

Michael Rutter

(1933–2021)

Child psychiatrist who transformed understanding of autism.

Michael (Mike) Rutter turned child psychiatry from an incoherent set of theories and practices into a rigorous and humane discipline. His work provided the first evidence that autism, now one of the most active areas of research in neurodevelopmental disorders, had a genetic basis. The discovery created the momentum for large-scale population studies using genetically sensitive designs, and for constant improvements in methodology and technology. His 1972 book, *Maternal Deprivation Reassessed*, countered prevailing views that inadequate mothering was the principal cause of psychiatric problems in children and thereby effectively liberated future generations of working mothers.

During the 1990s, thousands of orphans who had experienced extreme deprivation in Romanian institutions were adopted into UK family homes, giving Rutter an opportunity to address the nature-or-nurture question. He personally interviewed the children as they grew up; many showed a remarkable recovery. This supported his theory and previous work on resilience without downplaying the long-term consequences of early neglect in childhood.

Michael Llewellyn Rutter was born in 1933 in Lebanon, where his father was a doctor. Having moved to England, in 1940 his parents sent the seven-year-old Mike and his sister to live with foster families in North America for four years, fearing a German invasion. Rutter spoke fondly about his foster family and denied any link between being fostered and his work on maternal attachment. He trained in medicine at the University of Birmingham, UK, and at the Maudsley Hospital in London.

At what was then the hospital's Institute of Psychiatry, Rutter's interest in child psychology and psychiatry was encouraged. He began to question some of the vague ideas about child development that had been largely influenced by psychoanalysis. Unlike most clinicians at the time, he adopted rigorous empirical methods and compared groups of children to probe possible causes of behavioural and educational problems. This anticipated his later search for genetic and other biological causes of developmental and psychiatric disorders. His interests spanned a variety of conditions, including dyslexia, attention deficit hyperactivity disorder and autism. The diagnostic criteria and interview protocols now used to diagnose autism were developed



under Rutter's authoritative guidance.

In the 1960s and 1970s, mothers were widely blamed for causing their child's autism. Rutter had the idea of studying autism in twins to establish the role of genetic and environmental factors. To collect evidence, Susan Folstein, then a trainee US psychiatrist, visited 21 twin pairs across the United Kingdom, in which at least one twin had been diagnosed with autism. Symptoms of autism and cognitive abilities showed a stunning degree of concordance (82%) in the identical twin pairs, which was not seen in those who were non-identical (S. Folstein and M. Rutter *J. Child Psychol. Psychiatry* 18, 297–321; 1977).

This remarkable finding – which Rutter had not expected – made him optimistic that he could find the 'handful' of genes he thought might be implicated in causing autism. Always ready to be proved wrong, he quickly recognized that hundreds of genes are likely to be involved, and that the causal paths from gene to brain, mind and behaviour are too entangled to arrive at a single, definitive explanation. His discovery of a genetic basis for autism, published in 1977, transformed understanding and launched a new era of research.

During this period, Rutter and his collaborators also conducted long-term population studies of educational attainments and mental health, in inner London and on the Isle of Wight, UK, focusing on children aged 9–11. These were among the first to identify specific problems with reading – relative to age and

intellectual level – in a whole population. The studies gave a first estimate of the prevalence of these and other differences, and the findings led to policy changes in UK clinical services and in education.

In 1973, Rutter became the first professor of child psychiatry in the United Kingdom, at the Institute of Psychiatry. There, he established the Medical Research Council (MRC) Child Psychiatry Research Unit in 1984, and, a decade later, the MRC Social, Genetic and Developmental Psychiatry Centre. The centre attracted a formidable team to study the interplay of genetics and environment in typical and atypical development. Its work included psychologist Robert Plomin's Twins Early Development Study.

After 55 years at what is now the Institute of Psychiatry, Psychology and Neuroscience at King's College London, Rutter retired, only months before his death. His office was next to that of one of us (F.H.) for many years. He was an inspirational leader and mentor, and had recently donated one of his many prizes to support the work of younger colleagues. He was knighted in 1992.

His legacy includes a continuously revised textbook of child and adolescent psychiatry, around 400 research papers, and his influence on generations of child psychiatrists and psychologists, us among them. When one of us (U.F.) trained in the 1960s, it was the rigour of his ward rounds that sparked a lifelong career in autism research. Although he was a formidable authority in the medical establishment, and a feared critic, he was accessible and encouraging to students.

Competitive in his academic work, as in his much-loved tennis, Mike could be daunting in debate. He worked incredibly hard – supported by and occasionally co-authoring with his wife Marjorie Rutter – and he sometimes overlooked the personal demands that kept others from meeting his strict standards. However, he was famously gentle with his patients, and notably kind and avuncular in his later years.

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