

Autism, Brain and Environment

R. Lathe (2006). London, UK: Jessica Kingsley Publishers

Richard Lathe is Director of Pita Research, a biotechnology consultancy, based in Edinburgh. His most recent area of interest has been in brain research and neuroscience, focusing on the limbic system, autism, and Alzheimer's disease.

Richard Lathe's book provides a broad-ranging critique of research into autism and its possible causes. It spans the diagnosis, prevalence and incidence of autism before examining the possible causes of this intriguingly complex condition.

In his own words, Lathe's aim was a 'book, originally intended for professionals, has been broadened to make the material accessible to non-specialists – families, medical practitioners, teachers, support workers, psychologists, political/environmental lobbies, and to autistic individuals themselves'. Lathe has achieved this largely through his ability to frame and organize the scientific research into a very readable book that most people with a basic understanding of autism can understand.

He explores the role of the limbic system in autism largely through the study of animals and humans who have suffered damage to this area of the brain, and have subsequently developed autistic symptoms. Lathe goes further in examining the role of the limbic system and its relationship to the endocrine system. This is via the hypothalamus, pituitary gland and the endocrine hormones and it is through this system that the limbic system can influence the physiology of the body. This can in part explain, Lathe says, one half of the gut-brain axis in the body. Going in the other direction: from the gut to the brain he describes the role of certain microbes in the gut (Clostridia) and their over-representation in the gut of autistic individuals. The theory of abnormal bacterial toxins and their effect on autistic symptoms is further supported by the improvement in autistic symptoms which occur when children were treated with an antibiotic, vancomycin. This has been reported to be significant because oral vancomycin is not absorbed and thus could not be directly affecting the child. That the abnormalities in the gastrointestinal system can influence the symptoms of autism is observed in many children with autism, as are the improvements in their function when their gut function is normalized.

The role of toxins in the environment and, especially, heavy metals in worsening of neurological function, are very well elucidated. That heavy metals can worsen neurological function in children is well studied, largely through the known effects of mercury and lead. Further to this is the evidence that the autistic population has an impaired detoxification capacity. This places them in a

vulnerable position in terms of coping with an increasingly toxic world. The rise in the amount of toxins in the environment is well documented and this reduced ability of some autistic children to manage this situation gives rise to the 'canaries in a coal mine' syndrome, where children with autism are viewed as highlighting the consequences of creating a world of increasing environmental toxicity.

The fact that boys are four times more likely to develop autism is well known and has led to the "extreme male brain" theory of autism. In the chapter which covers the role of hormones in autism, Lathe examines the evidence for and against the idea of testosterone or other androgens playing a role in the susceptibility for autism. The flip side is to examine the possible protective role of female hormones in autism. Both are interesting ideas and theories, however, there is, as yet, no conclusive evidence in support of either theory, and it remains a topic of debate and research.

That Lathe's main concern is with linking the limbic system and autism is obvious and this is a thread throughout the whole book. He does, however, give equal and unbiased attention to other areas of autism such as the role of hormones, heavy metals and abnormalities of biochemistry.

He applies equal vigor to the various treatments which can be of use in autism. I was pleasantly surprised to find a strong concordance with his conclusions, based on research and science, with my own observations from the countless autistic children I have treated over the last decade.

I particularly liked the format of the book and depth of the reference material and I know it will be a useful addition to the libraries of those involved in this challenging area of autism research and treatment.

Reviewed by: Antony Underwood MB BS FRACP

Antony is a Pediatrician with the Pymble Grove Health Centre in New South Wales.