

## Solidarity during Snow-Disasters

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### ABSTRACT

The following article is based on a case study of two snow-disasters affecting the same area within an extremely short interval. Thus, many learn-effects could be studied and many behavior-patterns could be compared. In this context only one behavior-pattern shall be presented. It is a behavior which is commonly said to be "jointly responsible". The types, modes, causes, and objective backgrounds of such a behavior shall be discussed. The study's results are based on qualitative interviews of 2-3 hours with 40 professionals of the German disaster relief organizations, and on the analysis of documents (official reports, staff diaries, mass media etc.). A questionnaire is in preparation and should be given to the population which was affected by the disaster.

### The Background

Twice within two months the whole of Northern Germany (around 37.000 km<sup>2</sup>) was affected by heavy blizzards and - at the coasts - by floods. During a period from December 28, 1978 to January 6, 1979 and from February 13 to 22, 1979 these natural hazards caused numerous damages, the collapse of all traffic and transportation, and, partially, of the regional electricity supply (more than 4000 people without electric power). Many harbor-cities were flooded, dykes were broken or badly damaged, and thousands of people were stuck in the snowbanks with their cars, busses, trucks, and trains.

Drivers and passengers had to be evacuated, nursed, and maintained (about 5000 people) and the areas threatened by the flood had to be providentially evacuated. Snowed in herds of cattle had to be supplied by air as well as the isolated inhabitants and tourists on the Frisian Islands

(more than 6000) and all the other farmers being cut off in the wide country. Some highly specialized chicken- and pig-farms became extinct after the fattening run out and the electric heating and air-conditioning broke down. Even the dairy cattle couldn't be milked, because of the use of machines the cows were no longer accustomed to hand-milking.

Beyond that, the black out stopped working all electricity based systems like water pumps, oil burner, heater, and machines in industry and trade, and -worst of all - the generators of the telephone system: After 24 hours the emergency batteries were exhausted and the most important communication system broke down.

Taking all these circumstances into consideration the disadvantages were grave. Especially the traffic breakdown caused serious problems: Most of the means of subsistence - for man and beast - ran out, the workers couldn't reach their factories, no fresh supply reached the shops and industries, energy ran out, and the medical assistance for the ill, the old, and the far advanced in pregnancy became a risk. In the supermarkets, the bakeries, and the butchers hoarder activities took place as well as many attempts at deception to dodge the authority's prohibition to private traffic.

Totally, the losses amount more than 200 millions of Deutschmark, including the recovery of damages and the restoration of buildings. More than 250.000 helpers with more than 1000 special crafts were engaged in the relief work after each disaster. Beside these high losses and intensive mobilization of manpower only a few people were injured and only ten persons died as a consequence of the blizzards.

After both disasters, the governments of the affected states (Schleswig-Holstein, Hamburg, Bremen, and Niedersachsen), as well as the national government summarized their experiences of the disaster relief work and initiated many improvements to make the relief system more effective. The main improvements - a better wireless telegraphic system, the installation of mobil emergency power generators, a better organization of co-operation between the disaster management staffs on community level, district level, and federal level, and the co-operation with the army - demonstrate obviously the change in disaster risks and in the demands and capabilities of the relief and rescue systems.

More and more not the natural events are disastrous but the cultural conditions they will affect. Hundred years ago these heavy snow-falls would have been only called a hard winter but not a disaster. Only when our so called "modern" societies run the risk to be dependent on monopolized and centralized supply systems (energy, utilities, power-units, supermarkets out of town etc.), functioning traffic-systems, and reliable communication systems, the disadvantages of our progress and welfare comes to our mind. Then we will realize the other side of the coin and learn about the losses of this centralization, monopolization, division of labor and specialization of all social and technical functions.

### The Problem

This greater social, technical, and economic interdependence which characterizes our modern societies means that the potential now exists for more massive disasters, with regional, national, and even international impact (Quarantelli, 1979). Disasters which will affect wide areas and masses of people cannot be mastered only with the existing disaster relief system. "Modern" disasters are emerging as a result of technological, social, and economic developments and because of migration and settlement trends and because of lifestyle changes.

The population as a whole, as well as particular groups, live under the well-known effects of centralization and division of labor and so they have come to expect an adequate efficient and effective planning of their everyday life. On the other side they are increasingly tolerant of inequities by any disturbance, because the daily dependency on the modern functioning makes them unskilled, helpless, incompetent, and - sometimes -infantile. That for, a modern disaster protection has to face these changes and has to transform them into adequate modes of action.

Two modes of action seem to be necessary after the experiences of long-lasting and area covering disaster: First, preventive measures are better than any intervention after the disaster, and, second, the population must regain the competence and the skills to help themselves in a disaster and to be able then to substitute the modern comfort by own strategies of survival.

To evaluate the problems and possibilities on the way to make these two modes of action real, the Schutzkommission VIII, an advisory board of the German Department of the Interior, initiated a research program. The aim of it is to find out what the people have done during longlasting and areacovering disasters, whether they have helped themselves or not, what sort of help people could offer, and what sort of help they have asked for, which conditions made any assistance impossible and what has to be changed to get a competent and skilled population again.

### Results

Only those findings shall be reported which might be of a more general validity and of some sociological and psychological interest. The findings about a more effective disaster preparedness planning, about organizational and technical aspects of the German Civil Defence and Disaster Relief System, and about the possibilities of an early warning system, a satellit based surveillance system and other very special details will not be presented. (Some aspects are published: Dombrowsky, 1980, 1981.)

Essentially it should be pointed out that in modern societies the population is badly handicapped in coping with those disasters which affect the main supply systems and which undermine the structural suppositions to make the professional relief organizations and emergency systems effective. In those disasters the affected population is forced to help themselves and this in its turn needs available special routines, preparedness, know-how, resources, and skills being substitutes. If all this is available, I call such a competent and substitutive behavior "solidarity in disasters".

### Solidarity in Disasters - The Theoretical Framework

Although the term "solidarity" is a very misused conception, it seems to be adaptable in this context to describe those behavior patterns which gives people the feeling of unity, assistance, and cohesion in difficult circumstances. Though it is necessary to choose a definition which preserves the original content of an active association against trying circumstances and not the modified content in the tradition of Durkheim's concep-

tion of "organic solidarity", which describes the objective inequality of individuals forced upon them by the division of labor by interpreting it as a functional dependency between all people, and from which every individual is equally able to draw advantages and benefits Durkheim (1977). Thus solidarity becomes a measure set apart from the individuals of the "lasting inequality" (Luhmann 1977:23), which is produced by modern division of labor and which the members of society are still prepared to tolerate.

This solidarity lies apart from any real action and is only rationally conceived. Thus Durkheim's "organic solidarity" is characterized by the socially prescribed existence of seemingly useful functions and function holders, which become accomplices through their mutual application. But nothing will remain of this silent accomplices when disasters destroy their objective functioning and cut off their application's background. That's the problem with Durkheim's conception: How must a "solidarity" be conceived which doesn't collapse in the disaster, but on the contrary, which is stimulated or even induced by disaster? This leads back to the active component of the conception. As a counter-principle to the socially damaging effect of disaster, disaster could be presented as the triggering of a special routine of social action which, under non-disaster conditions is of no interest.

It still seems plausible to understand disaster as an incident, the consequences of which influence the afflicted persons in a way in which their normal everyday routines are no longer useful, and they are forced to turn to these so called "special routines of social action". The disaster, this "invasion of that which is alien" (Clausen 1978:128), unexpectedly strikes and destroys a multitude of cultural securities (from electricity and the transport system to the tumbling down of the house or a spouse's death), so that the corresponding insecurities become the object of all efforts.

To be exposed to that which is foreign without preparation and without know-how, i.e. without a special routine, as a consequence actualises behavior patterns which are socially favored and thought to be "normal". At this point our humanist clichés might actually prove useful. As a normative imperative a fiction of "solidarity"

could become reality because the lack of special routines causes people to fall back on those behavior patterns which are socially judged to be desirable (Richter, 1974).

Nevertheless, these "good-will-programs" must fail if the pure impetus is not coupled with know-how and skills. It is only in this case that a disaster begins to become a real disaster of the society, because the impetus of assistance still remains a wish, and any resistance to disaster would seem to be senseless. In this sense "solidarity" could be interpreted as psychological condition, as a positive stimulus with the help of which a trial and a survival could be effectively organized. However, this is only the case if the positive stimulus is coupled with an adequate special routine of the ability to withstand trial, i.e. the practical handling of disaster gives new hopes to the positive condition of success.

Now, a first result is becoming visible: "Solidarity" is individualized to an active attitude, which nevertheless has its social foundation since the ability to withstand trial has to be accomplished through forces, methods, skills, and techniques which are available and can be taught through culture. Thus, solidarity and the ability to withstand trial are united. Real solidarity between people will endure only in cases in which positive and useful results begin to show.

By the help of this theoretical conception of "solidarity" two items could be analyzed which are often mixed: Does assistance during disaster depend on motivation, or are the people motivated to help but unable to do so? If they are motivated but unable, what are the reasons of that hiatus?

#### Reasons for the Hiatus Between Motivation and Ability

If we take a look at the development of a snow diaster from the first snow falls through the disaster warning, we can determine two lines of development which are only loosely connected with each other. One line consists of the actions and activities of the disaster protection units, the other consists of those of the population. Both lines can be demonstrated with the help of a uniform pattern in which the action sequences are divided into six phases:

1. Latency
2. Identification

3. Definition
4. Personalization
5. Action
6. Feed-back

In applying this phase model to the action sequences in reality, we can reconstruct a very good picture of what happens during the actual events. In this context our main concern will be with the actions of the population, in order to get further information on the formation of solidarity between persons and groups. In spite of this, we start with the line of development of the disaster protection units to characterize the dimension of influence which causes the state authorities to give an event or its repercussions the state of disaster.

During the Latency phase, the example of the experts who think that they sense a disaster even before it hits given evidence that apprehensive uncertainty reigns. On the basis of extrapolation from experience, people suppose that a disaster will occur if the snow continues to fall, or if the tide continues to rise. Preliminary reports about damages intensify the anticipatory attitude. There is a tendency to suspend everyday routines while the application of special routines still don't seem to be justified. During the Identification phase the situation is more clearly determined by the piling up of reports on damages.

In the co-ordination of numerous information sources, (police, weather service, snow-warden, coast guard etc.), the trend of development can be determined and, thus, uncertainty ceases. A prewarning can be given, and special routines start to work. During the Definition phase people finally reassure themselves about their evaluation of the situation in respect to quality and extent of the results of the events so that it can be decided whether or not this event can be classified as a disaster. The Personalization phase is of utmost importance for the success in the struggle against the disaster repercussions. During this phase not only the assistance resources, (ambulance, rescue equipment, helpers, etc.), are established to meet the demand of the victims according to state determined priorities, (c.f. "disaster calender" of the authorities), but people are also co-ordinating protective measures, i.e. only the kind of help can be accepted and distributed which fits the institutionalized pattern.

Organizations as well as authorities depend on "addressing partners" in their environment because otherwise the demand structure remains anonymous and therefore cannot be dealt with. But disasters remain anonymous demand structures until they take form around people and until they are rendered manageable through the transmission belt of addressing partners. Such addressing partners develop in the form of victims who are demanding help, or in the form of helpers who are offering assistance, or who are obliged by law to offer assistance. After the Personalization phase is over and every helper knows what has to be done with people, means, and capacities, the Action phase and thus the Feed-back phase follow since every activity and its effect is reported back and again changed into action.

In our context only two out of the six phases are of real importance: the Definition phase and the Personalization phase. In the Definition phase the responsible persons not only have to regulate intra-institutional questions of responsibility, means of finance, and resources distribution, but above all the question of legality must be answered: Is the public order threatened to an extent and/or are so many people affected by damages that "the state" is entitled to center all decision making on itself, and to give out a disaster warning? Here the developmental line of the units of disaster protection for the first time touches the developmental line on the part of the population.

If the people do not appear to be victims and consequently do not demand help, the disaster status could only be justified by a threat to the public order. And indeed the state government of Schleswig-Holstein in the beginning had difficulties in justifying the disaster status, facing a large amount of criticism from those who pointed out the fact that the same amount of snow ten years earlier had only been a hard winter, but no disaster. If we aim at the fundamental principle we may say with an intended exaggeration that the population functions as a second authority in the determination of disaster status. In order to define the results of an event as a disaster, not only the state authority definition is needed but also recognition of the definition by the population.

This recognition is only in those cases free of conflict, in which the population accepts their role as a victim

defined by the law. The citizens fit in the conception in their role as demand for help, then they show "solidarity" as strange as it may sound, in the sense of Durkheim's "organic solidarity". The difference produced by disaster, (on one side the helpless victims, on the other side competent helpers), is accepted and used for personal advantage (there were cases in which someone would drive to his girlfriend in an ambulance, or would have their own drive cleared by the tanks).

But conflicts must arise in cases in which people do not accept the pre-conception of a victim role and take actions on their own. Thus the activity of the radio amateurs demonstrates an impressive way in which outside action is not welcome and is criticized if it can not be woven into network of state monopoly power. (The radio amateurs had constructed their own wireless service when they noticed that the wireless sets of the action forces worked at different frequencies and therefore could not be applied very well).

This conflict illustrates the importance of the Personalization phase. In order to keep full control of the activities during the disaster, authorities and organizations need responsible addressing partners in their environment, who supply information and carry out orders. He who doesn't fit into the network - or as the radio amateurs has not yet been included - is considered to be a threat. Consequently the radio amateurs were included into this institutional network in the aftermath of the snow-disaster. Now there is a "Head radio amateur" who in the future disaster will act as a contact for the authorities and will supervise the application of all amateurs according to the disaster management staff.

Let us now look at the line of development on the side of the population. As early as in the Latency phase we can detect important differences. According to the closeness of contact between population and disaster protection unit specialists, we can find different levels of information and thus different potentials of uncertainty. In regions where the Red Cross aid is well known, where families are well acquainted with each other or many are even related, where the policeman is the "neighbor" of the whole community, as is the minister or the fireman, we find an undisturbed pre-warning system and an outstanding informal network. This network is so closely knitted

that in the official Personalization phase, relatives, friends, and neighbors are always informed and included in the assistance plans.

This points to the second decisive difference in the Latency phase: In regions where the total population is integrated into the help action plans, assistance competence is forming, as a result of which there are fewer victims in that area. In other words, the chance to start adequate preventative measures for a possible case of emergency decisively depends on the availability of experience and know-how in the population. Where there is much experience and know-how people can act in a responsible manner; where there is little experience and know-how, there is a high degree of uncertainty, little preparedness, and little responsibility. This problem continues into the Identification phase. Where people have no contact with the information networks, the uncertainty, or even total unawareness persists, and a greater chance of being caught without warning.

The afflicted persons cannot conclude that there is a state of disaster because they lack the experience as well as the necessary information (who of the city-dwellers would be able to conclude from the scarce weather reports and water level reports that the region is in a state of disaster?). As a consequence the Definition phase drags long into the time of damage, i.e. the realization that a certain group of events already constitutes a disaster spreads latest in those places where the basis for a certain definition are the scarcest. It is therefore hardly astonishing that in the following Personalization phase, when the situation is already so bad that people are only able to make an emergency phone call, they indeed meet our expectations: they become the victim.

Corresponding to this accumulation of negative effects, the Action phase is also quite unsuccessful. The low level of experience, the lack of information, the high degree of uncertainty, all lead to a situation in which people are taken by surprise by the disaster and thus find themselves unable to act. Without the practised special routines which can be taken from the shelf at any time, all the usual everyday routines are dropped. Falling back on familiar cultural techniques doesn't work. The Feedback phase doesn't communicate anything but total failure. The

Table 1: Asynchrony and disparity of chances

Phase	Main Goals in Each Phase	Chances to Reach Goals <sup>a)</sup>		
		Professionals in Relief	Private Organizations Business	Population
LATENCY	Data generating	++	+	--
	Doubt reduction	++	+	--
	Preparedness	+++	++	---
	Site descript.	++	+	---
IDENTIFICATION	Information	+++	+	-
	Check-back-pot.	+++	++	---
	Network density	+++	+++	--
DEFINITION	Competence	++	-	---
	Know-how	++	++	---
	Data grip	+++	+++	---
	Specialists ass.	+++	++	---
PERSONALIZATION	Resources	+++	++	---
	Man Power	+++	+	---
	crafts	+++	+	---
	specialists	+++	++	--
Power in reserve	+++	+	---	
ACTION	To be "helper"	yes	yes/no	no
FEEDBACK	To have "success"	yes	yes/no	no

a) +++ best; ++ good; + sufficient; - bad; -- deficient; --- absolutely insufficient

following table will show this asynchrony and disparity in the chance to cope with disaster successfully.

Table I shows the average potential of chances of the state of Schleswig-Holstein to reach the defined goals. To calculate the average potential I have evaluated the 16 districts of the state. Each goal is operationalized by different indicators being evaluable at each person or group being involved in the disaster. "Data generating" for example means the chance to have a grip on: Radio, TV, Telex, weather service, coast guard, highway patrol, police, etc. Checking all these indicators you can describe a "cope-ability-profile" of the community, an organization, a firm, or a private person. On the basis of that profile you can forecast the probabilities how to withstand a disaster.

### Types of Solidarity

I have tried to show that a disaster and the eruption of an event are by no means the same. Rather the event is only something that sparks off a special routine which people assume to optimally fit the repercussions of this event. For disaster protection unit specialists disaster consists simply of the gradual competence-threatening loss of the "normal" work routines (office work, maintenance, training, etc.), whereas for the population it consists of an existence-threatening loss of the "normal" life routines. As a result of these two threatening qualities, highly competitive disaster definitions and extremely different special routines develop.

Whereas the special routines of the high degree of experience only have to be taken from the shelf, i.e. the everyday routine must simply be replaced by a different and rarely used routine, for the population there is no special routine which is well-founded and ready on the shelf. They have to produce an action pattern under the pressure for success during the threatening situation, while the experts only apply their disaster related special routines under the force of legitimation. Each strategy for action also implies a different kind of solidarity.

Let us turn back to the problem of differently constructed networks. The population, as I have tried to demonstrate with the help of the phase model, is in very different ways integrated into the process of official

special routines, and they furthermore dispose of very different special routines of their own. We can easily explain differences in distribution of participation and responsibility to be a result of differences between city and country life. The higher degree of personal familiarity, the better knowledge of practical skills, the greater availability of tools and materials for improvisation, give rural population in those cases an advantage over the city-dwellers if the cultural matter-of-courses and not-understood everyday routines - all of the push-button automatism and switch-on mechanisms - suddenly deny their services.

That would be the disaster that the everyday devices which are taken for granted, by which the "order" of a certain reality is produced, break down and no substitutes for the broken parts are available without difficulties. But no matter how plausible this explanation seems to be it is not fit for an account of different kinds of solidarity. Because the country has been industrialized for a long time people lack substitutes in a break-down just as in the city. Whole chicken farms died out because there was no electricity and deep freeze storage rooms started to stink because there was no possibility of maintaining the temperature. Electricity dependend oil heaters worked neither in the country nor in the town, and the old pot belly stove from grandma's times could not longer be brought into the room. Houses in rural areas have been built without access to the chimney in every room for a long time. Thus in cases where there is no clear-cut line between town and country we have to fall back on more general assessments of the different forms of solidarity.

The generally prevalent "organic solidarity", as I said, breaks down in the course of a disaster if the functional implementation upon which it is based, the fundamental order, breaks down. For the disaster protection units the functional implementation doesn't break down. For them only parts of this implementation, of the daily "normality" are lost and it is a part of the total and normal implementation to make up for this deficiency. In accordance with the functional order, for the disaster protection specialists the "organic solidarity" remains valid, in the sense that every person has his place and his task and is not able to solve his "repair"-problem without the others. The victim of the disaster is an indispensable part of this

functioning. Without a victim there are no helpers - the reason for the necessity of producing a "disaster clientele".

"Organic solidarity" really breaks for only one segment of the population. It is the segment which doesn't want to be a victim. These afflicted people who have decided on self-help, who want to draw up autonomous special routines to counteract the threatening repercussions of the disaster have to produce a situation which lets the "desire to be tested" become successful. This means they need the successful special routine, the ability to withstand trial, in order to keep from drifting into the role of the victim. The problem which arises for them is how they are once deprived of their normal everyday routine.

At this point we are aided by an assessment which was developed by Paul Alsborg (1922) in his book "Das Menschheitsrätsel" (The Mystery of Mankind). The human being, Alsborg writes, is characterized by the fact that he finds his optimal chance for survival if he, contrary to the animal, does not go into body adjustment, but rather sets himself free from the restraint of body adjustment.

In order not to specialize the body (teeth, hoofs, horns etc.) i.e. not to run into an evolutionary cul de sac, man had to learn to exclude his body, his nature, and keep unspecialized himself in a world of technical and social specialization. (What would our hand look like if it had needed the physical specialization of a hammer?) This process Alsborg calls the "principle of body exclusion". The technical and social specializations, which Alsborg calls "body exclusion instruments", form our total culture. The ability to handle them with competence makes us successful in the cultural sense.

But if these "body exclusion instruments" fail - and now we are back to our topic - the competences won which are based upon them also fail. People are forced to either fall back on a younger generation of "body exclusion instruments" (light bulb, kerosene lamp, torch, etc.) or if these are not available, to go backwards along the object making development of body exclusion until they are capable of developing new and useful "body exclusion instruments" in a given situation. (In situations which are particularly unfavorable and without suitable disposable means they would have no other possibility but to go back to pure physical rivalry, i.e. to become again either a

totally retreating, or an aggressive, fighting being. "Animalistic", or "hysterical" behavior patterns would be better described in this way.)

Now the content of the conception of an active and practical solidarity might become clearer: The failing of the corresponding applied and cultural "body exclusion instruments" forces people to fall back on instruments less distant from the body and thus on the reactivation of physical abilities such as improvisation, creativity, and application of the "out-dated" to the actual emergency situation.

The reactivation of techniques being more simple, more transparent, and easier to handle will even teach the fact that each technique needs a corresponding social behavior pattern (von Borries, 1980) which has to be actualized also if the out-dated technique is actualized. So an out-dated behavior, an out-dated know-how, and an out-dated technique have come together. (For example, to bake bread by his own instead of buying it needs very special out-dated capacities.) Many times the ad hoc development of those "emergency instruments", which is a consequence of this nonadaptation to the emergency situation, results in forcing the afflicted persons to cooperate and thus in such a "practical and active solidarity".

### Solidarity Between Families

Now two trends can be identified. First, the development of an active solidarity does not depend on the motivation to be jointly responsible but on the know-how which makes the motivation meaningless or not. The intention to help one's neighbor is still left, but it is diminishing in the same manner as the know-how will be lost by the described strategies of modernization and the fact that the increasing specialization of the professional disaster protection makes the population more and more incompetent. Therefore, in the long run, the attitude to help and the motivation to be responsible also tend to diminish.

Secondly, in the same manner as the daily life-style is changed by modernization, most of the differences between urban and rural regions vanish. That makes it obvious that the active solidarity depends not on the family structure or the demographic structure but on the

degree of intimacy between the affected persons and their capability to develop "body exclusion instruments" by their own and under stress. This is caused by the strong influence of useful know-how on the degree of motivation and the attitude to fear acting under insecurity and the possibility to be blamed. Those who had stable relationships to others even tended to explore special routines without an adequate know-how, whereas those who had some know-how but no stable connections feared to explore special routines in case they might be blamed.

So - in one aspect - the institution of the family is very important, because there the fear of being blamed is very small. In general, the personal stability which enables to trial autonomous special routines is based on the intimacy of the family. Otherwise the frustration must be very great if the lack of an adequate and useful know-how proves the personal stability as a broken promise. So we have to face the problem that a successful behavior in disaster needs this positive impetus to start trying special routines but - on the other hand - that modern societies diminish this impetus as well as the know-how which is needed to transform the impetus into real action.

### Consequences and Perspectives

From the theoretical approach and the empirical data I can draw some conclusions now to improve the disaster preparedness planning:

1. Knowing the fact that there are two different contents of "solidarity" it is much easier to identify the different interests behind them and the course of development of each other.  
A responsible preparedness planning has to support every form of "active solidarity" to make the citizens independent.
2. The differentiation between "motivation" and "ability" enables to develop specific strategies of assistance: If the people are motivated you can look for the objective hindrances. On the other hand you can look for the hindrances to be motivated if the objective capabilities are given.
3. With the help of the "phase model" you can identify the objective capabilities and hindrances which determine the ways to cope with disaster. On the

basis of the so called "cope-ability-profile" it is possible to offer special means of assistance for personal or social problems. That way it will become possible to reduce the stress of individuals and of families which will undermine their stability and intimacy. If people know the objective hindrances they can use their positive impetus to conquer them. Making the hindrances clear you can teach the people the means to conquer them or the political demands to change those structures which will hinder the development of substitutive "body exclusion instruments".