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Water talk

Intercultural development communication

This is a short report on a new research project based on a joint initiative of the recently installed chair for Ecotechnique et génie sanitaire at the Institut du Génie de l'Environnement (IGE/EGS) of the École Polytechnique Fédérale de Lausanne (EPFL) and the chair of German (Language and Literature) and of Discourse Studies (Text-/Kommunikationswissenschaft) at the Department of Germanic Studies of the University of Berne. It aims at bringing together at least six different perspectives of research hitherto operating in entirely separate fields: media studies, intercultural communication, conversation analysis, environmental studies, sanitary engineering, and development communication.

The challenge

«Alles ist aus dem Wasser entsprungen,
alles wird durch das Wasser erhalten.»
(Johann Wolfgang von Goethe)

The focal meeting point of these different perspectives of research is discourse (Ehlich ed. 1994). It opens a dialogue on an issue of vital importance to ecology world wide: water. This serves as an example for key questions such as the communication of environmental conflicts in the mass media: can environmental awareness be awakened by the media? Can they alter everyday behavioural routines with respect to sustainable development? Can they be used to improve intercultural instruction?

One of the major ecological problems of the near future will be the global water shortage, which is already today responsible for many political conflicts all over the world: this was well illustrated by a recent German television series on the issue ("Wasser", ZDF July-August 1998, focusing especially on the situation in Africa, Mexico, Turkey, Syria, Israel, etc.). Our main research interest, therefore, is to examine the increasingly important rôle of the media in communicating ecological problems caused by the shortage of water and find sustainable solutions to fight their consequences. If such solutions for sustainable management of water resources cannot be communicated effectively, water problems may not only deteriorate into environmental crises but also political conflicts and even regional catastrophes which, in the last resort, will affect our First World societies in one way or another (e.g., migration, international relations, developmental policies, crisis intervention, etc.: cf. Hess-Lüttich 1997).

To date, sanitary engineering has proposed a number of solutions, even if predominantly technical ones, i.e., solutions dealing with preserving water quality and reducing water consumption. The communicators involved in the complex dialogue process – from finding the solution and inventing the necessary technology to its local implementation and effective application – are institutions and organisations on the one hand, local project workers and their addressees on the other. Thus, the attempt of analysing this complex dialogue process means taking syste-

matically into account aspects of (i) *institutional communication* (mass media, aid organisations, local communication networks), (ii) *interpersonal communication* (face-to-face conversation, instructional discourse, behaviour routines), and (iii), owing to the manifold cultural differences involved, *intercultural communication* (cross-cultural dialogue, cultural stereotypes, international relations).

The research project, sketched out as follows, aims at designing a theoretical framework for transdisciplinary analysis of the interface between the three main communication axes (institutional, intercultural, interpersonal), and establishing a model derived from that analysis for application "in the field", permitting implementation, harmonisation, and optimisation of communication patterns in local cross-cultural instruction processes, as well as in campaigning for environmental issues through critical media reports, public relations concepts, and the like (cf. Hess-Lüttich ed. 1992). The findings could, and should, be applied, for instance, to the field of sanitary engineering where the IGE/EGS has established close cooperation with the École Inter-Etats d'Ingénieurs de l'Équipement Rural (EIER) and the Centre Régional pour l'Eau Potable et l'Assainissement (CREPA) in Burkina Faso, for francophone West Africa. This cooperation, among other activities, has already led to a recent PhD-Thesis on communicating sanitary issues in deprived regions (Guène 1998). Another important field of application would be the one of communication studies and public health where the Berne Institute has established contacts with the Centre for Cultural and Media Studies (CCMS) at the University of Natal, Durban, for anglophone eastern and southern Africa. Other projects deal with problems of sanitary engineering in Morocco. Taking all these together should provide a broader picture of the issue in Africa and a very good starting point for further field studies.

Risk research and communication conflict

In modern "risk society" (Beck 1996), everybody is obliged to deal with uncertainties and their consequences. Facing risks has become part of everyday life nowadays (Blanke 1990: 135). The term *risk society* refers to social institutionalisation of accepting risks within contemporary

societies (Beck 1996). Special interest groups conducting their initiatives no matter whether they contradict the interests of other groups, typically run the risk of *conflict*. If the conflict cannot be resolved through negotiation, this may lead to a *crisis*. A crisis marks the turning point at which the balance of power is re-considered, re-discussed, re-evaluated by all parties involved. If all negotiations fail, *i.e.*, if the conflicting parties insist on questioning and re-defining the existing equilibrium, the crisis may escalate into a *catastrophe* in the sociological sense of conflict research (Apitz 1987: 13).

What would the scenario for a *global catastrophe* look like in a post-war age? What would its crucial issues be? When would it occur? Meadows et al. recently revised their famous 1972 report to the Club of Rome, entitled *The limits of growth*, which gave a prognosis on the increase in resource consumption with a growing world population. In their second report 20 years later, *Beyond the limits*, it is clearly stated that within a few decades many natural resources will be exhausted, the first being *water*.

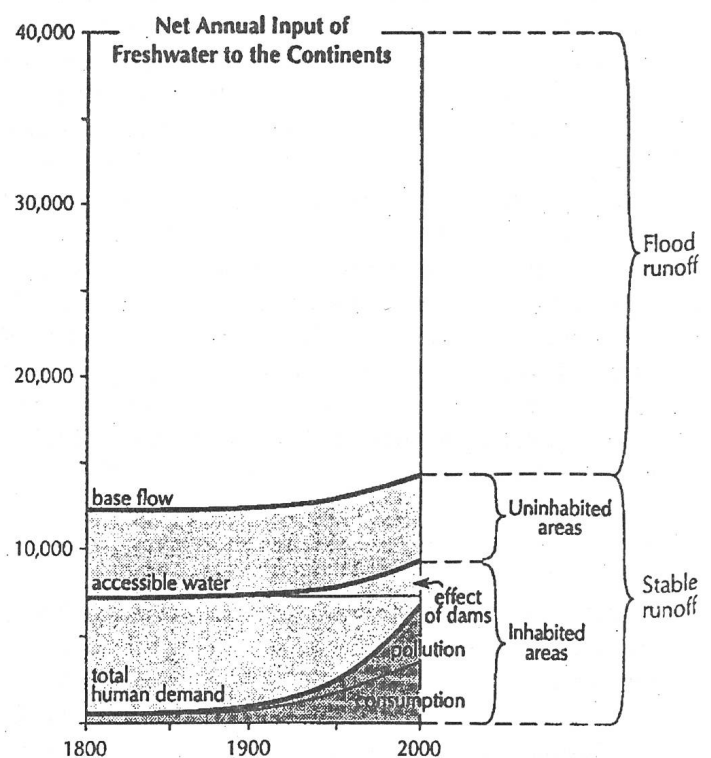
One has to bear in mind that while 71 % of our world's surface is water, less than 1 % is accessible fresh-water. People need it for drinking, cooking, washing, producing products, agriculture, etc. Thereby, they not only consume water; they also contaminate it, thus causing remarkably high *passive* water consumption. This, in turn, affects both surface and sub-surface fresh-water resources (Genske 1996). To reclaim or remediate contaminated groundwater resources is such a complex and costly problem that only highly developed countries can afford it if there is a clearly defined need (cf. Genske & Noll eds. 1995). While Europeans today enjoy an average water consumption of some 250 litres per person per day, and Americans of more than 600 litres, the peri-urban population in cities like, say, Ouagadougou, Burkina Faso, has to manage with some 20 litres per person per day, way below the absolute minimum defined by the WHO for developing countries. Critical water shortage is already a reality and part of everyday life in many countries today. Two billion people have no access to drinking-water; more than five million die every year because of diseases transmitted by contaminated water. By the year 2025 up to 40 % of the world's population will have no access to sufficient clean water; by 2050 this figure will be 60 %. There are many conflicts on water rights; many areas are frequently plagued by crises in water supply; some are on the verge of being exposed to regional catastrophes caused by water shortage (cf. Meyer & Wellmann eds. 1992).

But why on earth should we in central Europe think about these problems? Take Switzerland, for instance, a country as rich in water as it could be, where it is abundantly available. That is exactly the point forcing us to think about a global water crisis and its possible consequences. According to Brand (ed. 1997), the number of migrating people seeking space, resources, and water, will increase considerably as compared to those fleeing from civil wars

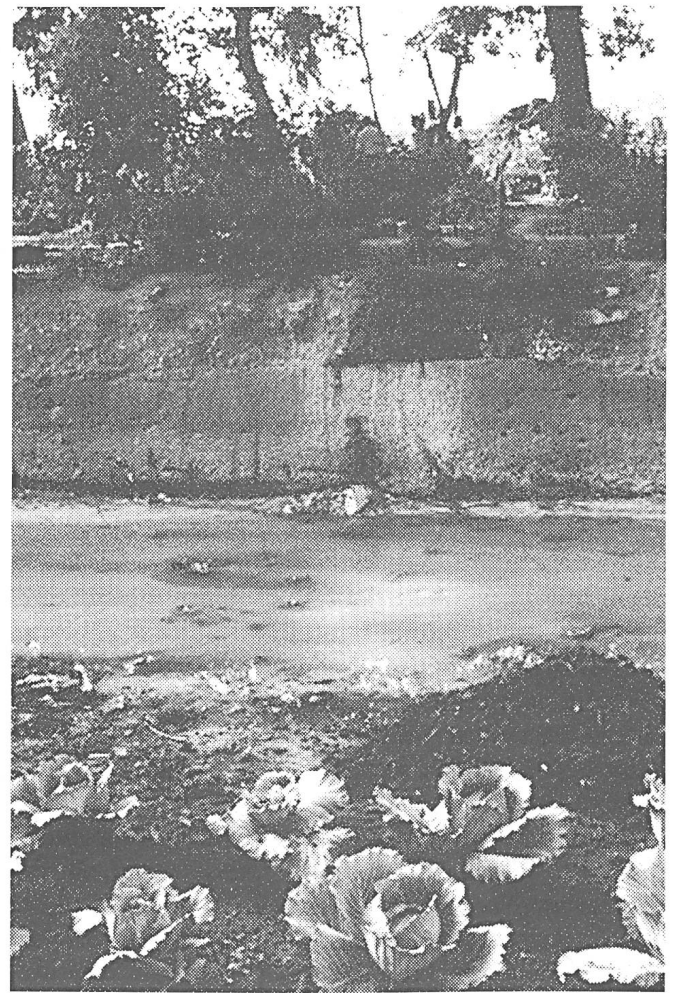
and political suppression or religious persecution. Any ecological crisis will have a negative impact on the economy, on the social structure, probably even on the internal social peace the rich countries have been enjoying for such a long period (cf. Joas 1992: 325 et passim; Scharping & Görg 1994).

Management and resolution of crises normally commences with preventative measures before the crisis breaks out, *i.e.*, in the phase of conflict (when crisis management comes too late – as described, *e.g.*, in *UNESCO Courier* 10 (1997) – it may slide into the phase of catastrophe). Although there are numerous international organisations dealing with the exploitation of water resources in regions in need of water, the demand has increased. Although an International Water Decade (1980–1990) was proclaimed by the UN, the number of military conflicts over water resources is growing. Although the technology is available for resolving water shortages, global water management has deteriorated. And finally (although the Rio de Janeiro World Summit in 1992 passed the well-known Agenda 21 including the now almost proverbial notion of sustainable development) the concept of careful resource consumption for the benefit of future generations – as clear and simple as it sounds – has yet not been sufficiently implemented.

According to the prognosis published in Meadows et al. 1992, water will be the first primary resource to become exhausted.



Liquid waste from a hospital enters an open canal. About 100 meters downstream water is collected from wells adjacent to the canal for watering vegetables to be sold on the local market. When water wells have run dry, water has been taken directly from the canal (Burkina Faso, photo by Karin Linxweiler, 1998).



Could it be that it has not found the right communication path through administrations, organisations, and institutions down to those affected by these resource shortages? It is this very question we want to raise in this multi-disciplinary dialogue (cf. Welford 1995; Breitmeyer 1996: 132–145; Joussen & Hessler eds. 1995; Brand ed. 1997). One of the key aspects of understanding and explaining conflicts with respect to primary resources such as water seems to be a failure in communication due to mismanagement of down-to-consumer information and control. Socio-cultural, political, and economical characteristics of the population targeted must already be taken into consideration in the planning phase of a crisis communication project. This has been common ground in all disciplines dealing with communicating technical information between cultures since the 1950s (Clyne 1996; Scollon & Scollon 1995). In the late 1980s, however, when an integrated theory of intercultural technology transfer had still not been achieved, Kievelitz (1988) outlined a theory of development ethnology ("Entwicklungsethnologie"). From a pragmatic viewpoint, he pointed at weaknesses and contradictions in communication models to date and called for combined ethnological theory and practice in order to improve communication strategies in projects of technical co-operation across cultures (Kievelitz 1988: 99):

Technische Zusammenarbeit spielt sich stets in einem fremden Kulturraum ab. Dabei macht die Kooperation und Interaktion zwischen Einzelpersonen, Gruppen und Vertretern von Institutionen den überwiegenden Teil jeglicher Projektarbeit aus. Die Zusammenarbeit zwischen Menschen ist die wichtigste aller Aufgaben im Projekt; über Personen wird jeglicher Erfolg in der Arbeit erreicht, ganz unabhängig davon, ob ein Projekt auf Regierungsebene angesiedelt ist oder unmittelbar bevölkerungsnah, und gleichgültig, ob es sich dabei um ländliche Regionalentwicklung, Institutionenaufbau oder Regierungsberatung handelt.

[Technical co-operation always takes place in a foreign culture. The co-operation and interaction between individuals, groups or representatives of institutions represents the main part of any project work. Co-operation between people is the most important of all tasks of a project; via people every success of the work is achieved, regardless if the project is launched at the governmental level or directly close to the population, and despite the type of development project, be it regional, institutional, or governmental.]

Recent studies agree that these findings remain to be tested empirically and applied in field work (cf., e.g., Prochnow 1996: 63). Although traditional intervention philosophy has meanwhile shifted towards a participative

concept of *empowerment*, many reports show that, in practice, inefficiency and cost-ineffectiveness prevail in intercultural communication (Weiland 1984; IEZ 1994), and that misunderstanding and even social conflicts are quite often provoked (Gnägi 1995: 361–368).

Facing the existing trends towards globalisation, the empirical investigation of intercultural communication should not be restricted to what has been dealt with so far within the framework of *cultural studies*, and it should be linked to the expanding research field of *international communication*. Meckel & Kriener (eds. 1996) propose a systematic division of the research on international communication into four segments: (i) technical and infrastructural development on a global scale, (ii) the institutional dimension of internationalisation, (iii) the institutional context of media products (including journalism, instruction), (iv) the textual dimensions of media products (including content analysis, media semiotics). Against the background of newly emerging structures for global communication and new technical developments in the media system, the authors take a close look at the recent political, economical, social, and journalistic implications of international communication, thereby not only introducing aspects of journalism and communication theory into the discussion on international communication, but also strongly suggesting a change in the clearly eurocentric direction of traditional analysis of mass media impact in developing countries – especially those with resource shortages (cf. Grossenbacher 1988, Grossenbacher & Saxer 1987).

All this is of direct relevance to analysis of crisis communication: for companies and organisations, crisis communication has primarily economic dimensions; a *crisis* interferes with the standard routine; it disturbs normal processes and affects the economy of an organisation negatively. Many examples of attempts at ecological crisis management, some of them not very successful, are still in the public conscience, for better or worse linked with catchwords such as Bophal, Seveso, Tschernobyl, Brent Spar, and Schweizerhalle, to name but a few. Instances such as these have been analysed from various perspectives: from a primarily economic viewpoint by, e.g., Weber (1980), from a strictly communicative perspective by Apitz (1987) or Heintzel, Kunczik & Zipfel (eds. 1995), and, most recently, by Scherler (1996) from an integrated standpoint combining the economic analysis of ecological crisis management with its communication theoretical implications.

The overall communication structure of a typical reaction by organisations (companies) having caused a severe ecological accident is characterised by the initial phase of internal discussion of the social and thus economic impact of this accident on the organisation or company. At the next stage, press releases are prepared by the organisation's public relations department (for a more detailed discussion of the term *public relations* and its research tradition, cf. Barthenheier, Haedrich & Kleinert

eds. 1982; Flieger 1986; Böckelmann 1991; Becher 1996). At this stage, the functioning of internal communication is crucial for a successful positive presentation of the organisation to the public. Board members must know the complex structure of their organisation and their communication pathways, allowing them to communicate efficiently within their infrastructure and through all levels of the company hierarchy as a prerequisite for a full feedback to staff members working out a public relations strategy (cf. Kalmus 1994; Armbrecht 1992). Internal business communication ("Unternehmenskommunikation", cf. Bungarten ed. 1994 a, b) is a vital factor in the organisation's attempt to socialise its staff members and make them identify with their company and its corporate identity – today a well-established field of *applied semiotics* (cf. Borbé & Krampen eds. 1978). However, to date there are still only few attempts at analysing the underlying relationship between communication, technology, organisation, and development (cf. Mansell & Wehn eds. 1998; Harré, Brockmeier & Mülhäusler 1999). Only if all the systems involved work together, complex decision strategies for (changing of) daily routines and for the adjustment and/or optimisation of development communication can be successful.

Public relations training is considered to play an important part in this process. So far, however, a unifying concept of the functions of public relations does not exist (Ronneberger & Rühl 1992: 11). Since the late 1980s, public relations has also been recognised as an ample field of research in communication science and its neighbouring disciplines in the German-speaking countries. Whereas research on public relations carried out in the United States remained more or less empirical with a strong focus on application (Armbrecht & Avenarius eds. 1992), European studies clearly emphasised the inclusion of theoretical desiderata. Having diagnosed a "defizitäre wissenschaftliche PR-Lehre und -Forschung" [an insufficiency in academic teaching and research into public relations] in Germany, Ronneberger & Rühl (1992: 10) called for a theory of public relations and submitted "a first draft" of such a theory. It gives an outline of the few existing theoretical approaches and of recent developments. But it also indicates certain contradictions in the fundamental concepts and methodology of these approaches. Alternatively, it offers a new approach based on communication science, bridging the gap between the theory and practice of public relations.

The gap is still wide. Interest in practical public relations tools is still dominant, reflecting the prevailing underestimation of PR's external relevance for the organisation's image in the media. The same applies to internal business communication: its structure is hardly influenced at all by public relations concepts relating communication, decision, organisation, and marketing (cf. Broghs 1994; Armbrecht 1992; Theis 1994). The management function is only one among many other public relations functions (Ronneberger & Rühl 1992). These also include scrutinising the demands of the organisation, the rules of

external markets, and the social environment of an organisation; they especially include provision of complex decision-making strategies for changing daily routines and for adjustment and/or optimisation of communication. Following the lines of system theory, the authors distinguish three levels of public relations: (i) at the *macro*-level the functional relationship between public relations and society as a whole, (ii) at the *meso*-level the performance of public relations in relation to other functional systems in society (such as the mass media, pressure groups, lobbys, etc.), and (iii) at the *micro*-level the public relations tasks and internal as well as external communication structures of an organisation, including, *e.g.*, face-to-face interaction in project work (Ronneberger & Rühl 1992: 183–193 and 249–280). In this sense, public relations theory can be understood as one possible starting point to provide the supporting pillars for a bridge between mass communication and individual communication, between institutional and interpersonal communication, as the most relevant frameworks for crisis communication. As far as we can see, the interface of these two frames of conflict communication has not been investigated in a synoptic approach so far (cf. new proposals in Fiehler ed. 1998). A concept for an integrated theoretical model remains a desideratum (an early exception is Richter 1979). However, empirical case studies in various fields seem to indicate the necessity for a more complex approach and an in-depth analysis of this relationship with regard to what has now been named *development communication* (cf. Anderson 1997; Mansell & Wehn eds. 1998).

To cite a case in point: in a field study dealing with installation of a municipal waste incineration plant, Wiedemann, Schütz & Peters (1991) conclude that an open information policy might trigger interactive participation by the target groups concerned. Hence, public relations could well serve as a key issue in fostering *empowerment* of groups facing conflict situations.

Modern societies call for new ecological quality of life. It is increasingly regarded a core dimension of freedom. For many years, conservation or restoration of an intact environment was believed to be a task of solid engineering. This exclusively technical approach has been shattered considerably in recent years (cf. Joussen & Hessler eds. 1995): modern ecology favours transdisciplinary co-operation between the engineering sciences, social and political sciences, psychology and semiotics, natural science and the humanities. Only such a dialogue between all the disciplines involved can provide the basis for fruitful discussion on how to respond to environmental degradation in an effective manner, *i.e.*, one publicly acceptable. However, the manifold facets involved make it difficult to develop an integrated theoretical strategy for communicating ecological concepts through the media and across cultures. The core function of communication in this process is still scarcely acknowledged (cf. Aurand, Hazard & Tretter eds. 1993). It remains widely ignored by communication science, which seems absorbed by

investigating headline journalism and media scandals, text design, and media ethics.

One rare exception is a recent study by Meier & Schanne (eds. 1996) sponsored by the Swiss National Science Foundation. Devoted to the "Rolle des Journalismus bei der Wahrnehmung und Bewältigung gesellschaftlicher Risiken" [rôle of journalism in realising and mastering social risks], it presents an in-depth survey of media performance on ecological issues in general and on environmental risks in particular. According to these findings, it appears that the mass media often serve as a mouth-piece for promoting the interests of industries, companies, and business organisations. The key rôle of public relations plays in this process is therefore an important object of research (cf. Grossenbacher 1989). Astonishingly, the water crisis – as one of the most urgent environmental problems to be dealt with globally – was not even mentioned, let alone defined as an object for further case studies.

However, an aspect investigated thoroughly in communication sciences is the mutual dependency and resulting rôle conflict between journalists and public relations agents, the mass media, and business organisations (cf. Baerns 1985). Business organisations, institutions, and companies, facing an increasingly critical and ecologically aware public, are more than ever confronted with problems of legitimising and justifying procedures. This again holds a strong potential for further rôle conflicts (Becher 1996). But topical studies applying this to the water crisis are still lacking to date, just as systematic investigation into instruments and types of public relations such as open-house and information days, poster campaigns (as launched by the pharmaceutical industry), TV commercials (*e.g.*, combat AIDS-campaigns), cultural events (*e.g.*, the August 1 floating candle campaigns for Swiss-Aid), or cross-cultural campaigns of aid organisations (*e.g.*, Red Cross).

In applied discourse analysis we have one possible starting point for providing the supporting pillars for a bridge between mass communication and individual communication, between institutional and interpersonal communication, as the most relevant frameworks for development communication to avoid ecological crisis and subsequent conflicts.

Water talk – an African field study

Water is a case in point: International experts and environmental organisations do not hesitate to speak of a global water *crisis*. This indicates that the very complex implications of such a crisis will not only affect arid areas of the world but also in one way or other the so-called water-rich countries in the northern hemisphere. The problem can only be tackled with a combination of international and interdisciplinary approaches extending across traditional academic boundaries. In the light of this understanding, the EPFL has allocated a seed budget to the IGE/EGS to finance preparation of a research project

focusing on communication problems with respect to the water crisis (7/98 – 12/98: Karin Linxweiler helped with preparing relevant data). This is why two research groups, which normally would be protected against any contact with each other by the high barriers of scientific cultures, have decided to co-operate: namely the chair for Eco-technique et *génie sanitaire* at the Institut Génie de l'Environnement of the EPFL and the chair of German (Language and Literature) and of Discourse Studies at the University of Berne (see above), both strongly motivated by an unconventional understanding of the social responsibility of scientific endeavours.

The prerequisites were optimal for a pilot field study. The IGE/EGS has been co-operating for many years with the École Inter-États d'Ingénieurs de l'Équipement Rural (EIER) and the Centre Régional pour l'Eau Potable et l'Assainissement (CREPA) in francophone Africa. The CREPA was founded as an international organisation based in Ouagadougou, Burkina Faso, dealing with problems of water supply and sanitary engineering. Branches ("antennes nationales") of the CREPA are located in more than 15 French-speaking countries in western and central Africa.

Ecological problems dominate daily life all along the sub-sahelian zone. Of special interest here are peri-urban areas, since these are the fastest growing in population, but have, at the same time, the weakest infrastructure. The UN Summit Habitat II in Istanbul 1996 published an assessment projecting that two out of three inhabitants of our planet will be living in cities in less than one generation (quoting a prognosis of the World Resource Institute in Washington carried out in collaboration with the World Bank). Neither water nor electricity is available in the fast-growing peri-urban areas of poorer countries. Clean water has to be collected at water points which have been installed with the help of international organisations in co-operation with local institutions and authorities. The health situation is hazardous in the peri-urban zone. Inadequate waste management causes numerous diseases connected with the lack of sanitary installations (and, as we said in the beginning, five million people die every year from these diseases transmitted by contaminated water).

Our pilot field study was devoted primarily to the peri-urban areas of Ouagadougou, the capital of Burkina Faso, during an intensive two-week survey in June 1998. But for comparison, the much smaller city of Ouahigouya in the north – a so-called "ville secondaire" – and the rural village of Roumtenga were also included in this survey. Its main interest was to analyse attempts of international aid organisations, such as CREPA, to communicate concepts of water supply and sanitation to the local population.

On-site discussions with delegates of CREPA, municipal officers and administrators, local water point committees, 'water masters' and traders, and target groups of the local population yielded an insight into the most complex

communication pattern developed in a pragmatic way by those sharing a common interest in obtaining and providing water. These communication efforts – which include not only the transfer of technical and social issues but aim at the same time to change traditional behaviour patterns for the vital reason of sheer survival – have not been analysed so far.

The instructional concept of CREPA concentrates on how the quality of clean water collected at the well point can be maintained until the moment of consumption. The quality of water may already degrade during transport to the huts if not carried in closed containers, and later in the huts if not stored in especially designed jars. If the water quality degrades due to inadequate sanitary precautions, water-related diseases are the inevitable consequence. In the poor quarters of the towns – which are mainly located in the peri-urban zone – the mortality rate of infants exceeds 30%.

CREPA decided some time ago – probably somewhat intuitively – to start with sanitary education efforts at the water points since these are the locations the local women visit every day to satisfy their families' water demands. It was certainly a wise decision, by the way, to designate water points as optimal locations for implementing educational campaigns: utilising the *water distribution path* as a *communication path* is a strategy with a long tradition. It has been used for ages by magicians, churches, and mosques, especially in the more arid regions of the world.

The CREPA task, however, was complicated by the fact that an educational programme dealing with issues of sanitation has to address delicate questions into the private sphere of individuals and maybe even intrude into intimate behaviour patterns. In order to communicate these issues, CREPA has adopted the SARAR-concept developed by the Indian ministry of Education in the 1970s. SARAR is an acronym for the concept's five basic principles: Self-esteem – Associative strength – Resourcefulness – Action planning – Responsibility (cf. Srinivasan 1990). An important aspect of the SARAR approach adopted is that local representatives from the area at which the water point was installed are recruited and trained to communicate sanitary concepts. They are referred to locally as 'animateurs' and 'animatrices'. The locals have confidence in them since they live in the same quarter and are familiar with their local culture and their particular problems. The 'animateurs' and 'animatrices' are based at the water points to contact the locals on their daily walk for water. They talk with the women in their language and go with them to their huts to discuss problems of sanitation *face-to-face*.

Guided again by Lyra Srinivasan, SARAR was further developed by the United Nations Development Programme (UNDP) in the 1980s. UNDP started the so-called PROWESS Project, focussing on the **P**romotion of **W**omen in **W**ater Supply and **E**nvironmental Sanitation **S**er-

vices. In 1992, UNDP, the World Bank Water and Sanitation Programme, and the WHO further refined the SARAR approach to promote sanitation and hygiene behaviour changes by launching the PHAST initiative, emphasizing Participatory Hygiene and Sanitation Transformation – an "innovative approach designed to promote hygiene behaviours, sanitation improvements and community management of water and sanitation facilities using specifically developed participatory techniques" (Simpson-Hebert et al. 1996: v).

This personal procedure has proven far more successful than any other approaches such as public slide shows or videos or hypertext computer instruction. These are consumed passively, if at all, without triggering any change of behaviour, besides the fact that these methods of instruction are more expensive and demand a certain technical infrastructure which normally cannot be provided in underdeveloped peri-urban zones.

Another specific complication is that, as a rule the locals in peri-urban zones migrated there from rural areas. Many of them cannot read or write, and they often speak different dialects. This is not a problem for sociolinguistics or language policy but one of cultural semiotics. To overcome the communication barrier, CREPA adopted the strategy of the "boîte d'images" first introduced in connection with projects financed by the World Bank. This approach works with pairs of iconic illustrations in the form of cartoon sequences representing the *before* and *after* status as traditional everyday routines vs. new behaviour patterns. The former are interpreted as dangerous to one's health and, therefore, marked as undesirable while the latter – indicating an improved sanitary standard – are explained as to how people will benefit from them.

All illustrations are semiotically adapted to the local culture and to situations of the people's everyday experience, depicting typical huts of the quarter inhabited by local people wearing typical clothes. For this reason, the target person can easily identify herself (or himself) with the situation depicted and recognises certain behavioural patterns, realises their consequences, and understands how to improve the situation. The "boîte d'images" is repeatedly discussed with the locals and commented upon in order to ensure success in individual education during this instructional discourse.

Benefitting from this experience, CREPA has realised that communicating water related problems cannot be left to the engineers who develop technologies to ensure minimal sanitary standards such as special water jars or transport equipment. Any technical innovation which makes it necessary to change traditional behaviour patterns in situations of intercultural contact calls for a contribution by sociologists, ethnographers, and communication experts, turning this educational task into a transdisciplinary challenge.

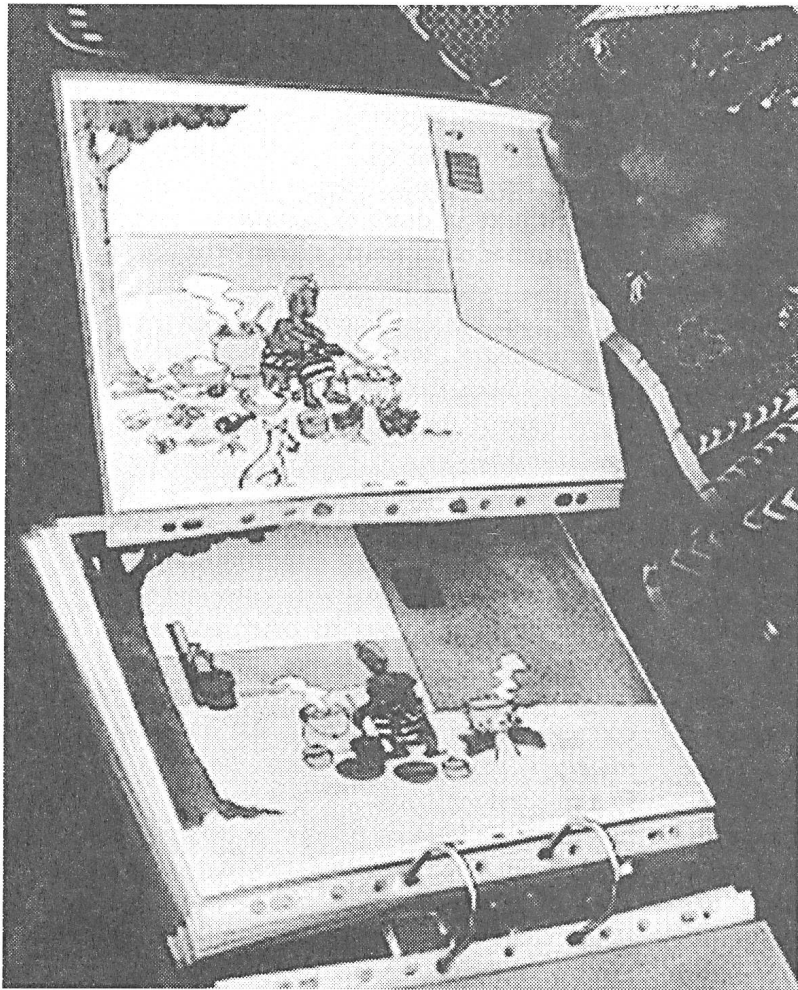
The water and sanitation project visited in Burkina Faso offers a textbook example for the specific intercultural communication problem that we are interested in: a message developed within an organisation (such as CREPA) has to be communicated – by means of public relations procedures and based on cultural semiotics – to a target group, in a triangular intercultural dialogue (expert – animateur – local) and face-to-face conversation (animateur – local, animateur – expert for feedback and re-evaluation), supported by culture-specific and locally adapted instructional material that requires no technical infrastructure, in order to initiate the changing of behaviour patterns detrimental to those exercising them.

Our focus is the very interface between these two axes of communication. We aim at giving it a theoretically integrated basis for empirical analysis which in turn may be of interest for the conceptual advancement of both discourse analysis and theory of intercultural communication. Another long-term perspective for further research may be to try and transfer those communication strategies observed to be successful in getting people to practically change the way they deal with water and to apply them in carefully adapted ways to other educational issues of equally vital importance. For instance, the Agence Canadienne de Développement International (ACDI), which we contacted during our field study and which conducts a \$ 14 million (Can) project to fight the AIDS crisis in the French-speaking countries of Africa (Projet d'appui à la lutte contre le SIDA en Afrique de l'Ouest), was not aware of the communication strategies utilised by CREPA, let alone of its proven efficiency. Ironically, the head office of ACDI in Ouagadougou is located just some 100 meters away from the CREPA and EIER offices. This, we believe, illustrates more than anything else the need for further research and mutual co-operation across academic boundaries in this scientific endeavour.

Objectives

In a world with ever-increasing international communication links and simultaneously degrading primary resources, ecological crisis communication is a challenge for all parties involved, be they natural scientists offering technical solutions, public relations agents of organisations prompting concepts, or project workers *in situ* initiating changes in behaviour, face-to-face. The danger of misunderstanding is high since language differences and cultural contrasts complicate the approach. Differences in forms of communication as well as the locally varying interpretation of standards and status add fundamental problems to the analysis of communication processes in this particular context. When dealing with issues of water quality and sanitation, diverging ethnical traditions, moral beliefs, and magical rituals open up further dimensions of the problem.

The SARAR method works with images depicting undesirable behaviour patterns juxtaposed with the improved situation (Burkina Faso, photo by Karin Linxweiler 1998).



Women gather at the local water distribution points: the starting points of the water communication path (Burkina Faso, photo D. Genske 1998)



There is not much use in developing sustainable technological solutions to fight the water shortage if they cannot be communicated. Communication failures with regard to essential primary resources easily lead from conflict to crisis, and from there to catastrophe.

For reasons of reducing the complexity of the problem, we suggest focusing on the three main frames of development communication which we associated with a multiplicity of perspectives in the first section:

- the institutional perspective: internal business communication, media communication, networks;
- the interpersonal perspective: face-to-face interaction, instructional discourse, behaviour routines;
- the intercultural perspective: cross-cultural conflicts, cultural stereotypes, international relations.

The first frame raises questions as to the codes of cross-cultural media campaigns of First World organisations with the objective of alerting people to ecological issues; the second to the codes of cross-cultural instructional discourse with the objective of initialising changes in individual everyday behaviour routines in Third World areas of ecological crisis (or even catastrophe, if you think, e.g., of Sudan); the third to the causes of cross-cultural conflicts and to the structures of their negotiation in settings of both sub-cultural and international relations. Our research project will follow both perspectives in designing a systemic model for an integrated analysis of heterogeneous facets of semiosis or communication processes involved, paradigmatically illustrated by those concerning the water crisis. The already established co-operation of IGE/EGS with CREPA/EIER offers a real world reference case. It could, and indeed should, be complemented by a similar constellation of problems (African culture, peri-urban zones, water crisis) in a different (i.e., anglophone) area of the continent. For this purpose, contacts were also established with the Durban Centre for Cultural and Media Studies (CCMS, University of Natal), where similar lines of transdisciplinary research on crisis communication have been followed (sponsored, e.g., by state departments of education and of health; cf. Tomaselli 1992; Parker 1994; Tomaselli 1996).

Objectives of the project include

- information on conflicts or crises due to water shortage
- participants in the dialogue on water shortage conflicts
- a rôle model of these participants according to the perspectives given above
- content analysis of technical information communicated in the dialogue
- content analysis of social, cultural, and organisational information
- dialogue analysis of fallacies and misunderstandings
- a model of the interface between institutional and interpersonal communication
- public relations strategies to prevent conflict leading to crisis and catastrophe
- application of the model to case studies in African peri-urban zones.

With these objectives in mind, we hope to bridge the gap between not only cultures in the empirical analysis of cross-cultural communication on issues concerning us all but also scientific cultures (in the sense of C.P. Snow) in co-operation of disciplines which normally take no notice of each other, the methodological hinge joint being discourse analysis of conflict communication in intercultural settings (Fiehler ed. 1998).

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