

Martin Kemp

MA, D. LITT, FBA, FRSE, HRSA, HRIAS, FRSSU

Curriculum Vitae: Summary

Education

Windsor Grammar School

1960-3 Downing College, Cambridge University (Part I, Natural Sciences, Part II History of Art)

1963-5 Academic Diploma in the History of Western Art, Courtauld Institute

Appointments and Activities

a. Teaching and Research Posts, and Visiting Professorships etc

1965-1966	Lecturer in the History of Fine Art, Dalhousie University, Halifax, N.S., Canada
1966-1981	Lecturer in the History or Fine Art, University of Glasgow
1981-1990	Professor of Fine Arts, University of St. Andrews
1984-1985	Member of Institute for Advanced Study, Princeton
1990-1995	Professor of the History and Theory of Art, St. Andrews
1987-1988	Slade Professor, University of Cambridge
1988	Benjamin Sonenberg Visiting Professor, Institute of Fine Arts, New York University
1993	Dorothy Ford Wiley Visiting Professor in Renaissance Culture, University of North Carolina, Chapel Hill
1993-1998	British Academy Wolfson Research Professor
1995-1997	Professor of the History of Art, Oxford University
2000	Louise Smith Brosse Professor at the University of Chicago
2001	Research Fellow, Getty Institute, Los Angeles
2004	Mellon Senior Research Fellow, Canadian Centre for Architecture, Montreal
2007-2008	Research Professor in the History of Art, Oxford University
2008-	Emeritus Professor in the History of Art, Oxford University
2010	Lila Wallace - Reader's Digest Visiting Professor, I Tatti, Harvard University

b. Invited lectures

Britain and Ireland (various), America (Ann Arbor, Baltimore, Bethlehem, Berlin, Chapel Hill, Charlottesville, Duke, Emory, Harvard, Los Angeles, Malibu, New York, Penn State, Philadelphia, Princeton, Rice, Santa Cruz, Galveston, Washington, Williamstown, and Yale), Australia, Canada, France, Germany, Italy, Korea, Norway, Poland, Portugal, Spain, Sweden and Switzerland, including Selwyn Brinton lecture at the Royal Society of Arts, Aspects of Art lecture at the British Academy, Society for Renaissance Studies Annual lecture, Lettura Vinciana at Vinci, Slade Lectures at Cambridge; Mossman Lectures, Montreal: Hammer Prize lecture, Los Angeles; Bochner 'Scientia' Lecture, Rice, Brosse lectures, Chicago, Iconic Turn Lecture, Munich, Einstein Lecture, Berlin.

c. Awards

British Academy Wolfson Research Professorship, 1993-8.

Mitchell Prize for best first book, for *Leonardo da Vinci. The Marvellous Works of Nature and Man*.

Armand Hammer Prize for Excellence in Leonardo Studies

Prize of the American Italian Association

Honorary

d. International Curatorship and Co-curatorship

- 1989 *Leonardo da Vinci. Artist, Scientist, Inventor* at the Hayward Gallery, London*
- 1992 'Columbus year' exhibition, *Ca 1492. Art in the Age of Discovery* for the National Gallery, Washington*
- 1993 *Leonardo da Vinci. The Mystery of the Madonna of the Yarnwinder*, National Gallery of Scotland. Edinburgh
- 2000 *Spectacular Bodies. The Art and Science of the Human Body*, Hayward Gallery, London*
- 2002 *Gregor Mendel, the Genius of Genetics*, Abbey of St. Thomas, Brno*
- 2006 *Leonardo da Vinci. Experience, Experiment, Design*, Victoria and Albert Museum,
- 2007 *Seduced. Art & Sex from Antiquity to Now*, Barbican Art Gallery,* London.

* co-curated

e. Public Service

Trustee of National Galleries of Scotland
Board of the Scottish Museums Council
Board of the Museum Training Institute
Trustee of the Victoria and Albert Museum
Trustee of the British Museum
Trustee of the Wilhemina Barns-Graham Charitable Trust
Board of the Louise T Bloin Institute

f. Professional Service and Activities

Chair of Association of Art Historians
Chair of Editorial Board, *Art History*
Chair of Graeme Murray Gallery, Edinburgh
Board member, 'Interalia' (art-science organisation sponsored by Marks and Spencer)
Professor of History, Royal Scottish Academy
Member of the Council of the British Society for the History of Science
Membre Titulaire, Comité International d'Histoire de l'Art
Founder of Artakt and Director, 2001-5

g. Honours and Awards

- 1983 Fellow of Royal Society of Arts
- 1985 Honorary Professor of History, Royal Scottish Academy
- 1988 Honorary Member, Royal Incorporation of Architects in Scotland
- 1991 Fellow of the British Academy
- 1992 Fellow of the Royal Society of Edinburgh
- 1992 Armand Hammer Prize, Los Angeles, for Excellence in Leonardo Studies
- 1993 British Academy Wolfson Research Professor
- 1995 Honorary D. Litt., Heriot Watt University.
- 1995 Fellow of the Royal Society of Sciences, Uppsala
- 1999 Honorary Fellow, Downing College Cambridge
- 1999 Overseas Member American Academy of Art and Sciences
- 2009 Honorary doctorate, University of Uppsala, Sweden
- 2009 Honorary Fellow, Glyndwr University, Wales

h. Public Media

CD-Rom on Leonardo for Bill Gates
Video 'The Masters of Illusion' for the National Gallery, Washington (their best-selling video to that time)
Many appearances on TV programmes, including 50-minute feature on Piero della Francesca for 'Omnibus'
5 Leonardo programmes for BBC and ITN

Radio programmes, including interviews with artists, appearances on 'Today', 'Kaleidoscope', 'Front Row', 'Night Waves', "Start the Week" and the 'Colin Bell Show'.
Arts Blog for *The Guardian*, 2007

Overview of Published Research

The central theme of my research has been the relationship between scientific models of nature and the theory and practice of art. This has primarily involved the sciences of optics, anatomy and natural history in various key episodes from the Renaissance to the 20th century. Increasingly it has concerned issues of visualisation, modelling and representation common to science and art.

*A major focus has been the art and writings of Leonardo da Vinci, culminating in the prize-winning *Leonardo da Vinci. The Marvellous Works of Nature and Man* (1981 and 1989). I am currently working for Bill Gates on a project to put his Codex Leicester on line. A book on the new Leonardo portrait, which is have christened *La Bella Principessa*, is published in spring 2010.*

*The summation of the optical researches is *The Science of Art. The Optical Themes in Western Art from Brunelleschi to Seurat*, Yale University Press, 1990 and 1992. Anatomical themes and related topics from natural history and the 'hard' sciences are being explored in two books written during my 5 years as British Academy Wolfson Research Professor; *Seen and Unseen. Visual Angles on Art and Science*; and *Visualizations. The 'Nature' Book of Science and Art*.*

*My main period researches have involved the Renaissance, summarised in my book, *Behind the Picture. Art and Evidence in the Italian Renaissance in 1997*, with ancillary areas of research in British and French art c. 1750-1830, and early photography. I also write about living artists.*

*The broad thrust of more recent work is devoted to a history of the visual, which embraces the wide range of artefacts from science, technology and the fine and applied arts that have been devised to articulate our visual relationship to the physical world. A scientific diagram or computer graphic model of a molecule is as relevant to this new history as a painting by Michelangelo. Direct expressions of this vision are to be found in the Centre for Visual Studies which I founded in Oxford and in the series on 'Art and Science', 'Science and Image', and "Science and Culture" in my weekly (now monthly) page in *Nature* (the first 50 articles published in book form as *Visualizations*, OUP). A number of these themes are brought together in *Seen / Unseen*, OUP, 2006. In particular I am exploring the notion of "structural intuitions" as a way of understanding shared starting points in art and science. Biological and philosophical themes are explored in *The Human Animal in Art and Science* (Chicago, 2007).*

*I am currently writing a book for OUP on *Iconic Images*, which will tell the life stories of images that have transcended time, place and function, ranging from Christ's face to DNA.*

*The curation of exhibitions has been a major activity. These include: *Leonardo da Vinci. Artist scientist engineer*, London, 1989; *Ca 1492. Art in the Age of Exploration*, Washington, 1492; *Spectacular Bodies. Art and Anatomy from the Renaissance to now*; *Leonardo da Vinci. Experience, experiment, design*, London, 2005; *Seduced. Art and sex from antiquity to now*, London, 2007.*

List of Publications

(In order of publication within each section. Excluding most book and exhibition reviews and other occasional pieces. Books and free-standing publications in **bold**)

I. Art and Science (and History of Science)

'A Drawing for the Fabrica and Some Thoughts on the Vesalius Muscle-Men', *Medical History*, XIV, 1970, pp. 277-88

Dr. William Hunter at the Royal Academy of Arts, Glasgow University Press, 1975.

'Dr. William Hunter on the Windsor Leonardos and his Volume of Drawings Attributed to Pietro da Cortona', *The Burlington Magazine*, CXVII, 1976, pp. 228-31.

'Science, Non-Science and Nonsense: the Interpretation of Brunelleschi's Perspective', *Art History*, I, 1978, pp. 134-161.

'Glasgow University, Bicentenary Celebrations of Dr. William Hunter' (1718-83), *The Burlington Magazine*, No. CXXV, 1983, pp. 380-3.

'Construction and Cunning: The Perspective of the Edinburgh Saenredam', *Dutch Church Painters*, ed. H. Macandrew, Edinburgh, 1984, pp. 30-7.

'Red, Yellow and Blue: the Limits of Colour Science in Painting', *The Natural Sciences and the Arts*, ed. A. Ellenius (Acta Universitatis Uppsaliensis no. 22), Uppsala, 1984, pp. 98-105.

'Geometrical Perspective from Brunelleschi to Desargues: a Pictorial means or an Intellectual End?' (Aspects of Art Lecture, 1984), *Proceedings of the British Academy*, (1984), LXX, 1985, pp. 89-132.

'Simon Stevin and Pieter Saenredam: A Study of Mathematics and Vision in Dutch Science and Art', *The Art Bulletin*, LXVIII, 1986, pp. 237-51.

'"Perspective Rectified". Some Alternative Systems in the 19th Century', *AA Files*, XV, 1987, pp. 30-4.

'Perspective and Meaning: Illusion, Allusion and Collusion', *Philosophy and the Visual Arts*, ed. A. Harrison, Dordrecht, 1987, pp. 255-68.

The Science of Art: Optical Themes in Western Art from Brunelleschi to Seurat, Yale University Press 1990, reprinted with revisions 1992; in Italian as ***La Scienza dell'arte. Prospettiva e percezione visiva da Brunelleschi a Seurat***, Giunti, Florence, 1994; in Spanish as ***La Ciencia del Arte. La óptica en la arte occidental de Brunelleschi a Seurat***, Ediciones Alkal, Madrid, 2000.

'Geometrical Bodies as Exemplary Forms in Renaissance Space', *World Art. Themes of Unity in Diversity* (Acts of the XXVI International Congress for the History of Art, Washington, 1986, ed. I. Lavin, Pennsylvania and London, I, 1989, pp. 237-41.

'Taking it on Trust: Form and Meaning in Naturalistic Representation', *Archives of Natural History*, XVII, 1990, pp. 127-88.

'"La diminutione di ciasun piano": la rappresentazione delle forme nello spazio di Francesco di Giorgio', *Prima di Leonardo* exhibition catalogue, ed. P. Galluzzi, Palazzo Comunale, Siena, 1991, pp. 105-12.

'Prescriptions for Painting: "Optical Information" in Art from the Renaissance to the Late Nineteenth Century', *Kungl. Vitterhets Historie och Antikvitets Akademiens Konferenser* (Stockholm), XXIII, 1991, pp. 9-28.

'Intellectual Ornaments: Style, Interpretation and Function and Society in Some Instruments of Art', *Interpretation and Cultural History*, ed. J. Pittock and A. Wear, London, 1991, pp. 135-152

'True to their Natures: Sir Joshua Reynolds and Dr. William Hunter at the Royal Academy of Arts', *Notes and Records of the Royal Society of London*, XLVI, 1992, pp. 77-88.

'"The Mark of Truth": Looking and Learning in some Anatomical Illustrations from the Renaissance and the Eighteenth Century', *Medicine and the Five Senses*, ed. W. Bynum and R. Porter, Cambridge, 1993, pp. 85-121.

'Picturing the Prehistoric', review symposium of M. Rudwick's, *Scenes from Deep Time*, in *Metascience*, IV, 1993, pp.70-3.

'"Philosophy in Sport" and the "Sacred Precincts": Sir David Brewster on the Kaleidoscope and Stereoscope', *Muse and Reason. The Relation of Arts and Sciences 1650-1850*, ed. B. Castel, J. Leith and A. Riley, Kingston (Ontario), 1994, pp.203-32 (with Appendix by B. Pert)

'Piero and the Idiots: the Early *Fortuna* of his Theories', *'Monarca della pittura'. Piero della Francesca and his Legacy*, ed. M. Lavin, National Gallery, Washington, 1995, pp.199-211.

Materia Medica. A New Cabinet of Art and Medicine, exhibition and catalogue with K. Arnold, Wellcome Institute, London, 1995.

Bodyscapes. Images of Human Anatomy from the University of St. Andrews, exhibition and catalogue, Crawford Centre, 1995.

'Spirals of Life: D'Arcy Thompson and Theodore Cook, with Leonardo and Dürer in Retrospect', *Physis*, XXXII, 1995, pp. 37-54.

'"Reality not Relativism: Thoughts on the Histories of Art and science having ReRead Panofsky"', *Meaning in the Visual Arts. Visions from the Outside* (Erwin Panofsky. A Centennial Celebration), ed. I. Lavin, 1995, pp. **.**.

'New Light on Old Theories: Piero della Francesca and the Transmission of Light', *Piero della Francesca tra arte e scienza*, ed. M. Dalai Emiliani and V. Curzi, Venice, 1996, pp. 33-46.

'Temples of the Body and Temples of the Cosmos: Vision and Visualisation in the Vesalian and Copernican Revolutions', for volume on *Picturing Knowledge. Historical and Philosophical Problems Concerning the Use of Art in Science*, ed. B. Baigrie, Toronto, 1996, pp. 40-85.

'"Wrought by No Artist's Hand": the Natural, Artificial and Exotic in Some Artefacts from the Sixteenth Century', *Reframing the Renaissance: Visual Culture in Europe and Latin America, 1450-1650*, ed. C. Farago, New Haven and London, 1996, pp. 177-96.

'"Implanted in our Natures": Humans, Plants and the Stories of Art', *Visions of Empire. Voyages, Botany and Representations of Nature*, ed. D. Miller, Los Angeles, 1996, pp. 197-229.

'Doing What Comes Naturally: Morphogenesis and the Limits of the Genetic Code', *Art Journal*, ed. B. Sichel and E. Levy, Spring 1996, pp.27-32.

'The Ambiguous Object: the Perception of Artefacts within Changing Taxonomies', *The World, the Image and Aesthetic Experience. Interdisciplinary Perspectives on Perception and Understanding*, ed. C. Murath and S. Price, Bradford, 1996, pp. 193-222.

'In the Light of Dante: Meditations on Natural Light and Divine Light in Piero della Francesca, Raphael and Michelangelo', *Ars naturam adiuvans. Festschrift für Matthias Winner*, ed. V. von Flemming and S. Schütze, 1996, pp. 160-77.

'Art and Science', *The Art Quarterly*, Spring 1996, pp. 33-5.

'Seeing Subjects and Picturing Science: Visual Representation in 20th-Century Science', for *20th-Century Science*, ed. J. Krige and D. Pestre, Amsterdam, 1997, pp. 361-90.

'Medicine in View: Art and Representation', for *Western Medicine. An Illustrated History*, ed. I. Loudon, Oxford, 1997, pp. 1-24.

'Parading the Horse', *The Art Quarterly*, XXX, 1997, pp. 24-31.

'Hidden Dimensions', *tate_The Art Magazine*, 13, 1997, pp. 40-4.

'Art and Science', 28 articles in weekly series in *Nature* from 23 October 1997, to 30 April 1998 (essays on topics from the Renaissance to now)

'Science and Image', 36 articles in weekly series in *Nature* from 7 May 1998 to Dec 1998 (essays on the visual aspects of the sciences from the Renaissance to now; see also below)

'Palissy's Philosophical Pots: ceramics, grottos and the "Matrice" of the earth', *Le origini della Modernità*, ed. W. Tega, 2 vols., Florence, 1999, pp. 69-88

Imagine e Verità. Per una storia dei rapporti fra arte e scienza, Il Saggiatore, Milan, 1999.

Introductory essay in *The Physician's Art. Representations in Art and Medicine*, Duke University Medical Centre, 1999, pp.13-19.

"Vision and Visualisation in the Illustration of Anatomy and Astronomy from Leonardo to Galileo", *1543 and All That*, ed. A. Coronese and G. Freeland, Kluwer, Amsterdam, 2000, pp. 17-51.

with Debora Schultz, 'Us and Them, This and That, Here and There, Now and Then: Collecting, Classifying and Creating', *Strange and Charmed. Science and the Contemporary Visual Arts*, ed. S. Ede, London, 2000, pp.84-103.

'The Temple of Flora. Robert Thornton, Plant Sexuality and Romantic Science', *Natura-Cultura. L'interpretazione del mondo fisico nei testi e nelle immagini*, ed. G. Olmi, L. Tongorgi Tomasi and A. Zanca, Florence, 2000, pp. 15-28.

"The Handywork of the Incomprehensible Creator", *Writing on Hands. Memory and Knowledge in Early Modern Europe*, ed. C.R. Sherman and P.M. Lukehart, Dickinson College and Folger Shakespeare Library, Washington, 2000, pp. 22-7.

Visualizations: the Nature Book of Art and Science (based on articles for *Nature*), 2000, Oxford University Press and University of California Press (also in German)

with Marina Wallace, ***Spectacular Bodies. The Art and Science of the Human Body from the Renaissance to Now***, book for exhibition at Hayward Gallery in London, University of California Press, 2000.

'Vedere lo spazio e misurare le immagini: Brunelleschi e la prospettiva urbana', *La Cattedrale come spazio sacro* (Atti del VII centenario del Duomo di Firenze, vol. II, pt. 2), ed. T. Verdon and A. Innocenti, Florence, 2001, pp. 661-72.

"From Different Points of View: Correggio, Copernicus & the Mobile Observer", *Coming About... A Festschrift for John Shaeraman*, ed. L. Jones and L. Matthew, Cambridge (Mass.), 2001, pp. 207-13.

"The Flower of Mathematics: Perspective in Perspective", *Geometry and Space. The Celebrated Books on Geometry, Optics and Perspective of M. Arnaud de Vitry*, Sotheby's, London, 10-11 April 2002

"Looking and Counting. From the Visual to the Non-Visual", *Gergor Mendel. The Genius of Genetics*, ed. C. Albano and M. Wallace, Brno, 2002, pp. 56-63.

"Gergor Mendel; the genius of genetics", *Interdisciplinary Science Reviews*, XXVII, 2002, pp. 120-124.

"The Mona Lisa of Modern Science", *50 Years of DNA*, ed. J. Clayton and C. Dennis, Nature / Palgrave, Basingstoke, 2003, pp. 102-6; also in *The Double Helix – 50 years*, *Nature Supplment*, 23 Jan 2003.

"Wissen in Bildern - Intuitionen in Kunst und Wissenschaft", *Iconic Turn. Die Macht der Bilder*, ed. C. Marr and H. Burda, Cologne, 2004, pp. 382-406.

with Antonio Criminisi and Sing Bing Kang, "Reflections of Reality in Jan van Eyck and Roger Campin", *Historical Methods*, III, 2004, pp. 109-21.

"From science in art to the art of science", *Nature*, 434, 17 March 2005, pp. 308-9, also as *Supplement: artists on science; scientists on art*.

Seen and Unseen. Art, Science, and Intuition from Leonardo to the Hubble Telescope, Oxford University Press, Oxford, 2006.

"Imitation, Optics and Photography", *Inside the Camera Obscura. Optics and Art under the Spell of the Projected Image*, ed. Wolfgang Lefrèvre, Max-Planck-Institut für Wissenschaftsgeschichte, 2007, 243-64

With Antonio Criminisi, "Computer Vision and Painter's Visions in Italian and Netherlandish Art of the Fifteenth Century", *Perspective, Projections and Design. Technologies of Architectural Representation*, ed. Mario Carpo and Frédérique Lemerle, London and New York, 2007, pp. 31-46

"Th Human Animal". *History Today*, LVII, 11, 2007, pp. 34-41.

Th Human Animal in Western Art and Science, Chicago, 2007

"Foreword", Karl Grimes, *Dignified Kings Play Chess on Fine Green Silk*, National Museum of Ireland, Dublin, 2007

"The Natural Philosopher as Builder", *Cecil Balmond. Frontiers of Architecture I*, ex. cat., ed. M. Holm and K. Kjeldsen, Louisiana, Museum of Modern Art, 2007, pp.90-8.

"Microcosm, Macrocosm", *The World of 1607*, ex. cat., Jamestown / Williamsburg, 2007-8, pp. 135-42

Acts of Seeing. Artists, Scientists and the History of the Visual. A volume dedicated to Martin Kemp, ed. Assimina Kaniari and Marina Wallace, Zidane Press, London, 2009 (with small contributions from MK)

'Style and Non-Style in Anatomical Illustration: from Renaissance Humanism to Henry Gray', *Journal of Anatomy*, 216, 2010, pp. 192-208.

'Science and Culture', continuing series of monthly articles in *Nature* from Jan 1999 (continuation of column begun in 1997).

2. Leonarda Da Vinci

'Il concetto dell'anima in Leonardo's Early Skull Studies', *Journal of the Warburg and Courtauld Institutes*, XXXV, 1971, pp. 155-34.

'Dissection and Divinity in Leonardo's Late Anatomies', *Journal of the Warburg and Courtauld Institutes*, XXXV, 1972, pp. 200-25.

'Ogni dipintore dipinge se: A Neoplatonic Echo in Leonardo's Art Theory?', in *Cultural Aspects of the Italian Renaissance: Essays in Honour of Paul Oskar Kristeller*, ed. C.H. Clough, Manchester, 1976, pp. 311-23.

'Leonardo and the Visual Pyramid', *Journal of the Warburg and Courtauld Institutes*, XXXIX, 1977, pp. 128-49.

'Navis Ecclesiae: an Ambrosian metaphor in Leonardo's Allegory of the 1515 Concordat', *Bibliothèque d'Humanisme et Renaissance*, XLIII, 1981, pp. 257-268.

'Leonardo's Leda and the Belvedere River Gods: Roman Sources and a New Chronology' (written jointly with Professor Alastair Smart of Nottingham) *Art History*, II, June 1980, pp. 182-193.

Leonardo da Vinci: The Marvellous Works of Nature and Man, London and Cambridge (Mass), 1981. (Mitchell Prize 1981), reprinted with minor revisions, 1989; revised edition, 2006 (below)

Leonardo da Vinci: le mirabili operazioni della natura e dell'uomo, Milan, 1982.

'The Crisis of Received Wisdom in Leonardo's late Thought/La crisi del sapere tradizionale nell'ultimo Leonardo', in *Leonardo e l'Era della Ragione*, ed. E. Bellone and P. Rossi, Milan, 1982, 27-52.

'Leonardo dopo Milano', *The Burlington Magazine*, No. CXXIV, 1982 p. 788.

'Leonardo's Maps and the "Body of the Earth"', *Bulletin of the Society of University Cartographers*, XVII, 1984, pp. 9-19.

'Leonardo da Vinci: Science and Poetic Impulse', *Journal of the Royal Society of Arts* (Selwyn Brinton Lecture), CXXXIII, 1985, pp. 196-214.

'Analogy and Observation in the Codex Hammer', *Studi Vinciani in Memoria di Nando di Toni*, ed. M. Pedini, Brescia, 1986, pp. 103-34.

'The Inventions of Nature and the Nature of Invention', *Leonardo. Engineer and Architect*, ed. P. Galluzzi, Montreal, 1987 (in French as 'Les Inventions de la nature et la nature de l'invention'), *Leonardo da Vinci. Ingénieur et architecte*, pp. 141-44.

'Late Leonardo: Problems and Implications', *Art Journal*, XLVII, 1987, pp. 94-102.

'"A Chaos of Intelligence": Leonardo's *Trattato* and the Perspective Wars in the Académie Royale', *Il se rendit en Italie. Etudes Offertes à André Chastel*, Paris, 1987.

'Leonardo e lo spazio dello scultore', XXVII, *Lettura Vinciana*, (Vinci, 1987), Florence, 1988.

'Clark's Leonardo' in edition of K. Clark, **Leonardo da Vinci**, ed. M. Kemp, Harmondsworth, 1988.

Leonardo on Painting. An anthology of writings by Leonardo da Vinci with a selection of documents relating to his career as an artist, ed. M. Kemp, selected & trs. by M. Kemp and Margaret Walker, Yale University Press, 1989.

Leonardo da Vinci. Artist, Scientist, Inventor, catalogue of exhibition at the Hayward Gallery, London, 1989, ed. M. Kemp, with essays by E.H. Gombrich, J. Roberts, P. Steadman, M. Kemp and catalogue by M. Kemp (with J. Roberts), published as *Leonardo da Vinci*, Yale University Press.

'Leonardo da Vinci: motions of life in the lesser and greater worlds', *Nine Lectures on Leonardo da Vinci*, ed. F. Ames-Lewis, London, 1990, pp. 10-21.

'Looking at the Last Supper', *Appearance, Opinion, Change: Evaluating the Look of Paintings*, London, 1990, pp. 14-21.

'Cristo Fanciullo', *Achademia Leonardi Vinci*, IV, 1991, pp. 171-6.

'Leonardo verso il 1500', *Leonardo & Venezia*, exhibition catalogue, Palazzo Grassi, Venice, 1992, pp. 45-54.

'The Madonna of the Yarnwinder in the Buccleuch Collection reconstructed in the context of Leonardo's Studio Practice', *I Leonardeschi a Milano: fortuna e collezionismo*, ed. M.T. Fiorio and P. Marani, Milan, 1991, pp. 35-48.

Leonardo da Vinci. The Mystery of the Madonna of the Yarnwinder, with A. Thereza Crowe, exhibition catalogue, National Gallery of Scotland, Edinburgh, 1992.

'The National Gallery of Scotland's First Leonardo', *National Art Collections Fund. Annual Report*, LXXXVIII, 1992, pp. 16-20.

'"Hostinato Rigore", Valéry's Leonardo from Vincian Perspective', *Forschungen zu Paul Valéry*, IV, 1991, pp. 25-46.

'In the Beholder's Eye: Leonardo and the "Errors of Sight" in Theory and Practice' (Hammer Prize Lecture), *Achademia Leonardi Vinci*, V, 1992, pp. 153-62.

'From Scientific Analysis to the Renaissance Market: the Case of Leonardo's *Madonna of the Yarnwinder*', for *The Journal of Medieval and Renaissance Studies*, XXIV, 1994, pp.259-74.

'The Historian as Connoisseur' in edition of A.E. Popham, **The Drawings of Leonardo da Vinci**, ed. M. Kemp, London, 1994.

'Leonardo's Drawings for "Il Cavallo del Duca Francesco di Bronzo": The Programme of Research', *Leonardo da Vinci's Sforza Monument Horse: The Art and the Engineering*, ed. D. Cole Ahl, Cranbury (NJ), 1995.

Leonardo da Vinci, 1996, CD-ROM for Corbis, Seattle, overall consultant, general editor, part-author and part-presenter.

'The Body of the Earth', *Leonardo da Vinci. Codex Leicester*, ed. C. Farago, American Museum of Natural History, New York, 1996, pp. 15-22; in German as 'Der Körper der Erde', *Der Codex Leicester*, Haus der Kunst, Munich, 1999, 33-46 (also translated into Portuguese); and as "De Körper der Erde", *Wasser und Leben*, Museum im Schloss Bad Pyrmont, 2000.

'Leonardo's Fossils', *Natural History*, CV, 11, 1996, pp. 14-15.

'The Reign of Vanities', *A Cloudburst of Material Possessions. A Fantasy on a Drawing by Leonardo da Vinci*, exhibition guide, Purdy Hicks Gallery, London, 1997.

'Leonardo-Beuys: the Notebook as Experimental Field', for volume on *Joseph Beuys. Drawings after the Madrid Codices of Leonardo da Vinci*, ed. L. Cooke and K. Kelly, DIA Centre, New York; in German as "Leonardo-Beuys: das Skizzenbuch also Experimentierfeld", *Joseph Beuys. Zeichnungen zu den beiden wiederentdeckten Skizzenbüchern "Codex Madris" von Leonardo da Vinci*, Richter Verlag, Düsseldorf, 1988 and 1998, pp. 31-8.

16 Essays republished in *Leonardo da Vinci. Selected Scholarship*, ed. C. Farago, 5 vols., New York and London, 1999:

vol I: 'Leonardo da Vinci' (from Dictionary of Art), pp. 40-60; 'List of Dates' (with Kenneth Clark), pp. 61-5)

vol II: 'From Scientific examination to the Renaissance Market: The Case of Leonardo da Vinci's *Madonna of the Yarnwinder*', pp. 97-113. 'Leonardo and the Space of the Sculptor' (Lettura Vinciana in English), pp. 237-63; 'Christo Fanciullo', pp. 303-14; 'Leonardo da Vinci: Science and the Poetic Impulse', pp. 430-449.

vol. III: 'Leonardo verso 1500', pp. 23-32' 'Leonardo's *Leda* and the Blevedere River-Gods: Roman Sources and a New Chronology', pp. 168-80; 'Late Leonardo: Problems and Implications', pp. 382-90.

vol. IV: 'Leonardo and the Visual Pyramid', pp. 96-118; 'In the Beholder's Eye: Leonardo and the "Errors of Sight" in Theory and Practice', pp. 123-135; "'Il concetto dell'anima" in Leonardo's Early Skull Studies', pp. 205-29; 'Dissection and Divinity in Leonardo's Late Anatomies', pp. 230-65; 'Analogy and Observation in the Codex Hammer', pp. 345-77.

vol. V: 'The Crisis of Received Wisdom in Leonardo's Late Thought', pp. 81-96; "'A Chaos of Intellegence": Leonardo's "Traité" the the Perspective Wars at the Académie Royale', pp. 389-400.

'In Praise of Model making; from Leonardo to Beuys', *Demarco: On the Road to Meikle Segie*, Kingston University, 2000, pp.14-18.

'Leonardo da Vinci: scienza e impulso scientifico', "*Hostinato Rigore*". *Leonardiana in memoria di Augusto Marinoni*, ed. P. Marani, Milan, 2000, pp. 32-45.

"'Fate come dico, non fate come faccio'. Lo Spazio e lo spettatore nell' *Ultima Cena*", *Il Genio e le Passioni*, ed. P. Marani, Milan, 2001, pp.53-9.

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