

OBITUARY

André Boué (1925–2012)

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Photo: Jacko van 't Hof (courtesy Jos Wassink)

On 27 February 2012, André Boué passed away and Europe lost a main player in prenatal and perinatal biology and genetics. He played a major role in the development of genetics in France during the second half of the 20th century. He managed the Prenatal Biology Research Unit (#73) at INSERM (later renamed 'Genetic and Foetal Pathology') from 1974 to 1993. He became Professor of Medicine in 1980. As a member of the French Advisory Committee on Ethics (1983–2000), he was actively involved in giving advice on matters concerning research on human embryos, preimplantation genetic diagnosis, genetic tests (DNA, cell banks), detection of trisomy 21 and so on.

A PIONEER IN THE FIELD OF SPONTANEOUS ABORTION

He spent 8 years in Iran setting up a blood transfusion unit at the Pasteur Institute of Tehran, under the supervision of Marcel Balthazar. He and his wife Joëlle, a cytogeneticist, returned to France in 1958. André's career was inseparable from that of his wife.

André was appointed as Director of the Centre International de l'Enfance, (Longchamp Castle, Paris, France) by Robert Debré. The couple spent some time in Philadelphia, PA, at the Wistar Institute. They came back to Paris to conduct investigations on congenital abnormalities caused by viruses and to study the aetiology of spontaneous abortions. In 1964, they analysed 3000 spontaneous abortions and found that 60% of the embryos and fetuses had a

chromosomal abnormality that led to developmental arrest *in utero*. André Boué and his wife Joëlle demonstrated that the most frequent cause for abortion was the presence of genetic abnormality at the time of fertilisation. They showed that one out of every four conceptions fails, mainly because of developmental arrest at an early stage.

RESEARCH IN PRENATAL BIOLOGY: THE EARLY YEARS OF PRENATAL DIAGNOSIS

The first medical abortions because of a chromosomal abnormality in the fetus were performed in 1972 at the International Children's Centre. Although there was no legal framework in place at the time, further abortion centres were created in France. André and Joëlle led the research on prenatal diagnosis. The first European meeting on the prenatal diagnosis was organised by the European Medical Research Council in 1975, following research on epidemiological studies on maternal age, trisomy 21, serum markers in maternal blood that led to a significant and cost-effective reduction in the amount of referrals received by the cytogenetic laboratories and so on. The scientific scope of their work broadened rapidly to encompass other fields in fetal medicine: biochemical analysis of amniotic fluid and cells, molecular analysis of Mendelian diseases and so on.

MEDICAL ETHICS AND LEGISLATION

The various research projects had major ethical implications. For this reason, a think tank was created as a part of the 'Reproduction and Development Biology' committee of the Department for Scientific Research and Technique (Direction Générale de la Recherche Scientifique et Technique). It was later to become the French Advisory Committee on Ethics in 1983. André Boué was a member of the Committee for 17 years. He was a member of the Board of Review, which advised on research on human embryos, genomic imprinting, genetic tests (DNA banks, cell banks) and predictive tests. Opinions issued by the Committee – although advisory – had a major impact on both the spirit and the content of the first French Bioethics Act.

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