NOTES, NEWS & COMMENTS

François Bourlière, 1913–93

How can such a young man pass away? For François Bourlière, until the last days of his life, was a true incarnation of youth. What is probably his main achievement, on the French national scene, was the foundation and direction from 1956 to 1984 of the 'Centre de Gérontologie Claude Bernard', which, by focusing upon the problems of human ageing, is itself a tribute to youth and to the art of maintaining it.

Just about a month before his sudden death from a cerebral stroke on November 10th, we enjoyed seeing and hearing him on the occasion of the 25th anniversary of the UNESCO Biosphere Conference, full of life and enthusiasm, delivering without notes an illuminating address on the evolution of approaches to the conservation of Nature (Fig. 1). This was on October 7th, when he received from the Director General of UNESCO the Avicenna Medal, the last public recognition of his great merits. On November 5th, he was still presiding over a meeting for a French programme of research on tropical soils and forests, with his well-known drive and clarity of thought.

Medicine and Gerontology

François Bourlière was born in Roanne, on the Loire river, in the heart of France, on 21 December 1913. After secondary school in his native town, he studied in Paris in both the Faculty of Medicine and the Faculty of Science, leading to a doctoral degree in both fields. He successfully went through the State competition for medical teaching ('*agrégation*') in experimental medicine and medical biology and was an intern in Paris hospitals from 1937 to 1944. He then became full professor of physiology in the Faculty of Medicine, a position which he held until 1983, when he retired officially as Professor Emeritus. As indicated above, he is particularly well known in France for his leading role in the establishment and development of the gerontology centre and his directing of the research unit on the subject under the National Health and Medical Research Institute, which he exercised from 1972 to 1982. Naturally, Professor Bourlière has published many papers and several books on medical subjects, including a handbook of gerontology and a state-of-knowledge review on the subject.

Pioneer Work in Mammalogy

A most remarkable feature of Bourlière's scientific career was that he devoted his time not only to the human species but to mammals in general. His very first book, published in 1951, was entitled '*Vie et Moeurs des Mammifères*', a revised version of which appeared in 1954 in English ('Natural History of Mammals'). His book on the ecology of ungulates was published in 1960, and in 1964 he produced 'The Land and Wildlife of Eurasia'. He contributed to such publications as 'African Ecology and Human Evolution' (1963) and 'Tropical Savannas' (1983), and more recently published 'Vertebrates in Complex Tropical Systems' (1989).

Conservation and Environment

Again, this scientific work on mammals was only one facet of Bourlière's extraordinarily wide range of interests and activities. Very early — probably as a result of his visits to South-East Asia and Africa — he developed an ever-growing concern for the conservation of Nature. He was the editor ever since 1949 of a well-known French journal devoted to this subject, originally called *Terre et Vie* and now *Revue d'Écologie*. From 1963 to 1966 he was President of the International Union for Conservation of Nature and Natural Resources (IUCN), and from 1969 to 1974 the President of the International Biological Programme. He was also President of the International Association for Ecology (INTECOL) from 1982 to 1986 and, in France, President of the National Society for the Protection of Nature (1972–80) and of the interdisciplinary programme of research on the environment of the National Scientific Research Centre (CNRS) 1981–83. He was the much-admired Chairman of the 1968 Conference on the rational use and conservation of the resources of the Biosphere, usually mentioned as the 'UNESCO Biosphere Conference' at which the concept of 'sustainable development' was first advocated publicly. He was also from 1971 to 1975 the first chairman of the International Coordinating Council for the Programme on Man and the Biosphere (MAB), which resulted from that same Conference. On these occasions he demonstrated splendidly his ability to conduct debates and reach constructive consensus in the midst of internally diverging interests.*

FIG. 1. *François Bourlière, 1913–93.*

Throughout his life, François Bourlière maintained the enthusiasm, integrity, curiosity, and strength, of youth. Indeed, he was happy to be surrounded by young students and to help them tirelessly through their academic and research problems. He was an eloquent and brilliant speaker in his native language but could express himself almost equally well in English. While he had clear views about the scientific weaknesses of some of his colleagues and could be ironical or even outspoken in putting matters straight, he always demonstrated the greatest kindness and courtesy in human relations and commanded the highest respect from all. Never was he concerned with the petty concepts of career or rank, showing always confidence in his vision

* On this subject, *see* 'The Silver Jubilee of MAB and its Revival', published in *Environmental Conservation*, **20**(2), pp. 107–12, 4 figs, 1994.

Environmental Conservation, Vol. 20, Nr 4, Winter 1993 — © 1993 The Foundation for Environmental Conservation — Printed in Switzerland

and, with his high sense of duty and ethics, knowing precisely what he felt had to be done. He will be missed by many people from different nations and of all ages, and will leave us with glorious memories. He was in many ways comparable with the great encyclopaedists of the Renaissance, and was a true citizen of the world.

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Convention on Biological Diversity

Barely 18 months after its signing at the June 1992 'Earth Summit' in Rio de Janeiro, the Convention on Biological Diversity became international law on 29 December 1993. The Executive Director of the United Nations Environment Programme has hailed the occasion as 'one of the most significant recent developments in international law and in international relations relating to environment and development.'

In the face of the greatest extinction of species for 60 million years, mostly of late as a result of human activities, the treaty commits nations to protect biological diversity — ecosystems and genetic resources as well as species. The treaty pledges them to use sustainably the world's plants, animals, and all other organisms, and seeks to ensure the fair and equitable sharing of the benefits that result from the use of genetic resources, particularly for developing countries.

The benefits reaped from biodiversity can be found almost everywhere. Thus a plant found only in the Madagascar rain-forests has proved of enormous value in combating childhood leukaemia, while the bark of a tree growing in the northwestern United States is being used to combat certain forms of cancer, and more than a quarter of all prescriptions in modern Western medicine contain active ingredients that have been extracted from wild plants. Varieties of wheat grown in Canada contains genes that have been introduced from as many as 14 other countries, while a 'useless' wild wheat plant from Turkey is used to give commercial wheat crops resistance to disease and a wild species of coffee from Madagascar does the same for that crop.

Our planet's food supply also depends on diversity — the genetic uniformity of some crops has allowed pests to sweep across countries, causing crippling damage and, at times, enormous loss of life. Habitat destruction is a major threat to biodiversity, which is also lost through overharvesting, chemical pollution, and the inappropriate introduction of foreign plants and animals. Climate change threatens to accelerate the current destruction.

The ratification that made the Convention international law came from Mongolia on 30 September. Ninety days later — actually on 29 December 1993 — the treaty became a binding legal document for the countries that have ratified it, 36 to date.*

By mid-December of 1993, 167 States had signed the Convention, including the ratifiers. Many Governments that have signed are in the process of securing ratification, including the United States and countries of the European Union. It is to be hoped that States which have signed made New Year resolutions to ratify the biodiversity agreement early in 1994, while another resolution would be to start implementing it. The Convention's commitments need to be integrated into national laws and policies and into countries' plans for managing their resources of plants, animals, and natural habitats.

The first meeting of Governments that have ratified the Convention (the first Conference of Parties) is tentatively scheduled for 28 November to 9 December 1994, to take some of the fundamental decisions for advancing the Convention's provisions. Under the treaty, countries promise to develop national plans for the conservation and sustainable use of biodiversity, through making inventories of resources and integrating such plans into development strategies. They are also required to enact laws to protect threatened species and habitats and expand natural protected areas.

Developed countries are to assist poorer nations in carrying out their conservation programmes through the use of appropriate technologies and the provision of new financial assistance. The treaty also says that developed countries shall 'provide new and additional financial resources' to developing countries, so that the latter can carry out their treaty obligations.

Agreements for access to genetic resources and the transfer of biotechnologies are to be promoted. Countries are encouraged to preserve the traditional knowledge of indigenous communities in the conservation and use of biological diversity. According to the Convention, this should be done with the active involvement of indigenous peoples who possess such knowledge, so that all can benefit from its use.

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* In chronological order of their ratification, the following countries were the first 36 to ratify the biological diversity treaty by mid-December of 1993: Mauritius, Seychelles, Marshall Islands, Maldives, Monaco, Canada, China, Saint Kitts and Nevis, Ecuador, Fiji, Antigua and Barbuda, Mexico, Papua New Guinea, Vanuatu, Cook Islands, Guinea, Armenia, Japan, Zambia, Peru, Australia, Norway, Tunisia, Saint Lucia, Bahamas, Burkina Faso, Belarus, Uganda, New Zealand, Mongolia, Philippines, Uruguay, Nauru, Nepal, Czech Republic, and Barbados.

Small-island States and Low-lying Coastal Areas Especially Vulnerable to Climate, Global Warming, and Sea-level Changes

In his opening address to the World Coast Conference held recently in The Hague, Netherlands, the Secretary-General of the World Meteorological Organization (WMO), Professor G.O.P. Obasi, emphasized how 'small island states and coastal areas are very vulnerable and sensitive to climate and atmospheric changes which result in global warming and sea-level change'. He also said that these areas are prone to suffer from the devastating effects of storms, whose frequencies and intensities might be altered as a result of climate change. The Government of