Summary. The development of paediatric neuroradiology is a specific persuasion within neuroradiology and has increased in scope and significance throughout the last ten years. The emergence of computed tomography has altered the indications for types of neuroradiological procedures in infants and children. The sophistication, accuracy, and safety of standard neuroradiological procedures have been increased by the accuracy and safety of computed tomography, particularly in the premature infant. There is a growing need for education and instruction in paediatric neuroradiological techniques and paediatric neuroradiological diseases within the neuroradiological fraternity as a whole.

The past two decades have seen a polarization throughout medicine of specific persuasions in specific age groups. The identification of paediatric medicine and surgery was necessitated by the recognition that diseases of this age group were often distinctly different from those of adults and that their management demanded specific experience and facilities; finally hospitals dedicated to children were established.

During the past ten years a similar related phenomenon has occurred in neuroradiology. The world-wide emergence of neuroradiology first involved such people as Bull, Tavers, and Lindgren, who, like most successful pioneers, did everything and did it well. Subsequent to this evolution came the development of paediatric neuroradiology. Matson in Boston [2] and Keith and Hendrick in Toronto were amongst those individual paediatric neurosurgeons who, ten years ago and more, performed and interpreted neuroradiology in infants and children. Raimondi in Chicago, Till in London, Choux in Marseille, Epstein and Shulman in New York, and Hoffman in Toronto, continued this trend, but with a distinct difference. Now, in some centres young neuroradiologists become eager to examine the infant and child using the teachings, philosophies, and practices of the pioneer neuroradiologists. This was often beset by considerable professional resistance, particularly on the part of neurosurgeons. One such centre was the Hospital for Sick Children, in Toronto, a hospital of 800 beds for children up to 16 years of age with a large neurological and neurosurgical patient volume.

I hope that my own experience over the last ten years at the Hospital for Sick Children [1] together with a more recent and most successful liaison with my associate, Dr. Charles Fitz, will adequately reflect the experience of my paediatric peers throughout the world with whom I share this exciting new science.

A grievous burden was thy birth . . .
Tetchy and wayward was thy infancy.
(Richard III, Shakespeare)

The most intimate of clinical co-operation was needed from neurosurgeons and neurologists and anaesthesio-
logists. Patient support systems in our unit were at first primitive in the extreme, but presently we and others developed most suitable and safe systems especially for the infant weighing under 10 kg. Dr. Harold Hoffman of our institution adapted such a system for use within the neuroradiological suite to perform percutaneous third ventriculostomies in infants with aqueduct stenosis. The relatively primitive direct carotid puncture, often so difficult in the very small patient, and the crude brachial cut down gave way to the catheter angiography by the femoral route — initially via an arterial cut down, but now exclusively by percutaneous puncture regardless of patient weight. Angiography, accompanied by endotracheal anaesthesia, is now aided by hyperventilation to obtain a Pco₂ of 30 mmHg. This enables better definition of normal and abnormal intracranial vascular structures which in infants and children are quite bizarre (Fig. 1).

Slowly and often with difficulty, particularly in other than predominantly paediatric institutions, was the art and science of paediatric neuroradiology emerging. This was aided by the development of good but far too few paediatric neuroscience facilities. Increased training opportunities in paediatric neuroradiology slowly developed on both sides of the Atlantic and in scattered Asian, Oriental, and Australasian centres. The equipment and techniques became more refined and communication with and education of ourselves, concomitant with that of our medical, surgical, and even adult neuroradiological peers, was and is continuing. Our neurosurgical colleagues became more satisfied with and resigned to this development. The more than 16,000 procedures performed in our institution in infants and children during the last ten years, and the much larger cumulative volume in the rest of the world, together with the resultant increasing diagnostic sophistication, safety, and accuracy, established paediatric neuroradiology as a vital and significant member of the neuroradiological family. Out of this paediatric experience have emerged a legion of facts and statistics, many new ideas,