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EMERGENCY AND DISASTER MANAGEMENT

WARNING AND PLANNING

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Probably, you will judge my contribution "theoretical" in the beginning, but I assure you that the practical implications, its applicability, will be seen very soon. As German, my philosophical heritage is an obligation as well. Therefore I should open with some philosophical remarks upon the essence of warning.

In the first place - and that is my central thesis - warning is much more than a signal or a specific code that informs people about upcoming danger. Basically, a warning is a touchstone and a proof of the reliability of the social contract. Strong tobacco - nevertheless very obvious for sociologists. In terms of social action, warning has an underground message which says: Who is worth to be warned is worth to be saved. Thus, warning means factual humanity in the sense of: It is you who should be kept alive and a member of our party. Managers, politicians, administrators who forget about this social component of warning should not be astonished at people who become rebellious in the case of retarded warnings or palliated information. So far with the social dimension of warning. Other remarks are to make.

In the beginning of disaster research, stage-models have been helpful in identifying and analyzing characteristic patterns of temporal, spatial and behavioral sequences. Today, the theoretical and methodological deficiencies of stage-models are as known as their lasting descriptive and heuristic value.

The utmost beneficial effect of stage models was the modelling itself. All attempts to divide the process of disaster into specific sequences brought the knowledge home to scientists that time and space become the most influential variables when people try to cope with disasters. The loss of sovereignty of time is equivalent to pressure: Without the chance to weigh one's alternatives rationally, deciding is at random and therefore far below optimum. The loss of sovereignty of space is equivalent to narrowness: Without the chance to keep distance from danger and threat, fear ("Angst") is taking command and makes people literally feel trapped and driven into a corner.

In terms of decision-making theory, this is known as "deciding under stress". But it is not only the lack of time and space which makes people stressed, it is also the lack of information. Although (tolerably incomplete information is normal in every-day life, under stress incomplete information is diminishing time and space in particular. Conversely, complete information may enlarge time and space because intellectual sovereignty procures internal (emotional, psychological) distance and instantaneous readiness (of mind and body). Thus, information is a "functional equivalent" of time and space.

Proportional to the onrush of danger, the speed of getting ready and prepared makes the disaster: Is the danger faster than any protection, wreckage is unavoidable; is readiness as fast as the onset of danger, withstanding is propitious; and is readiness faster than the onset of danger, even precautionary measures are to utilize. Hence, disaster can be defined as result of interfering periods of time, or, in other words, as proportion of correlating speeds: the speed which people need to analyze their situation is the first factor that determines the rapidity of an upcoming danger. Stunned people "accelerate" the onset of danger; fast reactions "decelerate" the onset of danger. Consequently, threats have no speed of its own, no absolute, unevadable velocity. Thus, it is the human reaction to risk and danger that makes the choice out of the spectrum from total failure to total safety.

Analyzing the meaning of "velocity of threat", different physical conditions of metamorphosis are to distinguish: a danger in the state of risk is only a latent, a likely damage which threatens those who fear this risk. Anew, the turn from risk to danger is the turn from latency/potentiality to manifestation, but this is not necessarily identical with damage, although risk is defined by the range and likelihood of damages. In fact, the turn towards damage is determined by specific conditions (amount of energy, involved substances and materials, constructive and architectonic Standards, location, weather a.s.o) and lasts a correspondent period of time. During this time, adequate responses beguile the metamorphosis from risk to damage and that is the minimization of risk afterwards.

Here, then, two completions have to be made, The one is dealing with human response to risk and danger, the other with the minimization of risk. Risks, as the above has shown, can be minimized afterwards-through adequate response-and beforehand. In praxis, the latter is based upon the former: Without any idea of possible dangers and failures, the conceptualization of "risk" is impossible, too. Historically, the concept of risk has been accrued from (grievous) experiences, because it was the error and not the success that demanded remedy and durable betterment. Generally speaking, remedial measures and betterments are surmounted failures, which have been incorporated into material culture (better techniques, solid machinery, safer plants) and into knowledge. Again, information is the functional equivalent to risk-reduction.

Now, the sequences of stage-models come into the play again. the so-called "pre-disaster conditions" (see Powell 1954) are pretty much the same what is called "impact". The impact-phase, as Powell puts it, is characterized by some sort of inventory, an immediate diagnosis of the Situation after the impact. The pre-disaster conditions, however, are characterized by the set of individual and cultural capabilities which are necessary to cope appropriately with the effects of potential disasters. Transformed into "information", both phases signify the same, regardless of time and space.

Taking time and space into consideration, the asynchronism of "pre-disaster conditions" and "impact" becomes as obvious as the urgency to synchronize the specific informations of both phases in case of emergency. To withstand and survive threatening events, relevant informations of both phases are indispensable, because stereotypes like "Keep calm!", "Don't panic!" are absolutely meaningless. Alike the cacophony of the wilderness that scares city-dwellers almost to death when they sleep the first time in their lives under the open sky, the "codes" of modern risks have to be explained and understood as well as the meaning of the sounds of wilderness: It is this information that helps to keep mind and body, fear and "angst", under control. While utilizing these informations people fall back upon the stockpile of cultural knowledge which was accumulated in the past and which is built of the experiences of the threats humankind has survived before. If we might be able to watch

ourselves simultaneously in **slow-and quick-motion**, the **stockpile of accumulated experience** appears as (historical) **sequence of emergencies along** with solutions and the **actual emergency** appears as **extended cross-checking of the situation's requirements** and a **fitting solution** out of the historical **reservoir**. Thus, the Chance to **survive** an emergency depends on the **length of time to dispose** of the **information** which enable a person to do a **correct** diagnosis of the Situation and an **appropriate** therapy, i.e. an adequate **response** (rescue and remedy).

The sequence of **warning** has to be reconsidered **now**. In **former** days, **a few danger-signals** might have been **sufficient** to **alarm** one's **company**. **Today**, the danger-signals of sirens or other **technical warning-systems** are **neither instructive nor fast** enough. Yet, not the **warning-systems** are to **blame** but those who need to be warned. **Analogical** to threats, which have no speed of its own, no absolute **velocity**, **either warnings** have no absolute **velocity** and no significance in its own. The speed of warning depends on the **cultural Standard of alertness**; and the significance of Signals depends on the **risk-perception** and the **risk-taking behavior of all people**. **Therefore**, warning-signals need a specific **receptivity**, an **auditory** which is **instantly and autonomously** capable to **interpret** the **contextual** meaning of Signals. **Consequently**, it is not the warning-system that has to be expanded with **more detailed information** but those who **have to utilize** the warning. The individual's **capability to cope** with emergencies by **synchronizing different** informations needs a **corresponding** capability on the **level of daily risk-handling**: **Only a rational risk-assessment** and an appropriate stockpile of knowledge and **protection-measures** led to a permanent alertness and an operative preparedness. **Both** is the precondition to realize warning-signals and to survive **disasters**.

In addition to the immanent, more or **less objectively** calculable **destructive** potential of modern disasters, the **disaster management** has to cope with an **emmanent**, more or less irrational and incalculable potential of **social destructiveness**: People who are forced to **run** technological risks without consent, **without** appropriate **profit-sharing**, **without** reasonable **insurance**, without adequate **protection** measurements (disaster protection, shelters etc.), and without a **direct sensory** to detect dangers, **feel necessarily threatened, tricked, abandoned, exposed**. Consequently, these people react in an irrational, **hysterical effective** way. The social and **political** order is **as afflicted** hereby **as** the work of the disaster relief personnel.

What is **necessary**? In the **first place**, an adequate, i.e. a rational concept of human **failure**: People have to be aware of the fact that **thrusts into** the unknown bear the **risk** of failure. Individuals, groups and societies **may seriously fail**, sometimes perish. Exactly **this** is why risk-assessment and **risk-communication** are inseparably tied to the evaluation of means and ends of risks. Why do we run a risk? What is the **possible benefit**, what the **possible detriment**? Are those who run the risk **identical** with those who bear the possible **burdens**, or do the benefits **originate from** the **detriments** to other people, to the nature's resources, or to other **living** species? What is the net benefit of risks on the societal level? And which compensation is **offered** by a society, a Company, or an **individual** for the **detriments** which are **expected** to be endured by **others**? Speaking more generally, **some** solutions can be outlined: Modern risks need adequate modes of

- evaluation (ethical Standards; **reversibility**)
- assessment (**like** OTA)
- **communication** ("Planungszelle")
- **decision-making** (**electronic democracy**)
- responsibility (personal liability)

- **insurance** (product & governmental insurance)
- **consent** (put to **vote strategies**)
- acceptance (via **benefit-sharing**; repair & restoration savings)

LIDPAR MODEL

L	Latency
I	Identification
D	Definition
P	Personalization
A	Action
R	Remote Control (Feed back)