

misleading data will no longer work. All of this technology is being disseminated and democratized faster than anyone could have foreseen.

Civilization, like development, presupposes a dynamic interaction with nature. What is important is that both should be firmly rooted in the idea of partnership — with nature and other human groups. This is the dimension of culture and ethics.

To address the problem at source, we need to promote a new attitude to water — I would go so far as to speak of a new water ethic. Pricing policies and market mechanisms — although they pose some difficult problems of social equity and public accountability — clearly have a role to play in the reevaluation of water and a reduction of demand. But so too does education, understood in its most inclusive sense and as a lifelong process. A civilized response to the global water crisis requires a better understanding of the interconnection between water resources and human behaviour as well as enlightened policies at the national and international level

The problems with which water management has to contend are very complex. They include a whole range of *competing interest groups and established structures of rights, values and priorities*. Reconciling differences and reforming structures to take account of new realities is no easy matter.

The water issue is forcing us to rethink our notions of security and interdependency. Water, in particular, has been one of humanity's historic learning grounds for community building. It is of the highest importance that we should see water as a potential source not of conflict but of agreements that can serve as a paradigm for the constructive sharing of knowledge and resources essential for the transition from a culture of war to a culture of peace.

UNESCO's International Hydrological Programme (IHP) — launched some twenty years ago as the only science and education programme within the UN system devoted to freshwater problems — addresses most of these issues in association with its many governmental and non-governmental partners. Its main concern is with the promotion of technical co-operation worldwide: upgrading hydrological knowledge and research capacities in our Member States; working with bodies such as the World Climate Programme to understand the links between hydrological processes and climate change; studying *with the Man and the Biosphere programme factors of vulnerability in the land— water system*; assessing problems of *groundwater contamination*; examining hydrological processes in arid zones and the humid tropics; and supporting postgraduate hydrology courses for participants from the developing world.

In commending this special issue may I finish with an image from that great man of science and culture Leonardo da Vinci, who said that in moments of crisis we should regard ourselves as passengers in the same vessel, threatened by the same rough seas, sharing a common destiny. Such a civilized awareness is essential — I believe — to negotiating the difficult waters that stand between us and our shared goals in the century to come."



SPANISH PAVILION

BY LUIS MIGUEL ENCISO

The theme of this year's International Exposition in Lisbon is the ocean. It is well known that the Spanish and the Portuguese have always been closely linked to the sea. This close maritime connection, which is sociopolitical, economic, artistic and environmental, is powerfully maintained in the present and should be kept alive in the future as a legacy for future generations.

For this reason the Spanish General Commissary for Expo '98 has included in its broad range of activities a *multi-disciplinary scientific encounter entitled Forum and debate on the sea and its problems*. It was held April 20 — 24 in the Calouste Gulbenkian Foundation in the Portuguese capital; the participants included 70 scientists and experts in a wide range of subjects related to the earth's waters. Together and individually they proved the importance of the subject in Spain and Portugal.

Some of the issues addressed were marine sciences, coasts, marine ecosystems and biodiversity, environmental problems, marine traffic, ports, scientific fleets, tourism and marine law. More than 100 university students attended.

All efforts directed toward analysis and reflection of the state of the oceans and the need to improve them is worthy of support. Thus we congratulate the magazine *Allántica*, published by the Atlantic Center for Modern Art of the Cabildo de Gran Canaria, for joining this effort with its project entitled *Agua*, an initiative that has been conceived as an elogy to the vital element. We are convinced that its multidisciplinary contribution will yield important results, and we offer this initiative an affectionate welcome while expressing our wish to the directors that their labors might culminate in success.



WATER

LUIS RICO AND ANTONIO ZAYA

This project is the fruit of an encounter by the water's edge. The seafront cafe smells of salt and sea urchins; beyond the conversations is the rhythmic sound of waves breaking. At the tables surrounding us, others drink and converse. The presence of water invites us to embark upon a voyage: a trip which will take us deep within the very substance of ourselves. It is strange to think and speak of water, given that this element constitutes a large proportion of our brain. Gaston Bachelard says there is a sense of continuity between the language of water and human

speech: that, organically speaking, human words contain a certain fluidity, an overall sense of flowing, with water in the consonants. This fluidity incites us to a special psychic state, a disposition which fills our minds with images of water.

The flow of water evokes a fluid, ambiguous space, which is capable of dissolving borders and transcending limits, as well as giving rise to new forms and perceptions which do not cease to surprise us and change our outlook. In the depths of water, we are connected with the creative forces of art, one specific manifestation of human creativity which, in turn, "can be seen as the unique expression of an essential trait in all levels of nature" (Ilya Prigogine). Beyond our human condition, water brings us face to face with all life. It reminds us of our inextricable links with the amoeba and the great oak, with a tiny ant, a dog or a whale. And voyaging even further in its depths, water reminds us of the repercussions of a storm in a tea-cup, a simmering saucepan, the dynamics of waves, cloud formation, fluctuations on the international stock exchange, traffic chaos, migratory flows and the currents of collective behavior. These have their respective social and psychological factors, which echo in the far-off waters of intuition, in the substance of dreams and the deep currents of the individual and collective subconscious; as such, they influence us, and even shape the way we are.

In its horizontal state, water tends towards movement and dialogue. Constantly flowing, it resists lying stagnant and conforming to limits. Indeed, it strives to overcome borders, and filter into all things and all places. From a social point of view, this permeability and transversal nature inspires us to interrelate, and to question our egocentric attitude as regards the 'other'. Water calls into question the mechanistic, deterministic models of Newtonian physics, whose principle of separating subject and object have increasingly distanced mankind from nature.

In this respect, water is a key player in the serious ecological crisis which now affects us all. Over the coming decades, if not right now, the threats to the world's waterways will be one of the greatest challenges facing mankind. The pollution of rivers and seas, the rapid spread of desert areas, the so-called water wars and global warming are all issues which must be tackled without delay.

There is an urgent need to tackle the complex factors behind these issues with commitment and widespread participation. This does not only mean implementing the "right" environmental policies and plans for water management based on the latest technology (although such projects are of course necessary). "The greatest ecological problem is not industrialization, the hole in the ozone layer, overpopulation or the depletion of the planet's natural resources. The main problem is the lack of understanding and mutual agreement as regards how to tackle these problems" (Ken Wilber). For the sake of the world's water, awareness of these issues must be raised and action taken. The future of our water requires us to overcome egocentric and ethnocentric philosophies and behavior. Only from a global perspective will we be able to understand the extent of the problems and take effective action. The real problem resides in the fact that thinking and acting on a global scale requires a profound transformation in outlook. This is perhaps the greatest challenge.

Water, then, is strangely ambiguous. On the one hand, it is a fundamental resource whose increasing scarcity and pollution

will cause serious problems in the most diverse areas and contexts. On the other hand, water could inspire us to develop a new kind of ethics, based on peaceful coexistence and respect for our own substance and fluidity; an ethics which transcends creeds and ideologies, based on respect for difference, which sees the 'other' not as a threat but as a valuable opportunity for enrichment and learning.

This calls for a transversal space in which art, science and philosophy all converge. It requires considerable changes in the way we perceive our diverse, ever-changing reality; a reality in which we all take part, or which is a part of us all.

In this process, art's potential for inspiration make it a catalyst for real experience, as well as helping to formulate a broad, interdisciplinary outlook capable of drawing together both scientific research and poetic intuition.

Far from being conclusive, this project celebrating water aims to promote dialogue; it is therefore open, fluid and tentative. It is an invitation to navigate through a wide range of different ideas, concepts, data, experiences, senses, images and texts, from a variety of diverse sources. Rather than providing answers, it aims to pose questions related to water, in the widest sense of the word.

Lisbon with its World Exhibition is the perfect setting for us to look and/or see ourselves in the liquid mirror. And, perhaps, to stop and listen to the sound of our own transience. Like water, time passes quickly, and waits for no one: "over and over, it will repeat some fine, time-worn word, flowing over stones." (Gaston Bachelard).



WATER AND SKY

ILYA PRIGOGINE

For Thales, water was the primordial element, and all other states derived from its transformations. We may smile at this idea today, but it was the basis for a unified vision of nature, for a search which has lasted until our own era. As J. Wahl [1] writes: "In one of the dialogues, Plato writes that the first wise men were Homer and Hesiod, and he points out that these poets were partisans of universal development. For Homer, the ocean was the father of all things. This philosophy of evolution was formulated theoretically for the first time in Heraclitus' system. We also know of Leonardo Da Vinci's fascination with water, which he expressed in his strange drawings of whirlpools devouring cities."

I like to watch the play of the waves that break onto the beach: their coming and going makes me dream. Each wave is formed of millions and millions of molecules. It is the result of a supramolecular coherence, an unpredictable game. At what moment will the wave break? At what moment will those complicated movements begin to interfere? No one can be certain.

What would we think of the world if man were a "marine mammal"? I am convinced that the description of the world and