

Rutter's Child and Adolescent Psychiatry

Edited by

Michael Rutter CBE, MD, FRCP, FRCPSych, FRS, FMedSci, FBA
Professor of Developmental Psychopathology
MRC, Social Genetic and Developmental Psychiatry Centre
Institute of Psychiatry, King's College London
London, UK

Dorothy V. M. Bishop MA, DPhil, FBA, FMedSci
Professor of Developmental Neuropsychology
Department of Experimental Psychology
University of Oxford, Oxford, UK

Daniel S. Pine MD
National Institute of Mental Health (NIMH)
Intramural Research Program
National Institutes of Health
Bethesda, MD, USA

Stephen Scott FRCP FRCPSych
Professor of Child Health and Behaviour
& Consultant Child and Adolescent Psychiatrist
Department of Child and Adolescent Psychiatry
Institute of Psychiatry, King's College London
London, UK

Jim Stevenson BA, MSc, PhD, CPsychol, FBPSS
Professor of Psychology
School of Psychology
University of Southampton
Southampton, UK

Eric Taylor MA, MB, FRCP, FRCPSych, FMedSci
Professor of Child and Adolescent Psychiatry
Department of Child and Adolescent Psychiatry
Institute of Psychiatry, King's College London
London, UK

Anita Thapar MBBCH, FRCPSych, PhD
Professor of Child and Adolescent Psychiatry
Department of Psychological Medicine
Cardiff University
Cardiff, UK

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Rutter's Child and Adolescent Psychiatry

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Professor of Developmental Psychopathology
MRC, Social Genetic and Developmental Psychiatry Centre
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London, UK

Dorothy V. M. Bishop MA, DPhil, FBA, FMedSci
Professor of Developmental Neuropsychology
Department of Experimental Psychology
University of Oxford, Oxford, UK

Daniel S. Pine MD
National Institute of Mental Health (NIMH)
Intramural Research Program
National Institutes of Health
Bethesda, MD, USA

Stephen Scott FRCP FRCPSych
Professor of Child Health and Behaviour
& Consultant Child and Adolescent Psychiatrist
Department of Child and Adolescent Psychiatry
Institute of Psychiatry, King's College London
London, UK

Jim Stevenson BA, MSc, PhD, CPsychol, FBPSS
Professor of Psychology
School of Psychology
University of Southampton
Southampton, UK

Eric Taylor MA, MB, FRCP, FRCPSych, FMedSci
Professor of Child and Adolescent Psychiatry
Department of Child and Adolescent Psychiatry
Institute of Psychiatry, King's College London
London, UK

Anita Thapar MBBCH, FRCPSych, PhD
Professor of Child and Adolescent Psychiatry
Department of Psychological Medicine
Cardiff University
Cardiff, UK

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Contributors

Annah N. Abrams MD

Instructor in Psychiatry, Harvard Medical School; MGH Child Psychiatry Consultation Liaison Service, Massachusetts General Hospital, Boston, MA, USA

Susan Bailey MB, ChB, FRCPsych

Professor of Child & Adolescent Forensic Mental Health, University of Central Lancashire, Preston, UK

Gillian Baird MB, Bchir, FRCPC

Consultant Paediatrician and Honorary Professor in Paediatric Neurodisability, Guy's & St Thomas' NHS Foundation Trust, London, UK

Torsten Baldeweg MD

Reader in Developmental Cognitive Neuroscience, UCL Institute of Child Health, University College London, London, UK

Sarah Kate Bearman PhD

Postdoctoral Fellow, Judge Baker Children's Center, Harvard Medical School, Boston, MA, USA

Dorothy V. M. Bishop MA, DPhil, FBA, FMedSci

Professor of Developmental Neuropsychology, Department of Experimental Psychology, University of Oxford, Oxford, UK

R. James Blair PhD

Chief, Unit on Affective Cognitive Neuroscience, Mood and Anxiety Disorders Program, National Institute of Mental Health, Bethesda, MD, USA

Michael H. Bloch MD

Child Study Center, Yale University School of Medicine, New Haven, CT, USA

Stewart Boyd MD

Department of Clinical Neurophysiology, Great Ormond Street Hospital for Children NHS Trust, London, UK

David Brent MD, MS Hyg

Academic Chief, Child and Adolescent Psychiatry Professor of Psychiatry, Pediatrics and Epidemiology, University of Pittsburgh School of Medicine, Pittsburgh, PA, USA

Maggie Bruck PhD

Professor of Psychiatry and Behavioral Sciences, Johns Hopkins Medical Institutions, Baltimore, MD, USA

Jan K. Buitelaar MD, PhD

Professor of Psychiatry, and Child and Adolescent Psychiatry; Head, Department of Psychiatry, UMC St Radboud, and Karakter Child and Adolescent Psychiatry University Centre, Nijmegen, The Netherlands

Richard J. Butler BSc, MSc, PhD, C.Psychol

Consultant Clinical Psychologist & Senior Associate Lecturer, Department of Clinical Psychology (Child & Adolescent Mental Health Service), Leeds Primary Care NHS Trust, Leeds, UK

Gwen Carr

Deputy Director, Medical Research Council Hearing & Communication Group, University of Manchester; Formerly Deputy CEO, Director UK Services, National Deaf Children's Society, UK

Avshalom Caspi PhD, F.Med.Sci, FBA

Professor of Personality Development, MRC, Social Genetic and Developmental Psychiatry Centre, Institute of Psychiatry, King's College London, London, UK and Duke University, Department of Psychology and Neuroscience, Durham, NC, USA

Stephen J. Ceci PhD

The Helen L. Carr Professor of Developmental Psychology, Department of Human Development, Cornell University, NY, USA

Tony Charman MA, MSc, PhD

Professor of Neurodevelopmental Disorders, Behavioural & Brain Sciences Unit, Institute of Child Health, University College London, London, UK

Sonia Chehil MD, FRCPC

Assistant Professor of Psychiatry, Division of Child and Adolescent Psychiatry, Department of Psychiatry, Dalhousie University, Halifax, Nova Scotia, Canada

Nancy J. Cohen PhD, CPsych

Director of Research, Hincks-Dellcrest Center Institute; Professor, Department of Psychiatry and Adjunct Professor, Department of Human Development and Applied Psychology, Ontario Institute for Studies in Education, University of Toronto; Adjunct Professor, Department of Psychology, York University, Toronto, Canada

E. Jane Costello PhD

Professor of Medical Psychology, Center for Developmental Epidemiology, Department of Psychiatry and Behavioral Sciences, Duke University Medical Center, Durham, NC, USA

CONTRIBUTORS

Ronald E. Dahl MD

Staunton Professor of Psychiatry and Pediatrics, University of Pittsburgh, Pittsburgh, PA, USA

Daniel P. Dickstein MD

Section on Bipolar Spectrum Disorders, National Institute of Mental Health (NIMH), Bethesda, MD, USA

Stewart L. Einfeld MD, DCH, FRANZCP, MRACMA

Professor, Brain and Mind Research Institute, and Faculty of Health Sciences, University of Sydney, Sydney, Australia

Ivan Eisler MA, PhD, Cpsychol

Reader in Family Psychology and Family Therapy; Head of Section of Family Therapy, Institute of Psychiatry, King's College London, London, UK

Eric Emerson BSc MSc PhD

Professor of Disability & Health Research, Institute for Health Research, Lancaster University, Lancaster, UK and Visiting Professor, Faculty of Health Sciences, University of Sydney, Sydney, Australia

Christopher G. Fairburn DM, FRCPsych, FMedSci

Wellcome Principal Research Fellow and Professor of Psychiatry, Oxford University Department of Psychiatry, Warneford Hospital, Oxford, UK

Peter Fonagy PhD, FBA

Freud Memorial Professor of Psychoanalysis, University College London; Chief Executive, The Anna Freud Centre, London, UK

Jane Fortin LLB

Professor of Law, Sussex Law School, University of Sussex, Brighton, UK

Sarah Fortune PhD

Lecturer in Clinical Psychology, Academic Unit of Psychiatry and Behavioural Sciences, School of Medicine, University of Leeds, Leeds, UK

Christopher Frith PhD, FRS

Wellcome Trust Centre for Neuroimaging at University College London, London, UK

Uta Frith FmedSci, FBA, FRS

Emeritus Professor of Cognitive Development, UCL Institute of Cognitive Neuroscience, Queen Square, London, UK

Frances Gardner MPhil, DPhil

Professor of Child and Family Psychology, Centre for Evidence-Based Intervention, Department of Social Policy & Social Work, University of Oxford, Oxford, UK

Elena Garralda MD, MPhil, FRCPsych, FRCPCH DPM

Professor of Child and Adolescent Psychiatry, Academic Unit of Child and Adolescent Psychiatry, Imperial College London, London, UK

Danya Glaser MB, DCH, FRCPsych, Hon FRCPCH

Consultant Child and Adolescent Psychiatrist, Department of Child and Adolescent Mental Health, Great Ormond Street Hospital for Children, London, UK

Simon G. Gowers BSc MBBS FRCPsych MPhil

Professor of Adolescent Psychiatry, University of Liverpool; Hon Consultant Psychiatrist, Cheshire & Merseyside Eating Disorders Service for Adolescents Academic Unit, Chester, UK

Jonathan Green MA, MBBS, FRCPsych, DCH

Professor of Child and Adolescent Psychiatry, University of Manchester; Hon. Consultant in Child and Adolescent Psychiatry, Manchester Children's Hospital Trust, Manchester, UK

Paul Gringras MBChB MSc Developmental Paediatrics MRCPCH

Consultant in Paediatric Neurodisability and Honorary Senior Lecturer, Institute of Psychiatry, Guy's & St Thomas' NHS Foundation Trust, London, UK

Christina J. Groark PhD

Associate Professor of Education and Co-Director of the University of Pittsburgh Office of Child Development, Pittsburgh, PA, USA

Brenda Hale DBE, PC, MA (Cantab), LL.D (Hon),

DUniv (Hon), FBA

The Rt Hon Baroness Hale of Richmond, House of Lords, London, UK

James Harris MD

Professor of Psychiatry and Pediatrics, Department of Psychiatry and Behavioral Sciences, The Johns Hopkins Hospital, Baltimore, MD, USA

Allison G. Harvey PhD

Associate Professor of Clinical Science, Department of Psychology, University of California, Berkeley, USA

Jennifer F. Havens MD

Associate Professor of Child and Adolescent Psychiatry at the New York University of Medicine, College of Physicians and Surgeons, New York, NY, USA

Keith Hawton DSc, DM, FRCPsych

Professor of Psychiatry and Director, Centre for Suicide Research, University of Oxford, Department of Psychiatry, Warneford Hospital, Oxford, UK

Andrew C. Heath MD

Spencer T. Olin Professor of Psychiatry; Director, Missouri Alcoholism Research Center, Department of Psychiatry and Siteman Cancer Center, Washington University School of Medicine, MO, USA

Jonathan Hill BA, MBChir, MRCP, FRCPsych

Professor of Child and Adolescent Psychiatry, University of Manchester; Honorary Consultant in Child and Adolescent

Psychiatry, Central Manchester and Manchester Children's University Hospitals, Manchester, UK

Matthew Hodes BSc, MSc, PhD, FRCPsych
Senior Lecturer in Child and Adolescent Psychiatry, Academic Unit of Child and Adolescent Psychiatry, Faculty of Medicine, Imperial College London, London, UK

Chris Hollis PhD MRCPsych
Professor of Child and Adolescent Psychiatry, Developmental Psychiatry Section, Division of Psychiatry, University of Nottingham, Nottingham, UK

Jane Hood BSc, MSc, PGCE, C. Psychol
Consultant Paediatric Neuropsychologist and Educational Psychologist at Guy's and St Thomas' Hospital, London, UK

Patricia Howlin BA, MSc, PhD, FBPS
Professor of Clinical Child Psychology, Department of Psychology, Institute of Psychiatry, King's College London, London, UK

Charles Hulme MA, DPhil, FBPS
Professor of Psychology, Department of Psychology, University of York, York, UK

Jennifer Jenkins PhD
Professor, Human Development and Applied Psychology, University of Toronto, Toronto, Canada

Shafali Jeste MD
Harvard Medical School, The Developmental Medicine Center, Laboratory of Cognitive Neuroscience, Boston Children's Hospital, Boston, MA, USA

David P. H. Jones FRCPsych, FRCPC, DCH
Consultant Child Psychiatrist and Honorary Senior Lecturer, University of Oxford, Oxford, UK

Rachel G. Klein PhD
Fascitelli Family Professor of Child and Adolescent Psychiatry, New York University Child Study Center, New York, NY, USA

J. Zoe Klemfuss BA
Department of Human Development, Cornell University, Ithaca, NY, USA

Martin Knapp PhD
Professor of Social Policy and Director of the Personal Social Services Research Unit at the London School of Economics and Political Science; and Professor of Health Economics and Director of the Centre for the Economics of Mental Health at Institute of Psychiatry, King's College London, London, UK

Tami Kramer MBBCh, MRCPsych
Senior Clinical Research Fellow and Consultant Child & Adolescent Psychiatrist, Academic Unit of Child and Adolescent Psychiatry, Imperial College London, London, UK

Sarah Kulkofsky PhD
Department of Human Development, Cornell University, Ithaca, NY, USA

Stanley Kutcher MD, FRCPC
Professor of Psychiatry and Sun Life Financial Chair in Adolescent Mental Health; Director, WHO/PAHO Collaborating Center in Mental Health Training and Policy Development, Department of Psychiatry, Dalhousie University, Halifax, Canada

Judith Lask BA, MSc, ADFT, CQSW
Section of Family Therapy, Institute of Psychiatry, King's College London, London, UK

Ann Le Couteur BSc Psychology, MBBS, FRC Psych, FRCPC
Professor of Child & Adolescent Psychiatry, Newcastle University, Sir James Spence Institute, Newcastle upon Tyne, UK

James F. Leckman MD
Neison Harris Professor of Child Psychiatry, Pediatrics, and Psychology, Child Study Center, Yale University School of Medicine, CT, USA

Ellen Leibenluft MD
Chief of the Section on Bipolar Spectrum Disorders, Mood and Anxiety Disorders Program, National Institute of Mental Health (NIMH), Bethesda, MD, USA

John E. Lochman PhD
Professor and Saxon Chairholder of Clinical Psychology, Department of Psychology, The University of Alabama, AL, USA

Michael T. Lynskey MD, PhD
Assistant Professor of Psychiatry Department of Psychiatry, Washington University School of Medicine, MO, USA

Barbara Maughan PhD
Professor of Developmental Epidemiology, MRC, Social Genetic and Developmental Psychiatry Centre, Institute of Psychiatry, King's College London, London, UK

Robert B. McCall PhD
Professor of Psychology and Co-Director of the University of Pittsburgh Office of Child Development, Pittsburgh, PA, USA

Helen McConachie MA, MPhil, PhD
Professor of Child Clinical Psychology, Institute of Health and Society, Newcastle University, Newcastle upon Tyne, UK

Claude Ann Mellins PhD
Associate Professor of Clinical Psychology in Psychiatry and Sociomedical Sciences, Columbia University, NY and Research Scientist, HIV Center for Clinical and Behavioral Studies, New York State Psychiatric Institute and Columbia University, NY, USA

CONTRIBUTORS

Helen Minnis MD, PhD, MRC Psych
Senior Lecturer in Child and Adolescent Psychiatry, Section of Psychological Medicine, University of Glasgow, Glasgow, UK

Terrie E. Moffitt PhD, F.Med.Sci, FBA
Professor of Social Behaviour and Development, MRC Social Genetic and Developmental Psychiatry Centre, Institute of Psychiatry, King's College London, London, UK and Duke University, Department of Psychology and Neuroscience, Durham, NC, USA

Lynne Murray PhD
Research Professor in Developmental Psychopathology, School of Psychology, University of Reading, Reading, UK

Charles A. Nelson III PhD
Professor of Pediatrics, Harvard Medical School; Richard David Scott Chair in Pediatric Developmental Medicine Research, Children's Hospital Boston, MA, USA

Anula Nikapota FRCPsych
Senior Tutor, Institute of Psychiatry, King's College London, London, UK and Emeritus Consultant in Child and Adolescent Psychiatry, South London and Maudsley NHS Trust, London, UK

Courtenay Frazier Norbury DPhil
RCUK Fellow in Cognitive Science, Department of Psychology, Royal Holloway, University of London, London, UK

Dustin A. Pardini PhD
Department of Psychiatry, University of Pittsburgh Medical Center, Pittsburgh, PA, USA

Andrew Pickles PhD
Professor of Epidemiological and Social Statistics, Biostatistics Group, Epidemiology and Health Science, University of Manchester, Manchester, UK

Daniel S. Pine MD
National Institute of Mental Health (NIMH), Intramural Research Program, National Institutes of Health, Bethesda, MD, USA

Paul Ramchandani BM DPhil MRCPsych
Senior Research Fellow and Honorary Consultant Child and Adolescent Psychiatrist, Department of Psychiatry, University of Oxford, Oxford, UK

Judith L. Rapoport MD
Chief, Child Psychiatry Branch, National Institute of Mental Health (NIMH), Bethesda, MD, USA

Paula K. Rauch MD
Director, Child Psychiatry Consultation Service; Director, MGH Cancer Center Parenting Program, Massachusetts General Hospital; Assistant Professor of Psychiatry, Harvard Medical School, Boston, MA, USA

Alan Rushton BA, CQSW, PhD
Reader in Adoption Studies; Programme Leader, MSc in Mental Health Social Work, Section of Social Work and Social Care, Health Services Research Department, Institute of Psychiatry, London, UK

Michael Rutter CBE, MD, FRCP, FRCPsych, FRS, FMedSci, FBA
Professor of Developmental Psychopathology, Social Genetic and Developmental Psychiatry Centre, Institute of Psychiatry, King's College London, London, UK

Seija Sandberg MD, FRCPsych
Consultant and Hon. Senior Lecturer in Child and Adolescent Psychiatry, Department of Mental Health Sciences, University College London, London, UK

Stephen Scott FRCP FRCPsych
Professor of Child Health and Behaviour, & Consultant Child and Adolescent Psychiatrist, Department of Child and Adolescent Psychiatry, Institute of Psychiatry, King's College London, London, UK

Anna Seigal BA Hons
Research Assistant, Behavioural and Brain Sciences Unit, Institute of Child Health, London, UK

Michael C. Seto PhD
Law and Mental Health Program, Centre for Addiction and Mental Health, Toronto; Associate Professor, Department of Psychiatry and Centre of Criminology, University of Toronto, Toronto, Canada

Philip Shaw MD, PhD
Staff Psychiatrist, Child Psychiatry Branch, National Institute of Mental Health (NIMH), Bethesda, MD, USA

Daniel S. Shaw PhD
Professor of Psychology, University of Pittsburgh, Pittsburgh, PA, USA

Rebecca Shiner PhD
Associate Professor of Psychology, Department of Psychology, Colgate University, Hamilton, NY, USA

Emily Simonoff MD, FRCPsych
Professor of Child and Adolescent Psychiatry, Department of Child and Adolescent Psychiatry, Institute of Psychiatry, King's College London, London, UK

David H. Skuse MD, FRCP, FRCPsych, FRCPCH
Professor of Behavioural and Brain Sciences, Behavioural and Brain Sciences Unit, Institute of Child Health, London, UK

Patrick Smith PhD
Institute of Psychiatry, King's College London, London, UK

Anna T. Smyke PhD

Associate Professor of Psychiatry, Tulane University School of Medicine, Institute of Infant and Early Childhood Mental Health, Tulane University Health Sciences Center, New Orleans, LA, USA

Margaret J. Snowling PhD, DipClinPsych, FBPsS

Professor of Psychology, Department of Psychology, University of York, York, UK

Edmund J. S. Sonuga-Barke PhD

Professor of Developmental Psychopathology, Developmental Brain and Behaviour Unit, School of Psychology, University of Southampton, Southampton, UK and Child Study Center, New York University, New York, USA

Alan Stein MB, BCh, MA, FRCPsych

Professor of Child and Adolescent Psychiatry, Department of Psychiatry, University of Oxford, Oxford, UK

Jim Stevenson BA, MSc, PhD, CPsychol, FBPsS

Professor of Psychology, School of Psychology, University of Southampton, Southampton, UK

James M. Swanson PhD

Professor of Pediatrics, University of California, Irvine, CA, USA

Charlotte D. Sweeney MA

Department of Human Development, Cornell University, Ithaca, NY, USA

Mary Target MSc, PhD

Reader in Psychoanalysis, Research Department of Clinical, Educational and Health Psychology, University College London; Professional Director, The Anna Freud Centre, London, UK

Eric Taylor MA, MB, FRCP, FRCPsych, FMedSci

Professor of Child and Adolescent Psychiatry, Department of Child and Adolescent Psychiatry, Institute of Psychiatry, King's College London, London, UK

Anita Thapar MBBCH, FRCPsych, PhD

Professor of Child and Adolescent Psychiatry, Department of Psychological Medicine, Cardiff University, Cardiff, UK

Richard E. Tremblay PhD, FRS Canada

Departments of Pediatrics, Psychiatry and Psychology, University of Montreal, Montreal (Quebec), Canada

Jan van der Ende MSc

Research Psychologist, Department of Child and Adolescent Psychiatry, Erasmus MC – Sophia Children's Hospital Rotterdam, The Netherlands

Herman van Engeland MD, PhD

Professor and Director of Child and Adolescent Psychiatry, Department of Child and Adolescent Psychiatry, Rudolf Magnus Institute of Neurosciences, University Medical Center Utrecht, The Netherlands

Frank C. Verhulst MD, PhD

Professor and Director of Child and Adolescent Psychiatry, Erasmus MC-Sophia Children's Hospital, Rotterdam, The Netherlands

Essi Viding PhD

Department of Psychology and Institute of Cognitive Neuroscience, University College London, & Institute of Psychiatry, King's College London, London, UK

Frank Vitaro PhD

Professor of Developmental Psychopathology, Department of Psycho-Education, University of Montreal, Montreal (Quebec), Canada

Nora Volkow MD

Director, National Institute on Drug Abuse, National Institutes of Health, Bethesda, MD, USA

Mary Waldron MD, PhD

Research Instructor in Psychiatry, Department of Psychiatry, Washington University School of Medicine, MO, USA

V. Robin Weersing PhD

Assistant Professor, Joint Doctoral Program in Clinical Psychology, San Diego State University/University of California at San Diego, San Diego, CA, USA

John R. Weisz PhD, ABPP

President and CEO, Judge Baker Children's Center; Professor of Psychology, Harvard Medical School, Boston, MA, USA

Miranda Wolpert MA, PsychD

Director, CAMHS Evidence Based Practice Unit, University College London and Anna Freud Centre, London, UK

Anne Worrall-Davies MB, ChB (Hons), MMedSc, MRCPsych, MD

Senior Lecturer and Hon. Consultant in Child & Adolescent Psychiatry, Academic Unit of Psychiatry & Behavioural Sciences, Institute of Health Sciences, University of Leeds, Leeds, UK

William Yule MA, DipPsychol, PhD, FBPsS, C. Psychol

Emeritus Professor of Applied Child Psychology, Institute of Psychiatry, King's College London, London, UK

Charles H. Zeanah MD

Sellers Polchow Professor of Psychiatry, Tulane University School of Medicine, Institute of Infant and Early Childhood Mental Health, Tulane University Health Sciences Center, New Orleans, LA, USA

Kenneth J. Zucker PhD

Psychologist-in-Chief, Centre for Addiction and Mental Health; Head, Gender Identity Service, Child, Youth, and Family Program, Toronto, Canada

Preface to the Fifth Edition

In most respects, this Fifth Edition follows the tradition laid down by previous editions. However, it is different in several key respects. Most obviously, there has been a major increase in the number of editors. We wished to make the editorial team both international and interdisciplinary because the authorship has been both for quite some time. Most especially, we wanted to expand the range of expertise covered by the editors in order that we could have rigorous detailed peer review of all chapters. In this edition, each and every chapter (including those by editors) has had detailed critique from at least three (usually four or five) editors. As a result, all chapters have been revised to deal with editorial criticisms and suggestions. This means that chapters in this volume were peer reviewed with the same detailed rigor as would be the case for any high-standard scientific journal.

Throughout the various editions of the book, there has been a committed attempt to integrate scientific and clinical perspectives. In this edition, however, we have made a number of substantial changes in order to do this in a much more thorough fashion. The first section of the book, comprising 18 chapters, deals with conceptual approaches. The purpose of these chapters was not to provide an encyclopedic summary of what is known on different areas of science or different methods of interventions but rather to convey a lively picture of the concepts, principles and approaches in each case and to indicate why each was important and relevant for clinical practice. Some of the topics were covered in previous editions but several are new to this edition. Thus, there are chapters on how epidemiological/longitudinal methods may be used both to study causal hypotheses and to plan services. There is a chapter on what clinicians need to know about statistical methods and issues, another chapter deals with the field of health economics and another on what can be learned from structural and functional imaging. Other chapters include development and psychopathology, temperament and personality, basic psychopharmacology, psychological treatments, clinical neurophysiology and brain development. The opening chapter in this conceptual section deals with developments in child and adolescent psychiatry over the last 50 years. Previous editions have included chapters on history but this time we thought it appropriate to try to bring things up-to-date. Inevitably, in dealing with very recent history, we are having to discuss developments that are too new to have stood the test of time but we have sought to highlight what seemed to us some of the important landmarks. As before, there are chapters

on classification and diagnosis, children's testimony and legal issues in the care and treatment of children with mental health problems and on culture, ethnicity and psychopathology. With respect to classification, there is a new chapter dealing with the concept of neurodevelopmental disorders that has come into increased prominence in recent times.

There is a short section with four chapters on clinical assessment in which the new approach has been focusing on the particular way in which structured techniques (with respect to interviews, questionnaires and psychometrics) can be applied in the clinical context. As before, there is a chapter on physical examination and medical investigations.

The next section of 11 chapters concerns influences on psychopathology. Most of these have parallels in previous editions but, this time, more attention has been paid to providing an understanding of the ways in which the possible influences might work and on testing for mediating effects. The section also includes a new chapter on psychopathology in refugee and asylum seeking children, as this is a group that has come to increasing attention in recent years.

The aim of all the chapters up to now has been an understanding of mechanisms rather than a detailing of effects in individual disorders, because we thought these were better covered in the separate chapters on clinical syndromes. However, in order to ensure that the chapters on specific disorders did, indeed, provide an up-to-date account of relevant findings, all authors were asked to pay particular attention to evidence on genetic influences, on imaging findings, on developmental features and on treatment methods – because for all of these there have been major advances since the last edition. The coverage of different clinical syndromes is fairly similar to that in previous editions, although it will be obvious that the information provided has moved on in important ways, but there is a new chapter on psychopathy (because its application to childhood seems to be of increasing interest) and on behavioral problems in infancy and in preschool children.

The final section of the book deals with a range of different approaches to treatment. In some respects, there were parallel, comparable chapters in previous editions but there are several innovations. Thus, community-wide and targeted interventions now have separate chapters and more attention is paid to some of the principles in these types of prevention. The chapter on physical and pharmacological treatments is complementary to that on basic psychopharmacology in that it looks at the ways in which clinicians need to think about

the use of medication. There is also a new chapter on the organization of mental health services – again, focusing on the principles rather than on the details which vary so greatly across countries.

As with previous volumes, we have made quite a few changes in authorship both to bring in new blood and to include experts who have something special to offer. Well over half the chapters have a new main author and, if co-authors are also considered, the number of new authors is even greater. We are grateful to the good work provided by authors of previous editions but we also welcome the great strengths provided by the new team of authors. We feel ourselves fortunate in having succeeded in obtaining world leaders as the authors for most chapters.

Finally, Michael Rutter would like to express deep thanks to his fellow editors. The editorial team has been a pleasure to work with, has hugely helped with providing a distribution of workload but, even more importantly, has contributed ideas, fresh ways of thinking about things and a much greater breadth and depth of expertise.

The Editors

Acknowledgments

We are most appreciative of all the authors' high level of expertise and effort and of their constructive responsiveness in dealing with the many editorial suggestions on new material that needed adding, topics that required strengthening, extension

of the international coverage that was desirable, clarifications that would help readability and integration across chapters. We have indeed been most fortunate in having such a strong team of leaders of the field. We would also like to take this opportunity of expressing our immense gratitude to Professor Lionel Hersov who first had the idea for this textbook, and who was a tower of strength in preparing the first three editions before he decided to stand down from the fourth. We hope that he will be pleased to see what the book has grown into.

The production of this book has been very much a team effort and the book would not have been possible without the excellent team that we have had. Most of all, special thanks are due to Sandra Woodhouse who exercised overall administrative responsibility for the complex process of working with coordinating editors, in checking chapters prior to submission to the publishers, and in dealing with the copyediting and proof-reading. She was adept at spotting when problems were arising and in sorting them out. The editorial team owes much to Jenny Wickham who had the main responsibility of dealing with Michael Rutter's joint chapters and those for which he was coordinating editor. In this way, she played a key role in the overall cohesive and effective editorial team. We are also most indebted to Rob Blundell of Wiley-Blackwell who oversaw the book from start to finish and who stepped in to undertake detailed checking and rechecking of proofs when that process ran into temporary difficulties. Thanks are also due to John Forder who was an exceptionally astute and thorough proof reader and to Jonathan Burd for his professionalism in preparing the index.

Preface to the First Edition

These are exciting times for anyone working in the field of child psychiatry. A wider understanding of child development now throws a clearer light on deviations from the normal pattern; knowledge of the nature and causes of psychiatric disorders in childhood is steadily increasing; new and effective methods of treatment are evolving; and clinical and education services for children with mental disorders are growing in scope and sophistication. The first academic departments of child psychiatry in the UK are now established to meet the needs for teaching and research and to add to the existing body of knowledge. A serious concern to raise training standards in the specialty has led to recommendations on the range of content of training and a national exercise to visit and appraise all training schemes is under way.

For these reasons the time seemed ripe for a new and different textbook of child psychiatry. Our aim has been to provide an accurate and comprehensive account of the current state of knowledge through the integration of research approaches and findings with the understanding that comes from clinical experience and practice. Each chapter scrutinizes existing information and emphasizes areas of growth and fresh ideas on a particular topic in a rigorous and critical fashion, but also in practical vein to help clinicians meet the needs of individual children and their families.

In planning the book we had to decide how to choose authors of individual chapters. Obviously we wanted colleagues who had made important contributions in their fields of interest and who could write with authority and knowledge. We were fortunate in our choice and we are deeply indebted to all of them. We also decided that it would be appropriate to invite contributions from those who had worked at The Bethlem Royal and The Maudsley Hospital or its closely associated post-graduate medical school, The Institute of Psychiatry. Over the years "The Maudsley" has played a major role in training psychiatrists from all parts of the world and members of its staff have been among the leaders in both research and clinical practice. The fact that we have all worked at the same institution has produced some similarities: a firm acceptance of the value of interdisciplinary collaboration; an intense interest in new ideas and creative thinking; a commitment to the integration of academic and clinical approaches; a concern for empirical findings; and a belief in the benefits that follow from open discussion between people who hold differing views. As all of us work with children we have a common concern with developmental theories and with the process of development.

However, as will also be apparent, we do not share any single theoretical viewpoint. A variety of theoretical approaches are represented in the chapters which also reflect a differing emphasis on biological, sociocultural, behavioural and psychodynamic aetiologies and formulations.

It is also fitting that this book should be based on The Joint Hospital as it has played such an important part in the development of child psychiatry. Children with psychiatric disorders were first seen at The Bethlehem Royal Hospital as long ago as 1800 and Henry Maudsley was unusual among the psychiatrists of his day in appreciating the importance of psychiatric disorders arising in childhood. In his *Physiology and Pathology of Mind*, published in 1867, he included a 34-page chapter on "Insanity of early life." The Maudsley Hospital first opened its doors just over half a century ago, children have always been included among its patients and the Children's Department became firmly established during those early years. Since then, and especially with the first British academic appointment in child psychiatry at the Institute of Psychiatry in the 1950s, it has trained many child psychiatrists who now practise in all parts of the globe.

The book is organized into five sections. The first eight chapters review different influences on psychological development in childhood and are followed by three that discuss the foremost developmental theories. A third section describes some of the crucial issues in clinical assessment and the fourth deals systematically with the various clinical syndromes and their treatment. The final section comprises six chapters that bring together knowledge on some of the main therapeutic approaches. We have sought to include most of the topics and issues that are central to modern child psychiatry, but there has been no attempt to cover all known syndromes and symptoms. Instead, the focus has been on concepts and methods with special emphasis on those areas where development of new ideas or knowledge has been greatest.

We hope that the book's contents will be of interest and use to all those professionally concerned with the care, study and treatment of children with psychiatric disorders. We will be satisfied if, in the words of Sir Aubrey Lewis, it also helps the psychiatrist in training to acquire "reasoning and understanding" and fits him "to combine the scientific and humane temper in his studies as the psychiatrist needs to."

M. Rutter
L. Hersov



Conceptual Approaches



Developments in Child and Adolescent Psychiatry Over the Last 50 Years

Michael Rutter and Jim Stevenson

State of Child and Adolescent Psychiatry 50 Years Ago

The development of child and adolescent psychiatry in the first half of the 20th century was well described by Achenbach (1974), Cameron (1956), Kanner (1959), Parry-Jones (1989) and Warren (1974) with respect to both its strengths and limitations. The establishment of community child guidance clinics, much influenced by the Mental Hygiene movement, had the value of viewing psychopathology in the context of young people's real-life circumstances. The cost, however, was that there was both geographical and professional isolation from general psychiatry, pediatrics and academic research. Most treatment tended to be very open-ended and prolonged, usually without a well-defined focus (Rutter, 1982a). There tended, also, to be a rigid separation in the functioning of the unholy trinity of the psychiatrist, the psychologist and the psychiatric social worker. In addition, there was a tendency to blame parents for the disorders of their children – as indexed by concepts of the schizophrenogenic mother (Jackson, 1960) and “refrigerator” parents (Bettelheim, 1967), in relation to schizophrenia and autism, respectively. The dominant theories were the several varieties of psychoanalysis (Eisenberg, 2001), clinical practice was mostly not evidence-based, and there was a paucity of specific treatments (Chess, 1988). Furthermore, very little attention was paid to diagnosis. The prevailing terminology concerned “maladjustment” and official classifications referred only to “behavior disorders of childhood.”

However, very important changes were afoot (Rutter, 1998). Although systematic diagnosis was not yet in fashion, Kanner (who wrote the first definitive English-language textbook in 1935) had already done much to foster critical thinking about different patterns of psychopathology and to encourage a questioning approach (as exemplified by his 1969 paper on differential diagnosis). Also, his first description of autism (Kanner, 1943) not only provided a model of top-level clinical observation, but established the reality of a disorder that was distinctively different from others. Similarly, approaching diagnosis psychometrically rather than clinic-

ally, Hewitt and Jenkins (1946) wrote a pioneering monograph identifying different patterns of psychopathology. The tide was beginning to turn with respect to both diagnosis and classification in both child and adult psychopathology (Meehl, 1954).

Although biological causes had only a very limited role in clinical thinking at that time, Pasamanick and Knobloch (1966), in relation to their concept of a continuum of reproductive casualty, postulated the importance of prenatal and perinatal risk factors. Studies of children with epilepsy as, for example, by Pond (1961) and by Ounsted (1955) were also influential in pointing to the interplay between biological and psychosocial risk factors. The concept of so-called “minimal brain dysfunction” was beginning to be established. It did not stand the test of empirical investigation (Rutter, 1982b) but, nevertheless, it did force people to pay attention to biological risk factors. In the realm of treatment, the value of stimulants in the treatment of children with hyperkinetic disorders was beginning to be appreciated and, in adult psychiatry, neuroleptics were starting to be developed for the treatment of schizophrenia. At about the same time, there was the birth of behavioral therapies (Wolpe, 1958). At first, these were largely considered in relation to adults, rather than children, but the application to children soon followed (Rachman, 1962; Yule & Berger, 1972).

Academic child and adolescent psychiatry scarcely existed in the 1950s although there were some chairs in the subject in North America and mainland Europe and there were the beginnings of systematic clinical research (Hersov, 1986; Remschmidt & van Engeland, 1999; Schowalter, 2000).

However, the report that probably did most to change the field in a radical fashion was Bowlby's (1951) review of “maternal deprivation” for the World Health Organization. Spitz and Goldfarb had previously drawn attention to the damaging effects of institutional care but Bowlby drew on a much wider range of evidence and did most to pull together the ideas. For quite a while, his views were treated with extreme hostility by both academic psychologists and by psychoanalysts. The former pointed to the weakness of much of the research and the latter to the heresy that the causal factors lay in real-life experiences rather than internal conflict. Despite the controversies, Bowlby's observations on young children's responses to separation from their parents led to enduring changes in hospital practice. Professionals, almost for the first time, were forced to become aware of young

children's sensitivities and of the importance of personal social relationships. The pioneering films by Robertson and Robertson (1971) were particularly influential in persuading people of the reality of many of the features that Bowlby was emphasizing.

Developments in Empirical Research Over the Last 50 Years

The fruits of empirical research over the last 50 years are considered in more detail in chapters throughout this book. Here, however, we seek to highlight some of the key developments in research strategies and research concepts, as well as giving credit to some of the pioneers who played a crucial part in taking the field forward (see also Clarke & Clarke, 1986; Hersov, 1986).

Longitudinal Studies

The value of long-term follow-up studies was most clearly established in Robins' now classic study of deviant children grown up (1966). Her findings demonstrated the important links between conduct disorders in childhood and antisocial personality disorders in adult life; they also showed for the first time how psychopathology in childhood was associated with a much increased risk of adverse environments in adulthood. The several Californian longitudinal studies were important in showing the value of prospective longitudinal studies (Elder, 1974, 1998) and the first British national birth cohort study, established by James Douglas in 1946, blazed the trail for long-term longitudinal epidemiological studies (Douglas, 1964). In more recent times, the Dunedin (Moffitt, Caspi, Rutter *et al.*, 2001) and Christchurch (Ferguson & Horwood, 2001) longitudinal studies have been particularly influential in showing the value of an hypothesis-testing approach and in demonstrating the importance of having multiple sources of measurement. Cohen's "Children in the community" longitudinal study, too, was very informative on psychopathological progressions over time (Cohen & Brook, 1987; Cohen & Cohen, 1996). Accordingly, as a consequence, there is now a substantial body of knowledge on the continuities and discontinuities between psychopathology in childhood and adult life (Rutter, Kim-Cohen & Maughan, 2006; see chapter 13, this volume). The follow-up study of the Glueck's sample of delinquent boys, undertaken by Laub and Sampson (2003) requires specific mention both because of the quite extraordinary duration of the follow-up (to age 70) and also because of its creative and rigorous combination of quantitative and qualitative approaches in order to gain an understanding, not only of risk and protective factors in relation to antisocial behavior, but also of the mechanisms through which they might operate. One key development was the recognition of the value of archival longitudinal data because of what could be gained from secondary analyses by researchers bringing new perspectives to the topic. Elder (1974, 1998) was a pioneer in that connection.

Epidemiology

With respect to epidemiology, the Isle of Wight studies (Rutter, 1989b; Rutter, Graham & Yule, 1970; Rutter, Tizard & Whitmore, 1970) showed how this could be useful for both the testing of causal hypotheses and for the planning of services. It was innovative in using systematic standardized interview techniques of tested reliability, in showing the value of using children as informants with respect to their own psychopathology, in demonstrating the frequency of mixed patterns of symptomatology (now more usually considered under the concept of comorbidity), in indicating the relatively strong associations between psychopathology and reading difficulties, in noting the differences between psychopathology beginning in childhood and that beginning in adolescence, and in observing the relatively low level of agreement among reports from different informants even when each had been shown to be reliable.

The Waltham Forest longitudinal epidemiological study was similarly important in noting that, contrary to the given wisdom of the day (and some opinions even now), psychopathological problems in the preschool period were often precursors of later psychiatric disorder (Richman, Stevenson & Graham, 1982). The clinical follow-up study undertaken later by Campbell (1994) gave the same message. More recently, a large-scale study of the prevalence of mental health problems in the UK has provided national benchmark estimates of the level of service needs in the population (Meltzer, Gatward, Goodman *et al.*, 2000). All of the epidemiological studies noted the high proportion of individuals with manifest disorders who were not receiving treatment.

Measurement

Several developments warrant mention in the domain of measurement. To begin with, there was widespread appreciation that it was essential in interviewing to use systematic standardized approaches (see chapter 19). Two rather different ways of providing standardization have been employed. In North America, this was achieved through the use of a uniform set of structured questions giving rise to "yes" or "no" answers with respect to particular well-defined elements of psychopathology. The Diagnostic Interview Schedule for Children (DISC) and Diagnostic Interview for Children and Adolescents (DICA) represent methods of this kind (Reich, 2000; Shaffer, Fisher & Lucas, 1999; Shaffer, Fisher, Lucas *et al.*, 2000). In the UK there tended to be a preference for investigator-based methods in which standardization is achieved by explicit specification of the psychopathological concepts and of the rules for their coding. This approach also differs in that the objective is the attaining of detailed descriptions of actual real-life behavior, rather than affirmative or negative answers to closed questions. Child and Adolescent Psychiatric Assessment (CAPA) provides the prototype for this approach in the field of general psychopathology (Angold, Prendergast, Cox *et al.*, 1995) and the Autism Diagnostic Interview-Revised (ADI-R) does so in the field of symptomatology associated with autism (Rutter, Le Couteur & Lord, 2003). The 1950s had

seen the demonstration of the limitations of retrospective recall (Radke-Yarrow, Campbell & Burton, 1970) and this led to a preference for longitudinal data when they were possible. On the other hand, there was a recognition that, even with longitudinal data, there had to be a degree of retrospective recall. More recent reviews have shown both the value and the limitations of retrospective and prospective data (Hardt & Rutter, 2004). From a methodological point of view, Caspi, Moffitt, Thornton *et al.*'s (1996b) development of the life history calendar approach constituted an important step forward.

Somewhat similar developments took place in the design of questionnaires. On the whole, the UK preference has been for shorter scales and the US preference for longer ones. However, it has been shown that the agreement between the two tends to be quite high (Goodman & Scott, 1999) and with all scales there has been an appreciation of the importance of having measures that have parallel versions for parents, teachers and the children themselves. Key players in these developments include Achenbach and Edelbrock (1981) in the USA, and Rutter (1967) and Goodman, Ford, Simmons *et al.*, (2003) in the UK. Another development, however, was the appreciation of the need for questionnaires that focused on specific features, as well as those that focused on general psychopathology. These are considered in more detail in chapter 20.

In parallel with the interviews to assess psychopathology, there was development of interviews to assess aspects of family functioning. Brown and Rutter (1966) and Rutter and Brown (1966) showed that reliable ratings were possible on quite subtle features such as warmth and hostility and that attention needed to be paid to tone of voice as well as the words used. This led to the development of measures of marital quality (Quinton, Rutter & Rowlands, 1976) and of negative expressed emotion (Brown & Rutter, 1966; Rutter & Brown, 1966). At first, the latter was based on lengthy interviews but briefer versions of reasonable reliability and validity were later developed (Magaña, Goldstein, Karno *et al.*, 1986; Sandberg, Rutter, Giles *et al.*, 1993).

In the field of observational studies, probably the most important development was the recognition of the value of using standardized situations as a way of providing a "press" for eliciting a particular behavior. Mary Ainsworth's development of the "Strange Situation" measurement of attachment security/insecurity (Ainsworth, Blehar, Waters *et al.*, 1978) and the Autism Diagnostic Observation Schedule (Lord, Rutter, DiLavore *et al.*, 2001) for assessing autistic features constitute particularly good examples of this approach.

Binet had pioneered the measurement of intellectual level early in the 20th century. However, the field was taken forward in a major way by the scales developed by Wechsler for the measurement of intelligence in adults and in children (Wechsler, 1986, 1992). New standards were set and, through the establishment of separate verbal and visuospatial factors, the means were provided for the quantification of more specific cognitive skills and for the study of particular patterns of cognitive strengths and limitations (see chapter 21). Similarly, Neale (1958) pioneered measures of reading that differentiated

between accuracy and comprehension, and Reynell (1969) did much the same with respect to her differentiation of language expression and comprehension. Basic research on memory functions was undertaken by Baddeley (1990) and by Tulving (1983) and there was the burgeoning development of a range of specialized tests of various neuropsychological functions – many at first to be used with adults and later extended to children (CANTAB, 1987; Connors, 1992; Reitan & Wolfson, 1993; Robbins, James, Owen *et al.*, 1998).

Diagnosis and Classification

In the 1950s, knowledge on diagnosis and classification in the whole of psychiatry was extremely limited. Robins and the Washington University group (Feighner, Robins, Guze *et al.*, 1972; Robins & Guze, 1970) pioneered the revolution in thinking on the topic – arguing forcefully for the importance of diagnostic distinctions, providing standardized measures of psychopathology and demonstrating how the validity of diagnostic distinctions could be put to the test. The original work concerned adult disorders but the application to mental disorders in childhood soon followed (Cantwell, 1988; Rutter, 1965). The end product was the highly systematized classifications of DSM-IV (American Psychiatric Association, 2000) and ICD-10 (World Health Organization, 1996). There can be no doubt that these constituted hugely important advances, but they carried with them the disadvantage of implying that the diagnostic differentiations were much more valid than the evidence justified. A better balance has now been achieved between an appreciation of the value of rules and operationalization of concepts on the one hand, and, on the other, a recognition that the existing schemes are no more than a best guess that will have to be modified as new research findings become available. The issues are more fully discussed in chapters 2 and 4.

Clinical Delineation of Hitherto Unrecognized Disorders

It is important to appreciate too that clinical observations have had a crucial role in the identification of diagnostic patterns. The best example of this is provided by Kanner's (1943) delineation of the syndrome of autism, with a scrupulously careful and astute detailed account of the clinical features shown by 11 children – almost all of which have been validated by subsequent systematic research. However, there are many other examples (see chapter 4). The key point is that clinical discoveries are still being made and that each of these original observations necessarily led to a two-way interplay between research and clinical practice (Rutter, 1998).

Psychosocial Influences

Several different types of advances have been important in providing an understanding of how family influences may affect psychopathology. Brown, working with adults, introduced the crucial methodological and conceptual checks needed to test for the causal impact of negative life events (Brown & Harris, 1989). Hetherington's (1989, 2005) longitudinal studies of the effects of divorce and remarriage showed the value of multimodal

methods of measurement and highlighted some of the key mediating mechanisms and sources of individual differences. Harlow and Harlow's (1965) experiments with rhesus monkeys, although somewhat controversial by contemporary ethical standards (Blum, 2003), were crucially important in showing that the influences involved intimate relationships ("love" in Harlow & Harlow's language) and not just "stimulation" or feeding. Hinde's studies with the same species were equally important in a different way, through the elegance of his experimental control and his demonstration of the effects of mother–infant separation in much more ordinary naturalistic circumstances (Hinde & McGinnis, 1977). Patterson (1981) was equally pioneering in his combination of quantitative observational studies and studies of intervention with humans. The result of these various developments has been an appreciation of the reality of family influences, together with an acceptance that the magnitude of effects has been exaggerated in the past (Rutter, 2005a).

In parallel with studies of the family, a range of studies has also demonstrated the importance of school influences (Rutter, Maughan, Mortimore *et al.*, 1979; Rutter & Maughan, 2002), of peer group influences (Dodge, Dishion & Lansford, 2006) and of community effects (Sampson, Raudenbush & Earls, 1997). The old style exclusive focus on parenting has given way to a realization of the much broader operation of psychosocial influences outside, as well as inside, the family. Bronfenbrenner (1979) was especially influential in pointing to the interplay between these various social systems. More recently, there has been demonstration of the impact of prenatal, as well as postnatal stress effects (McEwan & Lasley, 2002), of prenatal effects of physical toxins (Rutter, 2005b) and of the effects in adolescence of heavy cannabis use (Arseneault, Cannon, Witton *et al.*, 2004). The sometimes long-term sequelae of physical and sexual child abuse have become better recognized (see chapters 28 and 29) and it has come to be appreciated that multiple indirect causal pathways may be involved (Rutter, 1989a), as well as more direct effects on brain functioning (Rutter, 2006b).

Testing Causal Hypotheses

Over the course of the 20th century, there accumulated a substantial literature on environmental risk and protective factors for mental disorders and, at first, it was assumed that the statistical association represented environmental risk mediation. Two key papers provided a major challenge to those associations. First, Bell (1968) noted that the associations could reflect children's influences on family interactions and functioning, as well as socialization effects deriving from children's upbringing in the family. This seminal paper had been preceded by Thomas, Chess, Birch *et al.*'s (1963) demonstration of the importance of children's temperamental features (at that time termed "primary reaction patterns"). Second, Plomin brought together an impressive body of evidence showing that some of the effects of environmental risk factors were actually genetically mediated (Plomin & Bergeman, 1991). At first, many psychosocial researchers were reluctant to accept the

validity of both challenges but eventually the message was accepted and greater reliance came to be placed on the range of epidemiological and/or longitudinal designs that could deal with the possibilities of child effects and of genetic mediation (Campbell & Stanley, 1963; Rutter, 1981; Rutter, Pickles, Murray *et al.*, 2001; Rutter, 2007; Shadish, Cook & Campbell, 2002; see chapter 5). The result was a convincing demonstration of the reality of environmental risk and protective effects, combined with a realization that many of the effects were quantitatively quite small (a recognition that paralleled the comparable conclusion on the effects of individual genes – see below).

Animal Experiments

Up until very recently, child psychologists and psychiatrists have paid rather little attention to animal studies. Bowlby (1969) deserves high credit for his integration of human and animal studies in his consideration of the development of selective social attachments. Mention has already been made of the parenting studies of Harlow and Hinde. Suomi (2005) has carried the monkey studies forward in important ways through his investigation of the operation of gene–environment interactions, and Meaney (2001), through rodent studies, has revolutionized thinking on the ways in which early nurturing experiences may change gene expression – and hence alter genetic effects (Rutter, 2006a). Gross and Hen's (2004) mouse studies of the serotonergic system were important in showing how early postnatal developmental processes have a key role in later anxiety-like behavior. Amaral and Corbett's (2003) ablation studies of the amygdala in monkeys has cast new light on the role of this part of the brain in social stress reactions, and Insel and Young's (2001) studies of voles have provided vital clues on possible genetic influences on social relationships. As indicated by the important studies of Rett syndrome, animal models have also been shown to be crucially important in testing hypotheses on gene actions (Guy, Hendrich, Holmes *et al.*, 2001; Zoghbi, 2003). In addition, animal experiments have demonstrated the effects of experiences on brain structure and function (Greenough, Black & Wallace, 1987; Rosenzweig, Krech, Bennett *et al.*, 1962).

Factors Within the Child

Temperament

The last 50 years have also seen the emergence of a strong interest in temperamental features as influences on psychological development and psychopathology. Three main approaches may be identified. First, Thomas, Chess, Birch *et al.* (1963) and Thomas, Chess & Birch (1968) used an inductive approach to parent reports to develop nine individual categories concerned with adaptation to the environment, and also composite constructs of "easy" and "difficult" child features. Second, Buss and Plomin (1984) used a more psychometric approach to pick out temperamental features that were both manifest early in life and also subject to strong genetic influences. Kagan and Snidman (2004) pioneered the combination of observational and physiological measures and argued that although temperamental

features could be dimensionally measured, they might operate more as categories at the extremes of the distribution. Caspi, Moffitt, Newman *et al.*, (1996a) have also been especially influential through their demonstration of the long-term continuities from as early as age 3 years. Stevenson and Graham (1982) have queried whether the differentiation between temperament and psychopathology is valid, and Rutter (1987a) has highlighted the need to study the interconnections between temperament, broader concepts of personality and constructs of personality disorder.

Cognitive Features

In the 1960s, the ingenious and creative experimental studies of Hermelin and O'Connor (1970) were pioneering in showing that experimental methods could be applied even to young, handicapped, non-verbal children with autism, and in pointing to the likelihood that cognitive deficits would underlie the social impairments that were characteristic of autism. Their research paved the way to the more recent studies of "theory of mind" deficits, lack of central coherence and impairments in executive planning (Baron-Cohen, 1997; Frith, U., 2003; Happé, 1994). Somewhat similar attempts were made to identify specific cognitive deficits thought to underlie attention deficit/hyperactivity disorders (ADHD) (see chapter 34) and schizophrenia (see chapter 45). The results of research have proved somewhat more difficult to interpret in these two fields, but there is no doubt that the study of cognitive deficits is proving to be a most fruitful line of research (Pennington, 2002). The early studies did not address the neural basis of the deficits but that has changed with the availability of functional brain imaging and the recognition that cognitive neuroscience needs to integrate brain and mind (see below).

In parallel but separate from the study of cognitive deficits, there has been investigation of the possible role of cognitive biases in the origins of antisocial behavior (Dodge, Bates & Pettit, 1990; Dodge, Pettit, Bates *et al.*, 1995), of depression (Beck, Rush, Shaw *et al.*, 1979; Teasdale & Barnard, 1993) and in the development of internal working models of attachment relationships (Bretherton, 2005; Main, Hesse & Kaplan, 2005). There is now ample evidence of the existence of biased processing, and there is recognition of the likely psychopathological importance of such biases (Rutter, 1987b), but there continues to be a remarkable paucity of studies that have put causal hypotheses regarding the possible etiological role of cognitive biases to the test. That constitutes a major unmet research challenge for the future.

Brain Imaging

Major technological advances have made it possible to undertake quantified structural and functional brain imaging studies – particularly using magnetic resonance imaging (MRI) methods (see chapter 11). Claims have sometimes been made that the functional studies show the brain in action, but this conveys a somewhat misleading impression in that they do not identify the specific neural mechanisms. What they do do, however, is show the parts of the brain involved in particular

mental tasks, or influenced by particular chemical substances. Provided that the studies are undertaken with the necessary experimental controls and the necessary between-task and between-group contrasts, they are invaluable in showing differences between psychopathological groups in the ways in which tasks are dealt with (see chapter 11). Thus, the functional imaging studies of individuals with autism have been informative in showing not just weak activation of the brain areas ordinarily involved in "mind reading" (which is poor in autism), but normal functioning in areas dealing with earlier aspects of sensory processing (Frith, C., 2003). The implication is that the deficit in autism probably lies in an impairment in neural connectivity rather than a deficit in any one localized brain area. Studies comparing the activation of brain systems associated with pharmacological and psychological interventions (Goldapple, Segal, Garson *et al.*, 2004) have been informative in noting both similarities and differences in the mediation of therapeutic effects. The combination of molecular genetic and functional imaging strategies has been particularly informative in understanding inter-individual differences in human memory performance and memory-related brain activations (de Quervain & Papassotiropoulos, 2006) and in demonstrating that the moderation of responses to stress and adversity brought about by a genetic variant of the serotonin transporter promoter operates in normal individuals and not just those with clinical depression (Hariri, Drabant, Munoz *et al.*, 2005). Also, developmental studies using imaging methods are beginning to cast valuable light on the development of the brain (Gogtay, Giedd, Lusk *et al.*, 2004; Shaw, Greenstein, Lerch *et al.*, 2006) and of the changes in the brain following the onset of an overt schizophrenic psychosis (Rapoport, Addington, Frangou *et al.*, 2005).

EEG Methods

During the 1970s and 1980s, optimistic claims were made regarding the potential of neurometrics – meaning the quantified application of electroencephalographic (EEG) methods (Pritchep, 1983). The optimism has not been borne out by subsequent research, but functional imaging using magnetoencephalography (MEG) is providing the means to study the temporal processing of tasks, which complements the spatial processing studies by MRI. Its use is too recent to assess its potential but it appears more promising than neurometrics. In addition, evoked potentials and a range of other EEG techniques have proved their usefulness (see chapter 17).

Neurochemistry

Neurochemistry, too, suffered from premature claims – as exemplified, for example, by the so-called "pink spot" supposed to be characteristic of schizophrenia. The problem was that most of the research constituted little more than a gigantic fishing expedition based on the most rudimentary understanding of neurochemistry. During the last 50 years, however, there has been a dramatic growth in the understanding of neurotransmitters and their functions (Andreasen, 2001) and there is now the potential for a much more

focused hypothesis-testing approach which is likely to pay rich dividends (see chapter 16).

Genetics

Finally, there has been the tremendous growth in the recognition of the importance of genetic influences on psychopathology, and in the understanding of how they operate (see chapter 23). At first, there was considerable resistance to suggestions that genetic factors might be important but, over the years, the weight of evidence from twin and adoptee studies of high quality made it impossible not to recognize that there were important genetic influences on all forms of human (and animal) behavior (Plomin, DeFries, McClearn *et al.*, 2001; Rutter, 2006a). Perhaps inevitably, this was accompanied by an unfortunate genetic evangelism seeking to dismiss the role of environmental influences, and to imply a much more deterministic role of genetics than is in fact the case. Nevertheless, the reality is that there is the imprint of genetic influences on almost all aspects of psychological functioning. The difference from the evangelism concerns the appreciation that many genetic influences are indirect, operating through gene–environment correlations and interactions. Hence, rather than separating disorders into those due to nature and those due to nurture, most disorders reflect a complex multifaceted co-action between the two (Rutter, 2006a; Rutter, Moffitt & Caspi, 2006). The potential of genetics has increased enormously through the possibility of identifying individual susceptibility genes (numerous pioneers were crucial in that connection; Rutter, 2006a), and through the appreciation of the value of studying gene–environment correlation and interactions (Eaves, Last, Martin *et al.*, 1977; Plomin, DeFries & Loehlin, 1977; Rutter & Silberg, 2002). Empirical advances have come especially from the human epidemiological studies of Caspi, McClay, Moffitt *et al.* (2002), Caspi, Sugden, Moffitt *et al.* (2003) and Caspi, Moffitt, Cannon *et al.* (2005), the imaging studies of Weinberger and colleagues (Hariri & Weinberger, 2003; Hariri, Drabant & Weinberger, 2006) and the animal studies of Suomi (2005).

Randomized Controlled Trials

Preceding the work on “natural experiments” to test causal hypotheses was the recognition that, if the effects of planned interventions were to be tested in rigorous fashion, randomized controlled trials were essential, and the means to conduct them in a systematic fashion had to be developed. The key point underlying this recognition was the appreciation that it was likely that the individuals volunteering to receive some new treatment were likely to differ systematically from those who declined the treatment. The solution had to lie in random assignment to the new treatment and to the old treatment with which it was to be compared (Everitt & Pickles, 1999). In medicine as a whole, in the UK Hill (1965) was a pioneer in showing what was needed, and Cochrane (see Starr & Chalmers, 2003), also in the UK, was instrumental in pointing out the dangers of reliance only on published studies, because of the bias against publishing negative findings. Cochrane-style reviews of evaluations have come to be accepted as the

standard. The USA has led the field in its recognition of the need for multicenter collaboration in order to test the effects of treatment and in its willingness to provide the funds to do this, such as the MTA trial on ADHD (see chapter 34) and the trial of antidepressants (see chapter 37). Harrington and others in the UK have also played a crucial part in undertaking randomized controlled trials and in emphasizing their importance (Harrington, Whittaker, Shoebridge *et al.*, 1998a; Harrington, Kerfoot, Dyer *et al.*, 1998b; Harrington, Whittaker & Shoebridge, 1998c). In the USA, Rapoport deserves particular credit, not just for the methodological rigor of her studies, but, more particularly, for her recognition of the need to test whether beneficial effects of medication were diagnosis-specific (Rapoport, 1980; Rapoport, Buchsbaum, Zahn *et al.*, 1978). Earlier on, Eisenberg warrants special mention for a study that showed the negative effects of withdrawal or refusal of treatment, as distinct from treatment not being available as part of a randomized controlled trial (Molling, Lockner, Sauls *et al.*, 1962). Almost all the early drugs used in psychiatry were discovered serendipitously, with little input from biological studies (Ayd & Blackwell, 1970). The field is now quite different as a result of the burgeoning of knowledge on neurotransmitters (see chapter 16).

More recently, Weisz highlighted the major differences between treatments delivered by experts in a research setting and what are supposed to be the same treatments administered on a community-wide basis by generalists rather than specialists – the results of the latter being much weaker in almost all cases (Weisz, Weersing & Henggeler, 2005). Weisz also has been influential in pointing out that only a tiny proportion of studies have included any kind of measurement of the factors mediating benefits (Weersing & Weisz, 2002a,b).

Treatment Advances

Both psychological and drug treatments have changed out of all recognition over the last 50 years. In the mid 20th century neither had much to offer, whereas now there is a substantial range of interventions bringing proven benefits. Initially, psychological methods were mainly based on a psychoanalytic approach focused almost exclusively on mental conflict and mental mechanisms rather than on real-life experiences; with a focus on the past rather than the present; and with an avoidance of any consideration of problem-solving strategies. Alternatively, they involved a rather general “supportive” function without specific focus or goals. Behavioral methods then came on the scene with their rather mechanistic application of learning principles to bring about specific changes in symptomatic behavior. They provided a huge challenge as a result of the limited evidence that they could be effective in the short term, and the much shorter duration and greater focus of the methods. In addition, they brought the claim of being based on a scientific foundation and the potential for identifying the mechanisms underlying treatment efficacy.

For some while, the psychodynamic and behaviorist camps

seemed to be in open conflict with one another. Six developments played a key part in changing that situation. First, systematic studies – such as that undertaken by Reid and Shyne (1969) – showed that, on the whole, time-limited focused psychotherapeutic methods were more effective than open-ended unfocused ones. Second, Malan (1979) argued for the value of, and pioneered the use of, briefer psychotherapeutic techniques (with adults, but the point also applies to childhood). Third, both family therapy (see chapter 65) and attachment-based concepts (Holmes, 2001) forced greater attention to the here and now of social interactions and of problematic behavior. Fourth, psychologists began to develop interventions based on problem-solving approaches of various kinds. Fifth, psychologists and psychiatrists came to recognize the important role of cognitive processes and to develop cognitive methods of behavioral treatment (see chapter 63). Sixth, behaviorists similarly came to recognize the need to take into account both thought processes, and past, as well as present, experiences. Important differences remain among psychological treatments but, to a far greater extent than previously, they have become more evidence-based and wider ranging in their methods. Amongst other things, this has meant that many interventions now include work in schools and in the community as well as work in the clinic, whether individual or family oriented.

Pharmacological treatments have undergone equally great changes. Fifty years ago dextroamphetamine was the only drug used with children (to treat hyperkinesis) and, with adults, chlorpromazine and reserpine were just about the only neuroleptics available. Neither antidepressants nor anxiolytics had come on the scene. Strikingly, then and to a considerable extent even recently, nearly all of the major classes of useful therapeutic drugs were discovered by chance rather than through basic biological research (Ayd & Blackwell, 1970). Of course, basic research into neurotransmitters has revolutionized our understanding of how drugs might work (see chapter 16) and clearly there is the potential for a much more rational development of new classes of drugs, but for the most part that has yet to happen. Later chapters review the evidence on what can be achieved by pharmacological treatments; here we simply draw attention to a few major themes.

In many respects, the most important change in therapeutic practice lies less in the details of individual methods than in the acceptance that practice needs to be evidence-based. This has led to the development of specific treatment guidelines such as those produced by the National Institute for Health and Clinical Excellence (NICE) in the UK (e.g., 2005), and in the USA by the Food and Drug Administration (FDA) (e.g., 2004), the American Academy of Pediatrics (e.g., 2001) and the American Academy of Child and Adolescent Psychiatry (e.g., Dulcan, 1997). Meta-analyses have been informative, not only in the assessment of efficacy, but also in the identification of risks, as with suicidality and antidepressant drugs (Hammad, Laughren & Racoosin, 2006).

Apart from the vast body of research on the use of stimulants to treat ADHD, most of the research with children has involved extrapolations from studies of adults. That has meant

that, until very recently, drug companies have not bothered to test their products with children and very little is known on the extent to which benefits and side-effects are the same for children as for adults. The findings with antidepressants, although far from conclusive, suggest there may be important differences – as do the findings with regard to stimulants and cannabis. The effects of age differences, and the mechanisms they reflect, constitute a still largely neglected (but crucially important) research area. As a consequence of this neglect, most drugs used to treat children have not been specifically approved for use in this age group. Fortunately, the situation is being remedied in many countries and there is now at last an official pediatric formulary in the UK (*British National Formulary for Children*, Costello, 2005). The USA passed legislation in the late 1990s requiring manufacturers to assess the efficacy and safety of drugs likely to be used with children, and this led to increased drug company research on psychotropic drugs applicable to children (Wolraich, 2003).

As in adults, most psychiatric disorders in children are recurrent or chronic. Yet we know relatively little about the effects of drug treatments on long-term outcome. Also, there are sizeable groups of child disorders for which there is no very satisfactory drug treatment. That applies, for example, to autism spectrum disorders, conduct disorders, most anxiety disorders and substance abuse. Of course, there are drugs that bring about limited symptom relief in these disorders but their effects on the basic condition are unimpressive. It is notable that there are considerable international variations in the extent to which drugs are used to treat childhood psychopathology. Thus, their use in the USA is much greater than in the UK (Bramble, 2003; Wolraich, 2003).

As a result of these considerations, although we are very positive about the future of pharmacotherapy, our optimism is guarded and is accompanied by the view that if real progress is to be achieved, there will need to be much more fundamental research into drug actions in children, as well as into the neural underpinning of disorders, and also more experimental studies examining the complex (and sometimes seemingly contradictory) connections between the nature and timing of the neurochemical effects and the behavioral responses (Bundgaard, Larsen, Jorgensen *et al.*, 2006).

Perhaps an even greater need, with respect to both psychological and pharmacological treatments, concerns the development of an understanding of the mechanisms underlying the large individual differences in treatment response. Pharmacogenomics should help but its achievements so far have been quite modest.

Theories

In many respects, one of the biggest changes during the last 50 years has been the demise of the “big” theories purporting to explain the whole of life and seeking to provide support through the provision of a religious certainty. That was the style of psychoanalysis when one of us (M.R.) first entered psychiatry and it was followed by the somewhat similar style

of other “universalist” theories such as family systems theories, Eriksonian lifespan theory, behaviorism and, most recently, attachment theory. Each of these has been important in bringing important insights and in highlighting important issues and findings. Current thinking has been the better for what they have contributed. Nevertheless, their faults have been profound and have rightly led to their being classified as history and not contemporary science or even a contemporary guide to clinical practice. That is because they tended to be “sold” as the explanation of all psychopathology (that which explains all probably explains nothing); because they conveyed an impression of certainty, whereas both science and clinical practice have to take on board the extent of uncertainty; because implicitly, and sometimes explicitly, they (like world religions) denied the validity of other views; and because they both lacked a sound empirical basis and failed to recognize the need for empirical data to resolve troubling questions and dilemmas.

The rejection of the “big” theories has definitely not meant a denial of the importance of theory and, even less, should it imply a reversion to “dustbowl empiricism.” On the contrary, there has been an increasing strength of theory and of hypothesis testing, as exemplified throughout the chapters of this book. The difference is that these are mini-theories designed to test competing alternative hypotheses about what a particular set of empirical findings might mean – in short, a postulate about what might constitute the basic mediating mechanisms or processes. As the Nobel prize winning biologist Medawar (1982) argued, science involves in equal degrees the telling of “stories” about what might be happening and the conducting of experiments to determine which aspects of the “story” are supported and which are not. The findings in turn should lead to a further story and further testing in iterative fashion.

Some people might argue that we have “big” theories today – quoting, perhaps, genetics or neurotransmitters or developmental psychopathology as examples. In our view, none of these has the same qualities as the rejected “big” theories. Thus, genetics provides an understanding of a range of mediating and moderating mechanisms that have a major role in psychopathological development, but new mechanisms that did not derive out of genetic theory continue to be discussed, and it makes no claim to account for everything. Similarly, neurotransmitters are centrally implicated in most neural processes but the understanding of their functioning does not amount to a single theory. The situation with respect to developmental psychopathology is similar. It provides an invaluable research and conceptual perspective but it incorporates a range of mechanisms, and not just one integrative model. Moreover, its strength lies in the questions it poses and the strategies it provides for tackling research questions, and not in any one overarching model.

Developmental Psychopathology

Nevertheless, developmental psychopathology has provided an invaluable research and conceptual perspective that has proved

to be as relevant for adult as for child psychiatry (Rutter, in press). There has been an explicit focusing on continuities and discontinuities in risk processes and psychopathology across the lifespan and between normality and disorder. Amongst other things, this has led to a recognition of the importance of early neurodevelopmental impairment in schizophrenia and of early life experiences in the genesis of depression, as well as the high frequency with which adult mental disorders have their first onset in childhood (see chapter 13).

The Growth of Academic Child and Adolescent Psychology and Psychiatry

As several reviews have documented, academic child and adolescent psychiatry was already being established in both Europe and North America during the first half of the 20th century (Remschmidt, 1996; Schowalter, 2000), but it really took off after World War II when it came to be recognized as a speciality in most major countries, professional appointments began to be established (so that they now exist in most, but not all, medical schools), official training standards were established during the 1960s–1980s, and there was a tremendous increase in the number of scientific publications and in the availability of research training fellowships (Hersov, 1986). In that connection, reference must be made to the role of the *Journal of Child Psychiatry and Psychology* (JCPP) and the *Journal of the American Academy of Child and Adolescent Psychiatry*. The JCPP, although developed by a pioneering psychoanalyst, Miller, was crucial in its explicit rejection of adherence to any particular theory and in its interdisciplinary coverage. It has gone from strength to strength since its launch in 1956. The American Academy journal took much longer to achieve the same breadth of approach but now it too aspires to the same aims. Both journals have been important in seeking to emphasize research–clinical links.

It is clear that a child and adolescent psychopathology has gained greatly in academic strength over the last 50 years. Several features have probably played a part. Most especially, child psychiatry has gained enormously from the central involvement of leading psychologists in most of the key research developments. Sometimes this involved interdisciplinary collaboration but, especially in the USA, the psychopathological advances took place independently of psychiatry and outside medical schools. The research contributions of psychologists have most especially concerned autism, ADHD, antisocial behavior, depression, psychological treatments, genetics and brain imaging – to give just a few examples. Some of the pioneers have been recognized already in this chapter and the role of others pervades all chapters of this book. Also, many clinicians have received formal research training – sometimes through training fellowships and sometimes through working in research units and centers. In addition, researchers have been quick to see the need and value of basic science and of methodologies derived from basic science – such as quantitative and molecular genetics, structural and functional brain

imaging, and experimental strategies, as well as hypothesis-testing approaches in epidemiological and longitudinal research.

Academic impetus has come from the centers, formal and informal, established by research pioneers who fostered the careers of numerous younger researchers (usually spanning a range of disciplines). The child psychiatry research societies (providing both mutual support and leadership) set up during the 1980s in both the UK and Germany served a similar role. What is striking in viewing the field as a whole is the extent to which concepts and findings in child psychiatry have made an impact on general psychiatry, and vice versa. A degree of autonomy in child and adolescent psychiatry has clearly been beneficial but its close research integration with the rest of psychiatry, with psychology and, to a lesser extent, with pediatrics has been equally crucial.

Children's Understanding and Role in Decision-Making

Fifty years ago, scarcely anyone considered it either necessary or worthwhile to solicit children's views on their placement when their parents' marriage broke up, or on their medical treatment or on their participation in research. Today, it is widely accepted that it is essential and useful to determine children's views in relation to treatment (British Medical Association, 2000) and to research (Royal College of Psychiatrists' Working Party, 2001). The same applies to placements following family break-up. This massive change in view has derived in part from the growing body of evidence that even very young children can, and do, conceptualize and understand. Of course, compared with adults they are more limited in their ability to look back, look forward and anticipate long-term consequences, but their cognitive capacities clearly mean that their voices must be heard and taken into account as part of shared decision-making on all major issues, while at the same time recognizing that too much responsibility should not be placed on their shoulders.

All of this represents real progress, but both dilemmas and inequities remain. A key dilemma concerns the age of criminal responsibility, which varies incredibly widely across the world. The point is that whereas even preschool children have quite a well-developed sense of what is right and wrong, nevertheless, their overall ability to be fully responsible is less than that of most adults. Even more crucially, their actions will be influenced by their immaturity and their response to criminal court proceedings means that their needs should play a part in deciding how they should be dealt with (Commission of Families & the Well-Being of Children, 2005).

The chief inequity is that in many countries (including the UK and USA) it is illegal, as well as unacceptable, for adults to assault another adult but it is not illegal for parents to beat their children if "reasonable chastisement" can be claimed. In short, children have fewer human rights in that connection than do adults. The tide is turning in many European countries (as it did earlier with respect to corporal punishment in schools),

but societies continue to be reluctant to abandon the notion that children are their parents' property, with their parents having very wide permission to treat them in any way that they think fit. Much remains to be done.

Ethics

Across the whole of medicine there has come an appreciation of the need to pay serious attention to ethical issues in both treatment and research, and to accept that ethical review needs to be undertaken by interdisciplinary committees that are independent from the research and the researchers. This is not something specific to child psychiatry, although there is the particular need to be aware of the possible problems in adults taking decisions on behalf of children (Royal College of Psychiatrists' Working Party, 2001). There is an awareness of the realities of research fraud and plagiarism (Giles, 2005), of experts in their court reports making unsupportable claims, of researchers destroying data to avoid them being examined when an accusation of fraud has been made (White, 2005), of acceptance of grants from grant-giving bodies having unacceptable aims (such as racism), or having a long-standing record of suppressing unwanted research findings (as with tobacco funding; Glantz, Barnes, Bero *et al.*, 1995), or concealing the source of their research funding. Strong concerns have also been expressed with regard to the role of pharmaceutical companies concealing findings, exerting influence on academic institutions and ghost-writing papers under the name of academics who have not had access to the data (Healy, 2004; but see Diller, 2006 for a balanced discussion of the issues). We accept that there have been abuses but, equally, we think that some of the concerns have been somewhat unbalanced. Moreover, the involvement of drug companies in product development is essential and many companies have responded appropriately by taking steps to ensure fair practice. Unquestionably, standards have risen in a most important way. There is an emphasis on a required transparency with respect to both the conduct of research and its funding. Also, there is a general acceptance that there must be efficient research governance to ensure that ethical standards are maintained.

Equally, however, there is now a growing appreciation that it is in everyone's interest that high-quality research be undertaken if our preventive and therapeutic services are to be improved in the future. Accordingly, there is some danger that mindless bureaucratic rules will prevent, or at the very least make very difficult, some of the types of research that are most needed (Academy of Medical Sciences, 2006). In many countries, including both the USA and the UK, consumer groups have had a very positive influence in urging that top-quality research is needed and that the challenge is to ensure that it is undertaken to the highest ethical standards. In that connection, a problem-solving approach is required. Consumer groups have also had a powerful advocacy role in pointing out the shortcomings in service provision and in making initiatives to improve services. Thus, in the UK this has been

evident with respect to Young Minds (dealing with child and adolescent psychopathology generally) and both the National Autistic Society (NAS) and the Association For All Speech-Impaired Children (AFASIC) – to give but two examples of groups with more focused interests. The availability of the Internet has also meant that patients and their families are now much better able to come to clinics with both knowledge and incisive questions.

Organization of Services

The last 50 years has seen major changes in the organization and content of clinical services. It is not possible to provide a statement of universal trends because there are such great differences between countries (Remschmidt & van Engeland, 1999). Thus, for example, as Chess (1988) and Eisenberg (1986) described so vividly, in the 1950s and 1960s, American psychiatry (child and adult) was totally dominated by psychoanalysis, associated with an assumption that almost all causation was environmental, and that parents were largely to blame for the problems of their children. This was followed by a massive swing to biological models, leading Eisenberg (1986) to express concern that a “brainless” psychiatry was being replaced by a “mindless” psychiatry. Today, the use of drugs occupies a prominent place in therapeutic interventions in the USA to a degree that would have been inconceivable in the 1950s and 1960s. By contrast, despite a broadening of approaches and the development of community services, and psychodynamically oriented treatments, psychoanalysis continues to occupy a predominant position in French child psychiatry (Jeammet, 1999).

Nevertheless, despite these (and numerous other) divergencies, some important trends can be discerned that apply widely, albeit not universally. It has come to be generally accepted that there is an interplay among multiple causal influences – genetic, environmental and developmental – and that all adequate clinical services must provide a range of therapeutic interventions. Nevertheless, in most parts of the world, there is a continuing shortage of clinicians (of any discipline) who have been trained to an appropriate level in the growing list of treatments of demonstrated efficacy. Although the days are numbered for the single-therapy clinician who believes that one method serves all needs, such practitioners are still numerous.

There has also been a substantial growth in research-led specialist clinics devoted to the care of individuals with particular kinds of psychopathology and to the development of improved methods of treatment for such conditions; clinics for autism spectrum disorder, for ADHD, for conduct disturbances, for eating disorders, for obsessive-compulsive disorders and for depression all constitute examples of this kind. There can be little doubt that this constitutes a most beneficial advance, but it is important to ensure that a specific focus does not lead to neglect of a broad approach to the problems presented

by individual patients. It is necessary also to consider what should be the future of the generalist clinician. We suggest that, as with the rest of medicine, it is likely that most clinicians will (and should) develop special areas of interest and expertise. We hope, however, that this will not lead to exclusionary approaches because there will always be a need to recognize that reasons for referral do not boil down to a list of pre-decided diagnoses.

The growth of these specialist clinics has led to an awareness that, for many conditions, it may not be desirable for an arbitrary division on age grounds between child/adolescent and adult psychiatry. Thus, a young person with a serious eating disorder needs to be assessed and treated by an eating disorder specialist who spans age groups, without regard for whether they are above or below the age of 16 (or whatever bureaucratic cut-off is in operation). There are special skills involved in dealing with children, and certainly it will usually be desirable to have in-patient units that cater specifically for different levels of maturity. Nevertheless, there is a need for an integration between child and adult psychiatry because of the research evidence that the majority of major mental disorders in adult life had their onset in childhood or early adolescence (Rutter, Kim-Cohen & Maughan, 2006).

Despite this desirable blurring of age boundaries, there has also been the growth of at least one relatively new age specialization – infant psychiatry. The positive aspect of this development has been the appreciation that very young children can and do suffer from mental disorders which require skilled assessment and treatment. The less desirable feature has been the often heavy, exclusive reliance on psychoanalysis and attachment theory, and the weak links with developmental pediatrics. It is also striking that there has *not* been the development of good services for young adults who suffer from the continuation of a neurodevelopmental disorder (see chapters 13 and 3). That is something that will have to be remedied in the years ahead.

There has been an appreciation that it is desirable that many mental health problems should be dealt with at the primary care level, without referral to specialized clinics. The use of community psychiatric nurses, school counselors and primary care consultative services are all examples. There has been a paucity of adequate evaluations of their efficacy and this is much needed, but the general notion of intervening early as part of universal services seems sound. The key challenge is to ensure that those providing these early interventions are appropriately trained and supervised, with adequate access to consultative advice when needed. It is also relevant that there have been major developments in special educational services (see chapter 74).

In some countries (such as the UK), a model of a multitier service has developed, with different levels of expertise at each tier (Hill, 1999). In principle, that sounds desirable but it is less clear how well it works in practice. It was preceded by a breaking down of the divisions that had grown up between community child guidance clinics and hospital-