

Lessons from eugenic history

SIR—Among the four papers on schizophrenia in the 10 November 1988 issue of *Nature*, there was one brief reference to an early work by the German psychiatric geneticist, Professor Ernst Rüdin^{1,2}. Unfortunately, there was no discussion of Rüdin's work or his career, subjects painfully relevant to the topic of the inheritance of schizophrenia. Rüdin was an internationally recognized psychiatrist-geneticist whose field of interest was the genetics of schizophrenia. In 1928, he became director of the Kaiser-Wilhelm Institute of Psychiatry in Munich. Rüdin was one of the principal architects and advocates of the Nazi programme of enforced eugenic sterilization, which was an application of his work on the inheritance of psychiatric disorders. The programme saw the sterilization of about 50,000 German citizens a year, beginning in 1934. It established a 'scientific' basis for the mass control of reproduction with the objective of eliminating undesirable traits of human life that were considered to be hereditary³. Criteria for sterilization in Rüdin's institute included being a conscientious objector, a frame of mind that was considered to be a form of schizophrenia and consequently classified as hereditary⁴.

Rüdin's genetic/eugenic fervour was not confined to compulsory sterilization. He was a supporter of the 1935 Nuremberg race laws, which he considered to have been an achievement for his eugenics movement⁵. He served as a member of a group of psychiatric 'expert witnesses' for the euthanasia programme of medicalized murder which, the 'experts' felt, would "meet with general understanding and approval, as it becomes established and more generally known that. . . all possible measures were taken either to cure the patients or to improve their state sufficiently to enable them to return to work which is economically worthwhile. . ."⁶.

To the uninformed, psychiatry appears to be a naive 'Cinderella' specialty that is only now joining the ranks of experimental genetics. The reality is that psychiatry has been a wicked 'step-sister' in the field of experimental genetics, a nefarious role which Ernst Rüdin helped to define. What is new today is the sophistication of genetic research which enables science to explore the molecular basis of human heredity in a manner undreamed of in the days of Rüdin. What is still needed, however, is a process that ensures that human values are appropriately applied with a sensitivity and a sophistication that takes into consideration the recent history of science and medicine where values and science were distorted to the detriment of all mankind. By ignoring this history, science has demonstrated that it has yet to

achieve the sensitivity required to pursue this type of research in a manner which is in the best interests of human society.

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1. Sherrington, R., et al. *Nature* **336**, 164-167 (1988).
2. Rüdin, E. *Zur Vererbung und Neuentstehung der Dementia praecox*. (Springer, Berlin, 1916).
3. Seidelman, W.E. *Milbank Quarterly*, **66**, 221-239 (1988).
4. Stern, K. *The Pillar of Fire*. (Harcourt, Brace, New York, 1951).
5. Wistrich, R. *Who's Who in the Third Reich* (Weidenfeld and Nicolson, London, 1982).
6. Müller-Hill, B. *Murderous Science* (Oxford 1988).

Suffer the animals

SIR—If G.E. Lamming's account of an international symposium on biotechnology in growth regulation (*Nature* **336**, 19-20; 1988) is comprehensive, as I have no doubt it is, it implies that the subject of animal welfare was not considered seriously at that symposium. The absence of a session on the welfare aspects of genetic engineering reinforces the impression that little more than lip service is being given to the humane aspects of what is a headlong rush for quick profits by the meat-production industry.

It is clear from observations of transgenic animals so far produced that they frequently develop unexpected abnormalities that cause them considerable suffering. Indeed, Lamming mentions that transgenic pigs made by researchers at the US Department of Agriculture suffered high mortality and morbidity.

Only an elementary knowledge of molecular genetics is necessary to predict that the random insertion of foreign DNA into an animal's genome is likely to cause abnormalities in at least some of the recipients that will lead to real suffering. It is important that those involved in the production of transgenics should be seen to be taking particular care over this aspect of their work, for example by including it on the agenda of international meetings.

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Farewell Soil Bureau

SIR—As a result of an institutional rearrangement by the Department of Scientific and Industrial Research (DSIR), the New Zealand Soil Bureau has disappeared. After more than 50 years of carrying out soil research and providing soil maps, it has ceased to exist as an independent unit. Founded when the New Zealand economy depended almost

entirely on the soil, it has succumbed to the new style of New Zealand life and the reforming zeal of the government.

Probably its greatest triumph was the detection of the lack of critical trace elements in volcanic soils, which allowed successful sheep farming over wide regions of the North Island; and more recently the painstaking investigation of aspects of the Abbotsford landslide gained the admiration of the geotechnical community.

Soil science has now been incorporated into the new DSIR Division of Land and Soil Science, but the rationalization has meant that more than 20 scientists have lost their bureau jobs, including Benny Theng, Graham Claridge, Pauline McColl and Iain Campbell. Soil science in New Zealand has been diminished, as it has in the United Kingdom. It seems odd that as we become aware of major 'green' issues, agencies directly involved with their investigation are closed.

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Credit where it's due

SIR—In their 'anniversarial' article (*Nature* **337**, 29; 1988) W. F. Bynum and J. L. Heilbron, discussing the cell theory of the German botanist Theodor Schwann (1810-82), say that the famous phrase *Omnis cellula e cellula* "came later". Thus, by inference, they sustain the widely held but erroneous attribution to Rudolf Virchow (1821-1902).

In fact, and in print, it was first used by François-Vincent Raspail (1794-1878), as epigraph for his thesis "Développement de la fécule dans les organes de la fructification des cereales" (1825)¹, in which he refers specifically to the origin of new cells by division. The anatomist Matthias Schleiden (1804-81), Schwann, and later Virchow all appear to have lifted one or more of Raspail's prior contributions to the cell theory without acknowledging their source. The nationalistic nature of their behaviour is epitomized by a ringing declaration made in 1866 by the surgeon Pierre-Paul Broca (1824-80), that "the cell is French and belongs to M. Raspail", (quoted by Wiener, 1968)². But Broca was correct. It is time to remedy a gross injustice and to give Raspail, who is incidentally the undisputed founder of the science of histochemistry, his due recognition as father of the cell theory.

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1. *Ann. Sci. Naturelle*, VI, 224-239 (1825).

2. Wiener, Dora B. *Raspail, Scientist and Reformer* (Columbia University Press, New York and London, 1968).