In modern societies, these infrastructures are not only determined by specific conditions of production, but also by conditions of consumption.

The role played by consumption in giving us a sense of meaning and purpose has been noted very early on. The individual that has been liberated from traditional – and especially religious – contexts, has to be both the designer of its life and responsible for its purpose, and thus requires new external supports in order to define him or herself as someone leading a "successful life". In consumer societies, such supports consist of what one "can afford". As early as 1899, Thorstein Veblen highlighted the role of conspicuous consumption in securing status (Veblen 2007); Jürgen Osterhammel (2009, p. 324) traced the development of "standards and models of consumption" back to the class of super-rich emerging at that time. In 1907, Georg Simmel already recognized the connection between consumption and the new personalities created by capitalist industrial society: "One could describe the purchase of possessions as personal growth beyond the measure of the individual – in the same way that conceiving children was described as such growth. In either case, the individual sphere expands beyond the border that originally defined it; the self continues beyond its immediate scope and extends to an external self that nevertheless is "part of it" in the broader sense" (Simmel 2009).

In the subsequent 100 years, and across all classes, this self-extension through consumption has indeed become more pronounced and has become the hallmark of the social type of the 21st century – not only in Western countries, but also in the former socialist societies and newly industrialized countries. *Inner consumerism* has become so firmly entrenched that even strategies for transforming society are being sought in consumption styles – a grave confusion of political subject and critical consumer.

It is no coincidence that shopping is now considered to be a recreational activity, and that many products that are *bought* in rich societies are no longer actually *consumed*. It is estimated that over 40 % of all food purchased in the U.S. is thrown away; the figures will not be much lower for affluent Western European

countries. The sociologist Hartmut Rosa suspects an overall shift from consumption toward buying i.e. the things acquired would be used only a few times at most, or not at all (Rosa 2009). If the items bought are no longer consumed, then buying itself becomes a meaningful act – and increasingly one that forges community: Department stores such as Zara or Olymp & Hades are social places in which young people in particular gather to try on clothing, try out roles and comment on one another's efforts; at the other end of the spectrum, the exclusive consumer styles of Manufactum also inspire a sense of belonging – and again, virtually none of the "good things" Manufactum proffers are in fact necessities.

If the practical value – the dimension of quality – of a product disappears, then we are left with only its symbolic value, the quantitative dimension represented by its price. Paradoxically, growth becomes the more important as a society's material saturation progresses and its vital needs are fulfilled. The growth system perpetuates itself through consumerism, and it is precisely this that constitutes the immanent limitlessness of growth societies: Only then will they reach a limit, if nothing is left to consume, as all resources have been exhausted.

For exactly that reason, because consumer societies realize meaning by ensuring consumption opportunities and advancement, they face an existential issue once they run out of resources – as briefly seemed to be the case during the recent financial crisis. And that is people's secret fear: That everything they have established, everything they worked for, planned and believed in, could have been meaningless. The dimensions of meaning and identity that Western-style capitalist societies provide stand and fall with the functioning of the market.

Furthermore, the world we live in is not only reflected in the cognitive operations that cultural scientists, economists and authors engage in when they narrate the market's triumphs or failures. The greater part of what we are and communicate about ourselves is intrinsic to the products themselves: As Wolfgang Ullrich noted (Ullrich 2006), every shower gel we use tells a story about us. With the meticulous design of its bottle and the plop of the cap optimized by sound designers. Every car dealer tells a story about our love of technology and speed, and every airport tells a story about our yearning for mobility.

In terms of pure quantity, these stories add up to so much more than what dedicated, paid professional narrators and storytellers from the worlds of science or journalism can tell us, yet something else makes them much more powerful than our own narratives: They are not subject to reflection, and they confirm our views of reality by their mere nature and existence, while, on the other hand, the narratives intentionally told by us storytellers are based on reflection, yet, for that very reason, can be perceived of as transparent, can be criticized or dismissed.

The journal of all things available, one that we browse every day, is a self-evident universe and thus, to counter it with a narrative, is difficult, above all because the majority of mental structures are not the result of reflection, nor a question of choice and decision, nor do they represent an offer – they are simply a massive world unto itself, one into which we are born and the story of which we ceaselessly repeat with our own biographies, our values, our consumers'

decisions and our careers. When setting out to change them, it is essential to be aware of this quality of mental structures. In a sense they are even more massive than the material infrastructures that shaped them – especially if the material wealth is as great and the social user interface as attractive as in the early industrialized societies.

This can be illustrated by the adept manner in which we deal with the latest news related to the environment. The weekend edition of the *Süddeutsche Zeitung* of July 31, 2010, which featured a full-page article on the successes of the environmental movement as shown by the prevalence of phosphate-free detergents, the prohibition of DDT and the use of catalytic converters, is a superb example in this respect. According to the article, there is not just a doomsday scenario, but positive messages, too. The article's subtitle read: "Clean air, clear rivers, blossoming landscapes: Mankind can not only destroy the environment, but also protect it – the greatest ecological successes". Those who read this will be pleased by all the progress made, yet they overlook the fact that each success story is nothing more than the relative mitigation of the damage ceaselessly inflicted on the environment. Just as catalytic converters are not actually good for the environment, but merely reduce the pollutants emitted by combustion engines, environmental journalism continuously disregards the fact that these successes only amount to a reduction of pollutants, and by no means represent preservation, never mind a restitution of natural resources. Just as the annual publication of Germany's federal budget makes it easy to overlook that, at best, the rate at which new debt is being added is decreasing (yet not the overall level of debt), most communications related to the environment and sustainability create the impression that the systematic growth of the overexploitation of natural resources is being tackled by "sustainable" consumption.

This is not a moral assertion, but an insight into how our mental structures work: They have in fact been so thoroughly conditioned by the world as it is that they rarely allow a detached point of view. Whenever we observe our own actions, we get a close-up view of ourselves, one that, by nature, will never give us the greater picture.

9 The locked-in effect

If we take one of our key physical and institutional infrastructures – mobility –, we can illustrate our deep mental, habitual and emotional bonds to the mobility paradigms of the postwar era at least in a fragmentary, impressionistic manner – for example, in the utopias of the trustees of business-as-usual. In September 2010, Royal Dutch Shell CEO Peter Voser wrote the following in *ADAC Motorwelt*, the magazine of the German automobile club: "While there are less than one billion motor vehicles on the road today, that figure is slated to increase to over two billion by 2050 – for a population of nine billion. [...] More people, more cars and more prosperity will contribute to a rising demand for energy – between now and 2050 alone, it could double globally!" For the CEO of an oil company, this is not a dystopia, but a joyous perspective. And despite "peak oil", climate change and conflicts over resources, his imagination regarding the next four decades will thus remain firmly anchored in the present world. His utopia revolves around moderate technological progress: "We will see a greater diversification of drive technologies and fuels or energy sources. The automotive concepts and technologies used will be determined by the application: City and short-haul traffic will be increasingly hybridized or electrified; diesel vehicles will remain first choice for overland and long-distance travel. The backbone of road traffic is, and will remain, the traditional internal combustion engine. The next new car a driver buys, and the one after that, will not differ fundamentally from today›s technology. If short to medium-term successes in the fight against climate change are to be achieved, this will only be possible with the internal combustion engine" (Voser 2010, p. 22).

Such a perspective hardly warrants a comment – the internal combustion engine, and *only* the internal combustion engine, can save the climate. This utopia corresponds precisely to the mental infrastructure of industrial society. The vision of growth is: "Same as today – only more"! Indeed, the modern industrial era is marked by precisely the strategies for future expansion described by Voser: Not only is the present a mere station on the road to a world with *even more* of everything, expansionary policies are also routinely adopted to deal with problems of the future. Therefore, if oil is in short supply, drill deeper; if water is scarce, desalinate the sea; if fish stocks are dwindling, travel further out. We will not explored further the fact that these strategies, as compellingly shown by Jared Diamond (2004), correspond exactly to the more intense application of formerly successful strategies that led to the accelerated downfall of failed socie-

ties, we do, however, want to reconstruct the mental infrastructure that guides the way into Voser's world.

Questions of traffic are deeply rooted in modern people, as not only Voser's example illustrates. No one who grew up in Europe would ever imagine that things like one-way streets, pedestrian crossings, highways, traffic lights, parking meters and the like were introduced gradually with the growing motorization and are therefore, historically speaking, very recent additions to our world. In Germany, the first traffic light was installed in Berlin, in 1924; the pedestrian crossing was marked on a street in Munich in 1952; and the first parking meters were introduced in Duisburg in 1954. For people living today, those things have "always" been there; they govern our movement through public spaces and are as natural a part of our daily lives as the sewer system that ensures that our excretions disappear forever, or the electrical grid that guarantees that the lights will come on at the flick of a switch.

The infrastructures that owe their existence to the car are no more than one hundred years old, yet there certainly have not been many technological innovations in the modern era that have entered not only our awareness, but also our standards of conduct, our ways of life – in short, our behavior – as much as anything to do with the car. A brief look at the cultural history of automotive transport (Sachs 1992) shows how the automobile quickly set the agenda for all other road users – the comparatively slow pedestrians, horse-drawn carriages and bicycles. Children can no longer play in streets used by motorists, and horse-drawn carriages must not block the lanes. The fact that motorists and bicyclists are natural enemies has, once again, become apparent with the renaissance of the bicycle; for decades, bicycles and their riders were hopelessly outclassed. In many cities of the Ruhr region, riders without suicidal tendencies who do not want to take their chances on the myriad four-lane roads slicing the city centers of this backward region are still banished to the sidewalk. In China and India, bicycles and rickshaws are disappearing from the streets – they impede automobile traffic in much the same way horse-drawn carriages once did in Europe. Such phenomena illustrate how a single structural element can often prompt a complete reconstruction of our infrastructure. All modern transport, residential and consumer structures are built around the car. Automobilism, a phenomenon that spread throughout the postwar world like a strain of bacteria, dominates the entire configuration of public mobility.

There is no shortage of further examples. Looking at the growth rates in air travel or the steady growth of the international flow of goods, the findings are always the same: greater resource requirements, increasing mobility, rising land consumption and higher emissions. There is no Plan B.

10 What is the meaning of "transforming the carbon-based society"?

The message is not new: We have, today, reached the end of a template for life and business that, for 200 years, has been extremely successful – one that worked quite magnificently under the old conditions. Those conditions – namely the availability of an entire planet for a small part of humanity and its economic model – however, no longer exist.

With the aid of resources from all parts of the world, the industrialized countries have built a fantastic machine of civilization – a machine that runs on fossil fuels and produces healthcare and welfare systems, social peace, security, education, science and the rule of law. That this machine would upset the balance of our climate system is something hardly anyone imagined, something that to this day only very few people care to hear. Plus: This type of economy, a system that always needs an outside from which to draw its resources, implodes the moment it goes global.

In a globalized world that follows the principle of unlimited resource exploitation, the "outside" from which it could obtain the necessary fuel gradually dwindles and disappears. As the number of societies following the capitalist economic culture and its related *role models of consumption* increases, the spaces from which they can easily extract resources shrink – hence the growing international competition over commodities and their transport routes, and deeper, increasingly dangerous oil exploration. For the moment, only parts of the world are "globalized", while significant shares of the remaining population live in pre-modern poverty and serve the "globalized" countries as their "outside". But those currently globalized not only consume more than those currently marginalized (Sachs/Santarius 2007) – the exploitation of the planet is shifting increasingly from space into time, in that we are presently living at the expense of today's children and adolescents, and those not yet born (Koschorke 2008). The present is consuming the future, and it is here that the principle of self-transcending growth comes home to roost. This is equally apparent with regard to public debt, the decrepit state of many schools and universities, and the unrelenting overdrawing of our environmental line of credit, which includes overfishing the oceans, overpowering the atmosphere with CO_2 and overfertilizing agricultural land. We will not repay the loans today, but bequeath them to those to come, who will be left with the scraps.

The dominance of the present over the future is, as shown, inherent to the capitalist economic system. The first Industrial Revolution did not take place solely in technology and economy, as demonstrated by the historical outline of the genesis of the mental infrastructures that shape the present. It was accompanied by the emergence of a new type of individual, a previously unheard-of social model: the designer of his or her own biography. It therefore went hand-in-hand with entirely new individual and political forms of association, new time regimes, new products, new forms of communication and new ways of thinking.

At this point it becomes clear that the sea change from a carbon to a post-carbon society will be a gigantic undertaking, as regards its impact on lived-in worlds and cultural practices. The notions of growth, mobility, progress and the like, as shaped by the modern industrial era, have penetrated the smallest nooks of our world and are integral parts of our mental and emotional lives.

This is exactly the point at which the Enlightenment had reached and reaches its limits: It extends only to the cognitive part of our system of orientation. The far greater share of our outlook, which, as we have said, is organized in routines, patterns of interpretation and unconscious references – in short, via our behavior –, remains completely unaffected by it.

The narrative with which to oppose the status quo is therefore quite incomplete and utterly incompetent if it believes that it may ignore the narratives the products and their infrastructures tell. The story of the Enlightenment engages its audience at the intentional and – unfortunately – moral levels with the uninspiring message that life would be less fun, but that it would offer better prospects for future generations, if we were to change it. We can therefore write any number of *Limits to Growth* and still wonder why modern and modernizing societies do not change course: It is because we are living a narrative that sees us in terms of progress, growth and lack of limits. Before we can do anything to halt this narrative, it has, again and again, unfolded.

Against this background, let no one be so naive as to believe that such a thing as a "third Industrial Revolution" could succeed with a bit of technology here and a couple of tax incentives there. The undertaking at issue is considerably bigger, and, as was the case in the 18th and 19th centuries, it will have many consequences we will not be able to anticipate. Ministerial planning committees are, at any rate, just as out of their depth with shaping such a future as the boards of corporations, be they ever so powerful. All of their actions are founded on a model of progress that is to be discontinued. Operating in this mode, they will not achieve a revolution, not even an evolution – they will only move further in the wrong direction.

The behavior, feelings and modes of thought of Economic Man were not shaped by cognitive operations devised and promoted by the philosophers of the Enlightenment, but by the economic, industrial and political practices of the emerging bourgeois capitalist society. Changing our mental infrastructures would mean changing the very practices that have made such a lasting and deep impression on our awareness that car lovers may even talk with pride about their

"car genes". In other words, we need products that speak to us in different voices, but we also need a narrative to tell about ourselves – one looking back from a possible future: Who would we like to have been in the past? How do we want the world to be organized when we leave it to our successors? Today's society has no narratives to tell about that; it simply wants to be the same it was in the past, while it is, at the same time, looking with trepidation at geopolitical shifts and impending ecological disasters that seem to forebode that the future will not be better than the present – as has been the case over the past 200 years –, but worse. It is not possible to tell a narrative about that. And that is why the advocates of business-as-usual, the cheerleaders of progress, those who thwart alternatives such as Royal Dutch Shell CEO Peter Voser, RWE CEO Jürgen Grossmann and Deutsche Bank CEO Josef Ackermann wield such power: They have reality on their side.

11 How would we like to have lived?

Those concerned about the future, those thinking about a sustainable post-growth, post-carbon society have only a negative story to tell: If we do not immediately do one thing or another, the story always begins, the world will end; we can brace ourselves for catastrophe. Time is running out – and has been running out for the past 40 years – and no one notices that this type of communication is incapable of telling a story people may identify with, but merely slots into a media culture for which catastrophe is a routine business. The physical, mental and institutional infrastructures of business-as-usual have tremendous inertia; and, anyway, negative stories cannot hold their own against the attractions and temptations of consumer society. Visualizations such as the "carbon footprint", "virtual water" and the "ecological backpack" do not help either, as they cannot connect to our lives and remain far too abstract to even remotely affect our mental infrastructures.

What is lacking is a vision that carries emotional weight and inspires identification, a phrasing of the question of how we actually want to live in 2025. Simply asking this question would already broaden the horizon considerably vis-à-vis a political culture that claims to be without alternatives and the religion of growth – as it would rapidly become clear that growth cannot be the answer.

A movement seeking to answer this question would have to adopt rather different, seemingly antiquated categories as its benchmarks – responsibility, justice, sustainability, the good life – as such categories are reflected in the lives of the people. To be responsible for others is a basic experience made by anyone who grew up and lives within social relationships, i.e. all of humanity. Both behavioral economics and social psychology document the existence of a fundamental sense of fairness and justice. People who have children also have a sense of generational justice based on their own experience. Sustainability is something we all strive after: We want to create conditions in which we can expect to live well in an open future. The nature of such a good life poses precisely the questions that seekers will have to address over the next decade or two. After all, a globalized economy of growth does not offer the good life – it destroys it.

Without this forward-looking question about a good life, any decisions we make in the here and now lack a reference point – and this is precisely why politicians can claim unopposed that there is "no alternative" to any given decision, despite the fact that the act of seeking out and weighing alternatives is one of the

central characteristics of democracy. One cannot set a course until one knows where the journey is going. For that reason, and to offer an alternative to the proponents of business-as-usual, the future must once again become a political category, yet not one stemming from the 20th century. As the utopian visions of fascism and communism have forcefully shown, totalitarian regimes always reach a fatal ending; the seekers of the 21st century must therefore think in terms of reversibility, fault tolerance, small scales and attentiveness.

Their utopia will be compartmentalized, not all encompassing, yet because it will consist of numerous small elements, and for that very reason, it will be possible to realizable it *immediately*, as shown by many practical projects that have transformed our reality. Since the rich and free societies in particular offer their members a great deal of latitude for action, this type of utopia will require no preconditions. There is absolutely no need to wait until an international treaty has been signed, a global climate protection authority established. It can easily be accomplished with a very different notion of progress, one that dismantles all major categories and major strategies by looking into the "compartments" – the small constituent elements of every issue.

Not only rich countries are home to numerous companies, initiatives and projects that are vividly changing parts of our reality: A car-free town such as Hasselt tells us about alternative mobility, as does the pedestrian zone on Broadway in New York City. A "cradle to cradle" textile company shows up alternatives, as does Grameen Shakti, a project in Bangladesh, promoting the widespread installation of solar panels on a microcredit basis – thus combining social, economic and environmental benefits. What all such undertakings currently lack is an inclusive political program that underscores that these they are counterproposals to the dystopia of growth societies. These projects are shaping the future – not as mere proposals, but as living examples. For the time being, the political problem of this lived-in future is its particularity, its smallness, which makes it appear insignificant as a social counterforce.

That, incidentally, is the difference to the Apollo Project of sustainability, one that is occasionally proposed: A project of reversal that will be borne by civil society as emphatically and emotionally as was the landing on the moon in the 1960s. It appears to be a shared effort, a shared identity, a successful change of course into the right direction, yet it is based on a conceptual error. The reason the Apollo Project had such power, the reason so many people could identify with it was because it corresponded to the imperative of modern industrial progress still prevalent in the 1960s. Unfortunately, "Apollo Projects" like this are still being proposed today. They are called "expansion of Frankfurt Airport", "Shanghai", "Carbon Capture and Storage", or even "Geo-Engineering". Such projects are not sustainable; they cannot serve as a paradigm of reversal because they are rooted in industrial society's concept of progress.

Ultimately, it will become apparent that the transformation to a post-growth society is not a project to be achieved by means of economy and technology. Both are just as smart or as dumb as the political landscape in which they

operate. For the time being, the transformation necessary today lacks guiding principles of the kind that early industrialized societies had in terms of progress, freedom, prosperity and growth. It will not be possible to establish new mental infrastructures without guiding ideas, yet if they do not dovetail almost naturally into day-to-day lives and lifestyles, visions of the self and frames of reference for the future, they will remain just that – ideas.

We will see whether the small-scale practical forms mentioned above will become sufficiently vivid and attractive to be the drivers of the social transformation needed. After all, their charm is not just that it is feasible to launch similar projects right away, they also relate to who we are, formulate a practical "we", are difficult to monopolize and demonstrate a change of course not as scenario, but as actual practice. At the moment they naturally still lack the quality of a counter-narrative, and they are apolitical. Generally, they express a particular concern: growing better vegetables or generating cleaner power, opposing big projects such as new airports or the strategies of energy companies standing in the way of the future.

It is only when the protest against airports turns against air travel itself that it will become political and represent a tangible intervention against existing material, institutional and mental infrastructures. The goal is to devise exit strategies from growth, not to preserve a cultural practice that undermines our own survival conditions. Such strategies are not the types that can be developed in the usual ill-fated coalitions of "experts" and "policymakers". To invent a post-growth society is a project for civil society; its realization cannot be delegated.

BIBLIOGRAPHY

Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) (ed.): *Die Dritte Industrielle Revolution – Aufbruch in ein ökologisches Jahrhundert. Dimensionen und Herausforderungen des industriellen und gesellschaftlichen Wandels* [The Third Industrial Revolution – Entering an Environmental Century. The Dimensions and Challenges of Industrial and Social Transformation], Berlin 2008.

Brose, Hanns-Georg/Hildenbrand, Bruno: "Biographisierung von Erleben und Handeln" [The Biographication of Experience and Action] in: Brose/Hildenbrand (ed.), *Vom Ende des Individuums zur Individualität ohne Ende* [From the End of the Individual to Endless Individuality], Opladen 1998, pp. 11–30.

Diamond, Jared: *Collapse: How Societies Choose to Fail or Succeed,* New York City 2004

Elias, Norbert: *The Civilizing Process, Vol.I. The History of Manners*, Oxford 1969, and *Vol.II. State Formation and Civilization*, Oxford 1982

Hagner, Michael: *Der Hauslehrer: Die Geschichte eines Kriminalfalls. Erziehung, Sexualität und Medien um 1900* [The Tutor: the Story of a Criminal Case. Education, Sexuality and the Media in 1900], Frankfurt/Main 2010.

Hölscher, Lucian: "Ist die Zukunft schon vorüber?" [Is the Future Already Over?] *Berliner Republik*, 5 / 2010, p. 22-26.

Hüther, Gerald: *Bedienungsanleitung für ein menschliches Gehirn* [Operating Manual for a Human Brain] Göttingen 2001.

Imhof, Arthur E.: *Lost Worlds: How Our European Ancestors Coped With Everyday Life and Why Life Is So Hard Today (Studies in Early Modern German History)* Charlottesville 1996

Jackson, Tim: *Prosperity Without Growth: Economics for a Finite Planet* Munich 2011.

Keupp, Heiner/Kraus, Wolfgang et al: *Identitätskonstruktionen. Das Patchwork der Identität in der Spätmoderne* [Identity Designs. The Patchwork of Identity in the Late Modern Era], Reinbek 1999.

Kohli, Martin: *Normalbiographie und Individualität: Zur institutionellen Dynamik des gegenwärtigen Lebenslaufregimes* [Normal Biography and Individuality: on the Institutional Dynamics of the Present Biography Regime], in: Brose, Hanns-Georg/Hildenbrand, Bruno (ed.), *Vom Ende des Individuums zur Individualität ohne Ende* [From the End of the Individual to Endless Individuality], Opladen 1988, pp. 33–53.

Koschorke, Albrecht: "Spiel mit der Zukunft" [Playing with the Future]. *Süddeutsche Zeitung*, 30 Oct. 2008.

Laplanche, Jean/Pontalis, Jean B.: *The Language of Psychoanalysis* New York City 1974.

Lüdtke, Alf: "'Deutsche Qualitätsarbeit' – ihre Bedeutung für das Mitmachen von Arbeitern und Unternehmern im Nationalsozialismus" ["German Quality Workmanship" – Its Significance for the Participation of Workers and Entrepreneurs in National Socialism], in: Assmann, Aleida/Hiddemann, Frank/Schwarzenberger, Eckhard (ed.): *Firma Topf & Söhne: Hersteller der Öfen für Auschwitz: ein Fabrikgelände als Erinnerungsort?* [Topf & Söhne: Manufacturers of Ovens for Auschwitz: A Factory Site as a Memorial?], Frankfurt/Main 2002, pp. 123–138.

Markowitsch, Hans J./Welzer, Harald: *The Development of Autobiographical Memory,* London 2009

Marx, Karl: *Das Kapital, Bd.1: Der Produktionsprozess des Kapitals, Rosa-Luxemburg-Stiftung*, Berlin 2008 (first published 1867).

Miegel, Meinhard: *Exit. Wohlstand ohne Wachstum* [Exit. Prosperity Without Growth], Berlin 2010.
Mönnich, Horst: *Die Autostadt* [The Automotive City], Munich 1951.
Osterhammel, Jürgen: *Die Verwandlung der Welt. Eine Geschichte des 19. Jahrhunderts* [The Transformation of the World. A History of the 19th Century], Munich 2009.
Paech, Niko: "Vom grünen Wachstumsmythos zur Postwachstumsökonomie" [From the Green Growth Myth to the Post-Growth Economy], in: Welzer, Harald / Wiegandt, Klaus (ed.), *Perspektiven einer nachhaltigen Entwicklung – Wie sieht die Welt im Jahr 2050 aus?* [Perspectives of Sustainable Development – What Will the World Look Like in 2050?], Frankfurt/Main 2011.
Rosa, Hartmut: *Beschleunigung. Die Veränderung der Zeitstrukturen in der Moderne*, Frankfurt/Main 2005. English edition: *High-Speed Society: Social Acceleration, Power, and Modernity*, Penn State University Press, 2009.
Rosa, Hartmut: *Zeitforscher fürchtet Entrhythmisierung der Woche. Hartmut Rosa im Gespräch mit Joachim Scholl.* [Time Researcher Fears the Fading of the Weekly Rhythm. Interview of Hartmut Rosa by Joachim Scholl.] Radio interview, Deutschlandradio Kultur, 26 September 2009 http://www.dradio.de/dkultur/sendungen/thema/986480/
Sachs, Wolfgang/Santarius, Tilman: *Fair Future. Resource Conflicts, Security and Global Justice.* London 2007.
Sachs, Wolfgang: *Sozialer Zusammenhalt ohne Wachstum?* [Social Cohesion Without Growth?] unpublished manuscript 2009.
Sachs, Wolfgang: *For Love of the Automobile: Looking Back into the History of Our Desires*, Berkeley 1992
Schivelbusch, Wolfgang: *Geschichte der Eisenbahnreise. Zur Industrialisierung von Raum und Zeit im 19. Jahrhundert.* Frankfurt/Main 2004 (1977). English edition: The Railway Journey: The Industrialization and Perception of Time and Space, University of California Press, 1987.
Seidl, Irmi/Zahrnt, Angelika (ed.): *Postwachstumsgesellschaft. Konzepte für die Zukunft* [Post-Growth Society. Concepts for the Future], Marburg 2010.
Simmel, Georg: *Die Philosophie des Geldes, Köln* 2009 (first published 1907).
Shore; Bradd: *Culture in Mind: Cognition, Culture, and the Problem of Meaning*, New York 1996.
Sommer, Bernd/Welzer, Harald: "Der Traum vom 'Grünen Wachstum'" [The Dream of "Green Growth"]. *Rundbrief Forum Umwelt und Entwicklung* [Forum for Environment and Development Newsletter] 2/2010, pp. 3-4.
Thompson, Edward P.: *The Making of the English Working Class*, London 1966
Tomasello, Michael: *The Cultural Origins of Human Cognition,* Cambridge 1999
Ullrich, Wolfgang: *Habenwollen. Wie funktioniert die Konsumkultur*? [Wanting It. How Does Consumer Culture Work?] Frankfurt/Main 2006.
Veblen, Thorstein: *The Theory of the Leisure Class: An Economic Study of Institutions* Frankfurt/Main 2007 (first published 1899).
Vogl, Joseph: "Poetik des ökonomischen Menschen" [The Poetics of Economic Man]. *Metamorphosen des Subjekts in der Moderne* [Metamorphoses of the Subject in the Modern Era], *Literaturkritik.de*, No. 5, 2009.
Vogl, Joseph: *Kalkül und Leidenschaft. Poetik des ökonomischen Menschen*, [Calculation and Passion. The Poetics of Economic Man] Zurich 2008.
Voser, Peter: "Mobilität. Ein Königsweg ist noch nicht gefunden" [Mobility. An Ideal Solution Has Not Yet Been Found], *ADAC-Motorwelt*, 9/2010, p. 22.
Weber, Max: *The Protestant Ethic and the Spirit of Capitalism. Translation by Talcott Parsons, Anthony Giddens. London ; Boston : Unwin Hyman, 1930.* (first published 1904).
Weiding, Rudi (ed.): *Soziale Triebkräfte ökonomischen Wachstums, 4. Kongreß der marxistisch-leninistischen Soziologie* [Social Drivers of Economic Growth, 4th Congress of Marxist-Leninist Sociology], Berlin 1986.

In light of the recent ecological, financial and economic crisis, criticizing the all-powerful paradigm of economic growth is necessary. But growth as will and representation not only pervades corporate headquarters, stock exchanges and ministries, but also our heads. Material goods no longer serve just our basic needs for food, housing, health, education and vitality. Indeed, they shape our sense of belonging and identity. The idea of endless growth has been embedded in our emotional and cognitive lives since the Industrial Revolution. Economic innovations won't be sufficient to make economy and society sustainable. The essay of Harald Welzer is a piece of enlightenment at its best. It makes the mechanisms and principles distinct on which our ideals and wishes are based, and clears the way for change.

Heinrich-Böll-Stiftung Schumannstraße 8, 10117 Berlin
The Green Political Foundation **P** +49 30 285340 **F** +49 30 28534109 **E** info@boell.de **W** www.boell.de

ISBN 978-3-86928-060-8