Resilience from a sociological viewpoint

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As everything else, science has fundamentally changed over the last four decades. In large, it shifted both into commodification and market-oriented, globalized strategies. One of the first who focused on was Jerome R. Ravetz (1971) with his critique of an "industrialized science", a concept very close to the one of Helmut Krauch (1970), who spoke of the "organized research", meaning some sort of enforced conformity in the interest of usability and salability.[1] Today, science is almost completely steered by programs which explicitly focus on application, particularly in "Strategie" fields like IT, Life Sciences, Genetics - and, foremost, in security and defence and their complementary pre- and post-operative caring-industries.[2]

More than ever, science became an integral part of the globalized workbenches but never had the independent role it claimed for itself. The triumph of science as long-lasting evolution from ancient thinking and handicraft toward natural sciences and engineering perennially was "embedded" into affordability or, respectively, financial feasibility.[3] As a matter of fact, the historical success of the (western) civil society emerged from trade but arrived with a twin-fold return on investment: science lead to prosperity *and* to legitimization. With its successful applications science guaranteed "productivity", which simultaneously substantiated the (much earlier developed) political programmatic against the idle and luxurious classes - and, conclusively, was condemned to stay successful because otherwise science would lapse back into a twin-fold risk measurable as financial loss and, even worse, immeasurable in the sense of forfeiting the ideological foundation of itself and of the new "Weltanschauung" which based on science.[4]

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1   Almost ten years later, Wolfgang van den Daele, Wolfgang Krohn and Peter Weingart (1979) edited an informative collection of comparative studies on the influence of political programs upon the development of science.

2   The issue is overshadowed by strong political standpoints (often "Weltanschauung"). From a historical approach, François Ewald (1993) described the development of the social or welfare state, whereas the role and emergence of disaster relief, particularly international aid organizations, remained almost undiscovered as "collaterizing" mechanisms, whereas "peace-keeping" and "peace-enforcing" became key capabilities of an UN world order (see http://www.un.org/en/peacekeeping/resources/).

3   Denis Papin's letter of request to the Royal Society is legendary: Papin appealed for 15 Pound Sterling to enable an experiment on vacuum. The Royal Society refused any support on the grounds that "success is not to make certain in advance" (cited from Bemal 1970:540).

4   The historical transformation has been described relatively consistently (see Bernal 1970; Nussbaum 1953; Groethuysen 1978; Zilsel 1976). Aberrant from consent, Thomas Luckmann (1973:139) argued that the self-foundation of the civil society through and with science inherits a "cosmological fiasco", deriving from the impossibleness to ground science with the arguments derived from it.

Many focused on the origins of Western science but only few on the enmeshment of science with the ideological and political labor pains of the civil society on its way out of the bosom of nobility and clergy.[5] Science was in one a material solution *and* the epiphany of modernity - a balancing act beyond redeemability, as the volte-face of reason impressively reveals.[6] Today we witness a further volte-face, the dissolution of science as epiphany. The civil society no longer has the need of an authority that in one develops the worldview of modernity, legitimates it, and gives reason to it. Since long, the "interpretational sovereignty" has been usurped by those who decide the terms of trade and the transactions within. Science has to be supportive and inventive, but on no account scrupulous or criticizing.

It is the last stage on the way to a mere tool, entirely divested from its dream to elicit the iron laws behind everything. During its transformation into "planned science", science turned into solicitous developers of means for given ends and scientists into contestants for funds and grants. Consequently, the non-professorial staff changed into careers dependent on the portion of funds and grants one can chase away with. From the worm's eye view, however, the successful competition for money may not be perceived as fundraising or branch management within the ancillary industry called "science". The individual science-seller prefers to perceive himself as inventive, original, and witty, - as somebody who submits the most convincing ideas or concepts, - blinding out that these results only push the revolving door: another competition for another grant or fund, and another (secondary) competition for application, both consistently promoting science' way into "finalization".[7]

From the bird's eye view, research & development programs serve as disciplinary casting shows, however, the calls fewer tend to bring "talents" to the fore, but to get a general idea of the willingness to accept and to contribute to politically given ends. Thus, the "Call Casting Shows" are as well political tests of the political consent within the sciences as well as "talent-contests" among the scientists to discover new sounding concepts and the best "wording" available as intellectual escort service for the program's political frameworks.[8]

No wonder that the normative demands toward a (self)reflexive science remained unheard, in contrast to the effects of secondary competition - which is, from a psy-

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5   Paul Hazard (1939) delineated the process of scientific reasoning as ideological controversy.
6   Le "culte de la raison" accompanied the French Revolution as political program but also as religious substitute.
7   The paradigm of "finalization of science" stems from Gernot Böhme, Wolfgang van den Daele and Wolfgang Krohn (1973) and did not mean the end of science but of a non-reflexive development of science: The more science falls under normative sway, the more it should reflect the influencing interests at its point of departure.
8   "Steering-groups", "advisory boards", and "program committees" escort formally, functionally adequate instruments of planned science within the corporate state. How "Integrated Research" is conceptualized shows Bill F. McCutchen of AgriLife Research at Texas A&M University (http://agriliferesearch.tamu.edu/library/files/ IntegratedResearch.pdf). See also "Corporate Governance Research" at http://ideas.repec.Org/p/nbr/nberwo/ 15537.html

chological viewpoint, more suitable than astonishing because nobody will bite the hand that feeds. To become fed, - which becomes more and more tantamount with becoming included into the fields of scientific career tracks, - the individual scientists foremost turn into creative directors of their "You-Inc.". Similar to other products, advertising and promotion becomes most important, particularly to win through the rat-races for funds and grants. Often, brands and Slogans gain higher significance than the factual relevance behind.

"Resilience" is one of these shimmering slogans from the wording-mint, "vulnerability" another one. They come and go like most other terms in the field, attracting attention for a while and being replaced when "their" programs are phased out and others are going to be launched, eager for catchy words attracting attention again.

Yes, "resilience" is a buzz-word, a shibboleth in the beginning. Its coining and its first application guarantee pioneering profits and distinguish from the outdated paradigm of the old fogeys. The followers identify themselves with their new shibboleth, convinced to understand and explain "reality" better than before and others. In many cases the buzz-words click the politicians and administrators behind the R&D-programs.[9] They feel supported then, sometimes even legitimized - at least encouraged to organize the political process along the euphony of the new wording. In between a new class of service providers emerged, offering social technologies to "pick up" people from where they are: "lighthouse-" and "model"-projects, "excellence-initiatives", "round-tables" and all the other inventions for best practice of good governance.

In this sense "resilience" clicked perfectly. In a world permanently shaken by disasters, the ability to avoid damage in advance rises to the position of reasonableness. IDNDR, the International Decade for the Reduction of Natural Disasters of the United Nations during the 90th of the last Century, focused the national scientific results and propagated "prevention instead of intervention". At the end of the decade, "resilience" appeared as key word - and as the ideal strategy for individuals, communities, societies, for infrastructure, schools, and hospitals.[10] From then on, "resilience" swelled to a global political ambition.

Above all, the word worked perfectly well with all the other phrases of that time: sustainability, robustness, persistence, equilibrium, stability. Resilience became not only hype and hip but a common mount for many sciences: ecology, economy, bio-

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9 "Risk society" once was such a buzz-word, eagerly adopted to everything intended to signal paradigmatic avant-gardism, as, for an example, Flitner (1997) and Kade (2001) did for education. The Ministry for Family, Elderly, Women, and Youth (BMFSFJ) seized on the concept and based social work programs on the fashionable combination of risk society and individualization (http://www.bmfsfj.de/Publikationen/spfh/9-Theoretische-grundlagen/9-1-Sozialpae dagogische-familienhilfe-und-gesellschaftlicher-wandel/9-1-1-individualisierung-in-der-risikogesellschaft,seite=2.html).

10 The relevant papers and publications are to be found at http://www.unisdr.org/english/ campaigns/campaign2010-2011/documents/index.php?o=ent_title&o2=DESC&ps=50&pg=2

logy, geology, engineering, disaster sociology.[11] Adam Rose (2004:308) as one among many defined economic resilience as "inherent" or "adaptive" ability or capacity "of a System to absorb or cushion against damage or loss" but the definition would not turn out a bit different for other disciplines when "damage" and "loss" become substituted with "casualties", "driving variables", "instabilities", "variabilities" or "imbalances".[12]

Moreover, the word perfectly bridged with other concepts and paradigms not being phased out yet, particularly with risk, risk reduction, risk communication, and vulnerability. Many key players in the field of corporate research programs still felt comfortable with these buzz-words and far from being put out to pasture. Thus, "resilience" became a new bottle for old wines,[13] but also the overlap in common for project tying between Strategie actors,[14] as well as a hinge towards completely different interests and intentions.

From a sociology of knowledge viewpoint, the latter puts a new complexion on the political and ideological role the term "resilience" is playing within its societal context. Originally, the term "resilience" emerged in the field of child psychology and conceptualized unexpected responses of children upraising under disadvantageous, discriminating conditions. More children than expected survived their negative circumstances in sane, stable, active, and confident condition instead of developing passive, desperate, deviant or delinquent personalities.[15] Resilience thus Stands for an individual resource, for "something" that enables not only to resist against but to overcome adversity.

At this point, politics come into play. For long, "Pippilotta Langstrump", the famous scamp by Astrid Lindgren, was ostracized by authoritarian regimes. They favoured aligned, obedient, exemplary children, not resistant, rebellious, or crossgrained ones.[16] Thus, education was and still is seen as important influence, although overshadowed by the controversy between "culture" and "nature" and the question

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11 **Martin** Voss (2010) **and Daniel Lorenz** (2010) **analyzed** the career of the **term, also** Bürkner (2010).
12 The terminologies are citations from Folke (2006), Holling (1973, 1996), Williams and Drury (2009).
13 Alike the defmition of the Management Council of the National Center for Earthquake Engineering Research at the University of Buffalo, N.Y. for a research proposal: "Disaster resilience is characterized by *"reduced probability of system failure, reduced consequences due to failure, and reduced time to system restoration."* These three desired outcomes constitute the essence of the framework proposed by MCEER to quantitatively define resilience", cited from http://mceer.buffalo.edu/research/resilience/default.asp
14 EU-projects tie "privileged partnerships" together like small business and industries with universities, or applied sciences and users (security research program), or technological development projects with social sciences, like BMBF-projects.
15 See the pioneering study by Emmy E. Werner et al. (1971).
16 In the socialization theory of the 70th "resistance" was predominantly connoted with social background and class, with deprived and less privileged descent. Paul Willis (1977) published one of the earliest ethnographical studies of less privileged kids from working class decent.

of malleability: Unavoidably, the concept of resilience as an inherent individual re-source was entangled with eider concepts of natural, biological, and genetic disposition.[17] Intended or not, "resilience" could neither be thought without an image of the human being, nor without the normative interplay between a negative and a positive reference point: which resilience against what?

It might be ideological in itself to answer the question with the excess of superman. The ideologies of race and breed emerged earlier than the racial ideology of Arian superiority,[18] perhaps earlier than the Ancient World´s ideals of health, strength, and steadfastness. The chance to survive correlated with coming through unscathed, depending predominantly on salvation, negligibly on personal virtues. In prehistoric times "resilience" was indebted to the Gods and whether or not ones activities found their blessing.

"Vulnerability", the antonym, generalized the defect, the weakness, the shortcoming, the unlockable passage of ones faith, like Achille's heel. The pre-modern man was, as John Dewey (1929) has put it, vulnerable *per se.* It took for long to emancipate from all the overwhelming superior forces be them natural or supra-natural and to gain self-knowledge and self-awareness up to a demiurgian image of oneself.

From there on, resilience became an ability, something to acquire like horny skin or an armor. The transformation into a personal equipment the individual is responsible for on its own brings an extreme reduction to the fore which is constitutional for the concept of individuality. To be the artisan of one's own future will be tantamount with the reversion of empirical severities: the force of circumstances become under- and the powers of the individual become overestimated.

How brutal this reversion might become in its consequences should become visible with some concepts of "resilience programs" for individuals, groups, and communities. Maguire and Hagan (2007:16) point at the fact, that many governments tend to "strengthen the resilience of groups and communities" because of the increasing deficiencies of the public Systems of emergency management. The authors define "social resilience" as "the capacity of a social entity (e.g., a group or community) to bounce back or respond positively to adversity". To do so, three components are demanded: "resistance, recovery, and creativity" (17). "Resistance", in the author's words, "relates to a community´s efforts to withstand a disaster and its consequences... Recovery relates to a community's ability to pull through the disaster"

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17 To this day, biological metaphors are in use: "Like the tree whose branches bend and sway in a storm rather than crack under pressure, we have the power to remain flexible and strong amid life's challenges... to be resilient!" cited from http://www.utexas.edu/education/resilience/, the homepage of "Resilience Education" of the Department of Kinesiology and Health Education at the University of Texas at Austin. An overview of resilience education is given by Brown et al. (2001).

18 Eye opening: Edwin Black (2004).

and "creativity" as a multi-faceted property is necessary to accelerate and optimize at all levels the community's recovery to its pre-disaster level of functioning.

Many words for the simple insight that the bürden of disasters and relief will be shifted onto the citizens' shoulders. And a cynicism too in the face of disasters nobody can shoulder. What can be done by resistance, recovery and creativity against the oil spill of "Deepwater Horizon", Three Mile Island, Love Canal, or Fukushima, what against new pandemics or toxic substances that slip away from laboratories or test sites?

The reversion's brutality comes even more to the fore, when "resilience" becomes propagated as *ultima ratio* against terrorism:

"Where local civic leaders, citizens, and families are educated regarding threats and are empowered to mitigate their own risk, where they are practiced in responding to events, where they have social networks to fall back upon, and where they have familiarity with local public hcalth and medical systems, there will be community resilience that will significantly attenuate the requirement for additional assistance."[19]

Looking closely, the concept of resilience mutated from an instrument to improve human development (Masden/Obradovic 2008) toward an ideology trying to persuade people that it is their own fault, their weakness, their vulnerability, or even worse, their lack of resilience, when they are hit by disaster or other mishaps.

The volte is skilful and working only because of the firm belief in "non-attributable" causalities. Unplanned and unintended effects commonly are seen as non-attributable - there is no responsible party, no one who is at fault. In all these cases, the affected have not only to suffer from but also to get over the negative consequences by their own. If this is true, resilience makes sense. However, empirical disaster research gives evidence to the contrary. What is called "accident", "disaster", or "failure" is not an act of God or a hit out of the blue but the consequence of poor interaction with nature and culture, with materials and energies, with organic and non-organic components. The things that went wrong are the excreted matter of our cultural metabolism, the externalities of human error - and they become not only shifted off to third parties, but transformed into their responsibility to make them willing to internalize what should have been prevented at its origins. This intemalization is more and more called "resilience".

Reconsidering "resilience" from its beginning as resource for human development, it seems appropriate to focus again on the question: resilient for what? Then, indeed, an older debate will return, the controversy on risk and the distribution of advantages and disadvantages, costs and benefits. Basically, the extended equation of risk includes resilience as reduction of the possible damage or the probability of

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19 Homeland Security Presidential Directive 21 (HSPD-21): National Strategy for Public Health and Medical Preparedness.

occurrence (at given damage). Both effects are positive, either as mitigation or as lower risk. Thus, resilience is a valuable contribution to general security and therefore worth to be paid back. As a matter of fact, this aspect is not taken into consideration yet. The contrary is true: resilience is increasingly demanded as individual give-away to vary the risk equation into another direction - to substitute expenditures for mitigation by "give-away-resilience" or to increase the probability of occurrence by lowering Standards and expenditures for safety.

We got used to the argument that the qualification of labor force is an important location factor. Meanwhile, however, versatile qualification is offered globally whereas other locational advantages find an incrcased demand: chcep energy for example, or, more important, cost-saving Standards in environment and safety. To survive the battles for resources and markets, every potential has to be mobilized and utilized, as well as safeguarded and collateralized.[20] Within such a context, "resilience" is in danger to mutate into a location factor that allows to lower safety Standards or, reverse, to increase risks. Thus, science has to have a watchful eye on how "resilience" is interpreted and applied and what in fact is expected when individuals, groups, and communities are requestcd to become resilient.

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20 Former president Dr. Horst Köhler was harshly criticized when he legitimized military interventions with economic interests (radio interview, Deutschlandfunk, 22.05.2010: „Meine Einschätzung ist aber, dass insgesamt wir auf dem Wege sind, doch auch in der Breite der Gesellschaft zu verstehen, dass ein Land unserer Größe mit dieser Außenhandelsorientierung und damit auch Außenhandelsabhängigkeit auch wissen muss, dass im Zweifel, im Notfall auch militärischer Einsatz notwendig ist, um unsere Interessen zu wahren, zum Beispiel freie Handelswege, zum Beispiel ganze regionale Instabilitäten zu verhindern, die mit Sicherheit dann auch auf unsere Chancen zurückschlagen negativ, bei uns durch Handel, Arbeitsplätze und Einkommen zu sichern." http://www.dradio.de/dlf/sendungen/interview_dlf/1188781/).

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