

UNIT FOR RESEARCH ON MEDICAL APPLICATIONS OF PSYCHOLOGY

(University of Cambridge)

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The work of this Unit is mainly concerned with research on child development, with particular emphasis on the growth and influence of mother-child relationships and the effects of medical practice on children and their parents. The Unit is jointly administered by the Medical School (Regius Professor of Physic, Professor W.J.H. Butterfield) and the Department of Experimental Psychology (Professor O.L. Zangwill) and much of the research is now supported by a grant from the Social Science Research Council, the Health Education Council and through studentships from the Medical Research Council and the Social Science Research Council. From 1970 to 1975 most of the research, apart from that done under studentships, was supported by grants from the Nuffield Foundation and the Mental Health Research Fund. Members of the Unit teach for various departments in the University, especially Social and Political Sciences and Experimental Psychology and the Medical Sciences Tripos.

The largest study currently in progress is a longitudinal study of mother-child relationships and aspects of child development. Dr. Martin Richards and Judy (Bernal) Dunn have been collecting data from a sample of about 100 Cambridge mothers and their first- or second-born children during the first year of life. Their research has been particularly directed towards detailed observational study of the mother-infant interaction. One of the foci has been to look at newborn characteristics and to try to trace their influence upon the pattern of interaction during the first year - for example, upon feeding, sleeping and crying patterns. Another interest is the influence of obstetric medication on mother-infant interaction. The data-collection phase of this study is now complete and work is concentrated on the analysis of data and the writing-up of results. Increasingly we are able to begin the analysis of continuities and changes in the children across the age range that we have studied.

Judy Dunn has now left the Unit to take up an appointment at the MRC Unit at Madingley and most of her work has been taken over by Barbara Antonis.

Mrs. Frances Barnes is engaged on a study of these same children at 2¹/₂ - 3 years, and her interest is mainly in analysing the patterns of communication in the family in as far as it is informative about the underlying relationships - the ideas here deriving ultimately from Bateson's studies. Data are largely obtained through observation and the analysis of tape recordings.

Another interest is in the relationship between the children's status at birth and their later development. A number of interesting correlations have been found between unpredictability in behaviour at 3 years, accidents suffered, handedness and other measures and the history of the baby's birth and his status in the neonatal period.

The same sample of children is being studied again at four and five years by Barbara Antonis, who is continuing the work begun by Paul Light. These later follow-ups employ more structured testing situations and include data collected at the children's schools. The two main emphases are a battery of Piaget-derived measures of cognitive development and a battery of tests designed to evaluate the child's ability to perceive the perspectives of other people: to 'see the other person's point of view' (the ideas here deriving from G.H. Mead).

Although the theories examined at the various ages are obviously very disparate, it is also intended that the studies should examine longitudinal relationships, and a range of other 'follow-up' data is being gathered at the later ages.

Roger Bacon is about to begin a study of non-accidental injury to children in Cambridgeshire which is being funded by the DHSS. He has recently completed a year's research project on the problems of adoption and fostering for the Association of British Adoption and Fostering Agencies.

Tony Booth is looking at some of the social and historical determinants of human development. In particular he is interested in the way people have changed in interaction with social changes. He hopes to contribute to a use of concepts (such as age, sex and social class), in developmental psychology, which recognises how their meaning changes over time.

Jenny Corrigall is working on a follow-up study of a group of Down's Syndrome children. This study is using some of the observational and infant assessment techniques that have been developed in the large longitudinal study of normal children.

Michael Craft, Ann Gilbert and Ray Croucher are funded by the Health Education Council to carry out a three-year programme of action research in preventive dentistry, designed to assemble a package of motivation techniques in dental health education. This work is targeted at specific high risk population groups: young mothers with pre-school children; adolescents 13-16 years; young adults 16-19 years; and will use adventure learning concepts derived from Montessorri, Froebel and Dewi, now commonly employed in primary schools.

The study, now in its second year, has been established in a wide variety of sampling frames in the community. High risk guidelines are under development for the selection of subjects and considerable progress has been made in developing certain elements of the motivation package. Results are expected from a number of meetings, discussion groups, aimed at discovering attitudes and expectations towards dental health. Evaluation techniques have been selected and a study of plaque-disclosing techniques is in progress. Two other subsidiary studies have commenced - a cost/availability comparison of sucrose-free snacks; levels of water-borne fluoride in the Cambridgeshire AHA and neighbouring areas.

Chris Henshall is planning a study of the development of children's concepts of people and social systems to provide a framework for the specific study of gender and sex role development.

Nicola Jacques is completing a study of the development of low birth-weight infants which pays particular attention to problems of mother-infant separation. Most of this work was carried out at the Royal Devon & Exeter Hospital in collaboration with Dr. F.S.W. Brimbelcombe and his colleagues. Martin Richards was involved in a study of parental visiting of infants in the Special Care Nursery at the same hospital which was funded by the DHSS.

Joanna Hawthorne has set up a study similar to the Exeter study in collaboration with Dr. N.C.R. Robertson and Dr. N. Barnes at the Special Care Unit at Cambridge. It will be extended to study the effect of hospital practices on the mother-infant relationship and the problems of doctor/parent communication.

Ewan Klein is working on an investigation of the language development of young children, taking the speech act as the basic unit of analysis. It will examine the ways in which children solve the co-ordination problems involved in sustaining conversation with peers and adults.

Elena Lieven is working on the role of speech to young children in their own language development. She is studying individual differences between mother-child pairs in their linguistic communication and changes in the interaction as the child's language develops. In 1974 she completed a short period of fieldwork in the West Sepik District of Papua New Guinea, studying language development and some aspects of socialisation. She is also involved in teaching the "Women in Society" course of the Social Political Sciences and is interested in the development of gender identity and the socialisation of sex roles.

Graham Richardson is interested in the development of perception and language in seven to eleven year old children who are experiencing reading and spelling difficulties. One aspect being investigated is the recognition of complex, mono-orientated figures such as faces and words when inverted and reversed. Another characteristic being evaluated is these children's understanding and production of relational terms and time-ordered series (months of the year, etc.).

Denise Riley is working on the history of the individual/society anti-thesis in developmental psychology: including Marxist and phenomenological analyses, their history and possible uses. Also maternity, familial ideologies, and the construction of related social policies.

Ann Thorington is setting up an interview study on attitudes to pregnancy and its management, with the help of local GPs.

Michael Wood is looking at the interaction of congenital and environmental factors in the development of individual differences between children,

and in mother-infant interaction styles. It is hoped to shed some light on the apparent inversion of intensity, found by R.Q. Bell and others, between the neonatal and pre-school periods.

Recent and forthcoming publications by members of the Unit

- Antonis, B. "The First Pregnancy: Mothering and attitudes to it in working and non-working mothers." Unpublished Ph.D. dissertation.
- Antonis, B., Allport, A. and Reynolds, P. 'On the division of attention: A disproof of the single channel hypothesis.' *Quart. J. Exp. Psychol.* 1972, 24(2), 225-235.
- Becon, Roger. Problems in the relationship between Sociological Theory and Sociological Practice with special reference to the interpretation of attempted suicide by drug overdosing. Ph.D. Thesis, University of Cambridge.
- Barnes, F. Birth of a Ngoni child. *Man*, 49.
- Barnes, F. Paleolithic Man. In 'Insight on Human Biology', Australian Broadcasting Commission, pp.23-28, Sydney.
- Barnes, F. 'Biology of Man' ed. Stephen Boyden. Australian National University Press.
- Barnes, F. On having a relatively poor status at birth: some characteristics of the children and their mothers. Paper presented at the Spastics Society Developmental Neurology Meeting, Oxford, September 1974.
- Barnes, F. Handedness and Birth Stress in a Sample of Normal Children. *New Scientist* vol. 67, No.959, 25 July 1975.
- Barnes, F. Accidents in the first three years of life. *Child: care, health and development* 1975, 1, 421-433.
- Bax, M. and Dunn, J.F. 'Your Child's First Five Years'. Heinemann Medical Books, 1974.
- Clarke, A.H., Wyon, S.M. and Richards, M.P.M. Free play in nursery school children. *J. Child Psychol. Psychiat.*, 10, 205-16, 1969.
- Corrigal, J.M. Social participation in severely subnormal children during free play. (Forthcoming).
- Corrigal, J.M. and Santer, N.C. Weststrate. The verbal imitation skills of a SSN man - the analysis of a training programme. Paper presented at 3rd IASSMD, The Hague, 1973.
- Craft, M.H. and Sheiham, A. Attitudes to Prevention Amongst Dental Practitioners. A Comparison between the North and South of England. *Brit. dent. J.* 1976, 141.
- Craft, M.H. Preventive Dental Behaviour. A comparison of the attitudes of Dental Practitioners between their children and their patients. In press.
- Croucher, R.E. and Hetherington, R.W. The Saskatchewan Mental Health Index (SAMI). Mimeograph. Applied Research Unit. Psychiatric Research, Quisian, Saskatchewan, Canada, October 1975.
- Dunn (Bernal) J.F. Crying during the first 10 days of life, and maternal responses. *Developm. Med. Child Neurol.*, 14, 362-72, 1972.
- Dunn (Bernal) J.F. Attachment: some problems and possibilities. In M.P.M. Richards (ed.) 'The Integration of a Child into a Social World.' Cambridge Univ. Press, 1974.
- Dunn (Bernal) J.F. Night waking in the first 14 months. *Developm. Med. Child Neurol.*, 15, 760-769, 1973.

- Dunn (Bernal) J.F. Consistency and change in maternal style. Parent Infant Interaction. Ciba Foundation Symposium No.33. Elsevier, 1975.
- Dunn (Bernal), J.F. and Richards, M.P.M. Social interaction in the first days of life. In H.R. Schaffer (ed.) 'The Origins of Human Social Relations.' Academic Press, 1971.
- Dunn (Bernal), J.F. and Richards, M.P.M. What can the zoologist tell us about human development? In A.S. Barnett (ed.) 'Ethology and Development' (Little Clinic Clubs in Developm. Med. No.47). Spastics Society and Heinemann Medical Books, 1973.
- Dunn (Bernal), J.F. and Richards, M.P.M. Observations on the developing relationship between mother and baby in the neonatal period. Presented at the Loch Lomond Symposium on Mother-Infant Interaction and to appear in 'Infant Interactions' by H.R. Schaffer. Academic Press, 1977.
- Klein, E. Review of T. Van der Geest. Evaluation of Theories of Child Grammars. Mouton, 1974.
- Keenan, E. and Klein, E. Coherency in children's dialogues. Paper presented at LSA Summer Meeting, 1974. Now published.
- Lieven, E. Conversations between Mothers and Young Children. Paper presented at 3rd Int. Symp. of Child Language, September 1975.
- Lieven, E. Conversations between Mothers and Young Children. In N. Waterson and C. Snow (eds.) 'The Development of Communication: Social and Pragmatic Factors in Language Acquisition. London, John Wiley, 1976.
- Lieven, E. Turn-taking and Pragmatics: two issues in early child language. Paper presented at Psychology of Language Conf. Stirling, 1976. To appear in the Conference Proceedings eds. P. Smith and R. Campbell. N.Y. & London, Plenum Press.
- Lieven, E. and McShane J. Language is a developing skill. Paper presented in the symposium 'Language and its Origins' at the 6th Congress of the International Primatological Society, 1976. To appear in the Conference Proceedings. N.Y. & London, Academic Press.
- Richards, M.F.M. and Bernal, J.F. The effects of bottle and breast-feeding on infant development. J. Psychosom. Res., 14, 247-252, 1970.
- Richards, M.P.M. and Bernal, J.F. An observational study of mother-infant interaction. In N. Blurton-Jones (ed.) 'Ethological Studies of Child Behaviour.' Cambridge Univ. Press, 1972.
- Richards, M.P.M. and Bernal, J.F. Effects of obstetric medication on mother-infant interaction and infant development. In N. Morris (ed.) Proc. 3rd Int. Congr. Psychosom. Med. Obstet. and Gynaec., pp.439-443. Karger, Basel, 1972.
- Richards, M.P.M. Consuming science: Rothschild, Dainton and the non-revolution in research policies. Cambridge Review, January '72.
- Richards, M.P.M. The development of communication in the first year of life. In J.S. Bruner and K.J. Connolly (eds.) 'The Growth of Competence.' Academic Press 1974.
- Richards, M.P.M. (ed.) 'The Integration of a Child into a Social World.' Cambridge Univ. Press, 1974. Chapter: First steps in becoming social.

- Richards, M.P.M. The biological and the social. In Armistead, N. (ed.) 'Reconstructing Social Psychology.' London, Penguin Education, 1974.
- Richards, M.P.M. An ecological study of infant development in an urban setting in Britain. In P.H. Leiderman and S.R. Tulkin (eds.) 'Cultural and Social Influences in Infancy and Early Childhood.' In press.
- Richards, M.P.M. The Pros and Cons of Breast Feeding. Paper presented at the Joint Meeting of the British Paediatric Assoc. Council and the Medical Information Unit of the Spastics Society, March 1974.
- Richards, M.P.M. Non-accidental injury to children in an ecological perspective. Paper presented at a conference organised by the DHSS, June 1974.
- Richards, M.P.M. and Bernal, J.F. Why some babies don't sleep. New Society 28th February 1974.
- Richards, M.P.M. Feeding and the early growth of the mother-child relationship. In Kretchmer, N., Rossi, E. and Sereni, F. (ed.) 'Modern Problems in Pediatrics.' No. 15 Milk and Lactation. Karger, Basel 1975.
- Richards, M.P.M. Interaction and the concept of development: the biological and the social revisited. Paper presented at a Symposium on Parent-Child Communication. Organised by M. Lewis, ETS, Princeton, 1975.
- Richards, M.P.M. History and the Study of Child Development. Presented at the 3rd Biennial Conference of the ISSBD, Guildford, July 1975.
- Richards, M.P.M. Some recent research on the effects of obstetric anaesthetics and analgesics on mother and child: An annotated bibliography. Unpublished, 1975.
- Richards, M.P.M. Innovation in Medical Practice: obstetricians and the induction of labour in Britain. Social Science and Medicine 9, 595-602, 1975.
- Richards, M.P.M., Dunn, F.F. and Antonis, B. Caretaking in the first year of life: The role of fathers, and mothers' social isolation. 1975.
- Richards, M.P.M. Parents and children and non-accidental injury. Presented at a symposium at the Royal Society of Medicine, June 1976 and to be published in a volume edited by A. Whyte Franklin.
- Richards, M.P.M. Effects on infant behaviour of analgesics and anaesthetics used in obstetrics. Paper presented at the 5th Conf. of the European Teratology Society, Italy 1976.
- Richards, M.P.M. The induction and acceleration of labour: some benefits and complications. Unpublished paper 1976.
- Richards, M.P.M., Bernal, J.F. and Brackbill, Y. Early behavioural differences: gender or circumcision? Developmental Psychology 9, 89-95, 1976.
- Richards, M.P.M. Social relationships during infancy (Conduites du bébé: les fonctions de relation sociale). Part II Chapter 6, La Psychologie. L'Encyclopedie de la Pléiade. J. Piaget, J.P. Brouckart and P. Mounoud (eds.). Paris, Gallimard, in press, 1977.
- Richards, M.P.M. A place of safety? An examination of the risks of hospital delivery. In 'The Place of Birth', J. Davis and S. Kitzinger (eds.). Oxford Univ. Press, in press 1977.

- Brimblecombe, F.S.W. and Richards, M.P.M. (eds.) Early Separation and Special Care Nurseries. Clinics in Developm. Med. Spastics Publications, in press 1977.
- Hawthorne, J.T. and Richards, M.P.M. Parental visiting of children in a special care nursery. In Brimblecombe and Richards (eds.) see above.
- Richards, M.P.M. and Roberton, N.R.C. Admission and discharge policies for special care baby units. In Brimblecombe and Richards (eds.) see above.
- Chalmers, I. and Richards, M.P.M. The effectiveness of present day obstetric practice. In Chard and Richards (eds.) see below.
- Chard, T. and Richards, M.P.M. (eds.) Hazards and benefits of the new obstetrics. Clinics in Developm. Med. Spastics Publications, in press 1977.
- Richardson, G. The Cartesian frame of reference: A structure unifyinf the description of dyslexia. J. Psycholinguistic Res., 1974, 3, 15-63.
- Riley, D. 'What women want.' The question of choice in the conduct of childbirth. In Chard and Richards (eds.) see above.
- Riley, D. Developmental psychology and the "social individual". Unpublished paper, 1975.
- Riley, D. Articulacy and economy in language. M.A. thesis, Philosophy Faculty, Univ. of Sussex, 1974.
- Other published and unpublished articles on topics in Marxist philosophy and feminism.

CURRENTLY WORKING IN THE MEDICAL PSYCHOLOGY UNIT
UNIVERSITY OF CAMBRIDGE

5 Salisbury Villas, Station Rd., Cambridge, Tel: 58708 (or 51386 Ext. 234).

BARBARA ANTONIS, B.Sc. The first pregnancy and attitudes to mothering of working and non-working women. Follow-up at 4 and 5 1/2 years of the 100 longitudinal-study children.

FRANCES BARNES, M.B., B.Chir. Follow-up at 3 years of the 100 longitudinal study children. Development of autonomy in children and patterns of communication within the family.

ROGER BACON, M.A. Non-accidental injury to children.

TONY BOOTH, B.A., Dip.Ed.Psych. 1st year research student SSRC.

JENNY CORRIGALL, M.A. Mother-infant in interaction over the first 15 months of life in Down's syndrome children.

JOANNA HAWTHORNE, B.A. 2nd year research student, MRC. The problems of mother-baby separation in special care baby units.

CHRIS HENSHALL, B.A. 1st year research student, SSRC. Gender and sex development in children.

NICOLA JACQUES, B.A. 4th year research student, MRC. The development of premature infants with particular reference to problems of mother-infant separation. This project is being carried out at the Royal Devon & Exeter Hospital, Heavitree, Exeter.

EWAN KLEIN, M.A. 4th year research student, SSRC. The linguistic and communicative competence of young children.

ELENA LIEVEN, M.A. University Demonstrator in Experimental Psychology. The role of the speech environment of young children in their own language acquisition. Sex differences and the development of gender identity.

PHYLLIS OSBOURN. Secretary.

MARTIN RICHARDS, Ph.D. Lecturer in Social Psychology. Longitudinal study of mother-child relationships. Effects of medical practice on child development.

GRAHAM RICHARDSON, M.S. Aspects of language and visual perception in children with reading retardation.

DENISE RILEY, M.A. Epistemology in Psychology.

ANN THORINGTON, 2nd year research student, SSRC. Attitudes to pregnancy and its management.

MIKE WOOD, B.Sc. 5th year research student, SSRC. The interaction of constitutional and environmental factors in the development of individual differences during the first year of life.

HEALTH EDUCATION COUNCIL : DENTAL HEALTH PROJECT (Tel. Cambridge 63389)

MICHAEL CRAFT, M.Med.Sci., LDS, RCS, ANN GILBERT, B.Ed. and RAY CROUCHER, B.Sc., M.A. An action research project aimed at developing a package for motivating preventive dental behaviour in pre-school children, adolescents and young adults.

ASSOCIATED:

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