

# Leonardo da Vinci Society Newsletter

editor: Francis Ames-Lewis

Issue 31, November 2008

## Recent and forthcoming events

### The Autumn 2008 Symposium, on 'Art and Science in the Italian Renaissance: The Animal World'

The Society's autumn 2008 symposium on 'Art and Science in the Italian Renaissance: The Animal World' was held on Friday 7 November at Birkbeck, University of London. *Angela Sheehan writes:* the six papers took us far beyond Renaissance Italy in geography and time, and covered many aspects of the role of animals in scientific research, art and music.

Vivian Nutton (Wellcome Trust Centre for the History of Medicine, University College London) apologised for the absence of pictures in his presentation 'Cutting up animals is (academically) wrong: resolving the Vesalian dilemma', but pointed out that anatomical works prior to Vesalius were not themselves illustrated. In the middle ages medical interest in animals was largely pharmacological and illustrations of animals on the page mostly confined to bestiaries. Galen had based his human anatomies almost exclusively on dissections of animals, selecting those that 'most resembled man', such as the ox and the pig. Human dissection remained rare until the mid-sixteenth century (somewhat earlier in Padua and Bologna), and medical students rarely studied anatomical texts. The revival of classical learning brought about a change of methodology to more empirical observation of humans and animals. Aristotle, Theophrastus and Dioscorides were models for sixteenth-century scholars, such as Gesner, Aldrovandi and Caius, who collected and classified animal and plant specimens – the latter even keeping a petulant caged puffin. Vesalius confirmed and took over much of Galen's work, but insisted that human, not animal, dissection was crucial to an understanding of human anatomy. He did not entirely eschew animal experiments. Even in his *Fabrica* there are decorative illustrations of putti cutting up animals. Obtaining enough human corpses was a problem for anatomists, though there was no civil or religious objection to dissection, and public dissections were well attended. Aldrovandi drew an audience of students, travellers and learned colleagues to a dissection of a serpent performed by a surgeon. Aristocrats might still regard animals as exotica but scientists such as Aldrovandi,



Fallopio and Fabricius knew that, despite Vesalius's disavowal, a study of animals – living and dead – would shed light on human physiology, paving the way for William Harvey.

The second presentation, by Francis Ames-Lewis (Birkbeck, University of London), was 'Pisanello on the cusp', the cusp being the shift in the artist's style that occurred around 1438, and saw the motionless beasts of the model-book tradition transformed into dynamic living creatures. Professor Ames-Lewis showed examples of Pisanello's earlier style: a cheetah, a monkey, a falcon, a greyhound, all painstakingly realised in colour and surface texture but lifeless and isolated on the page, their internal structure disregarded. In contrast, in preparation for his *Vision of St Eustace*, Pisanello used a variety of drawing techniques. For a leaping hare he plundered existing stocks of drawings but for the all-important stag he made specific studies of deers' heads, creating his own graphic vocabulary. Other painters, including Gozzoli, Domenico Veneziano, Ghirlandaio and Carpaccio, continued to use standard model-book forms for the animals in their paintings, but Pisanello was intent on understanding movement. In contrast to an early study of four monkeys in stock-still profile, we see a later example of a monkey seeming to move about the page as the draughtsman made quick sketches with a hectic movement of the pen to crystallize its changing pose. Professor Ames-Lewis proposed that this imaginative freedom and informality of handling resulted from two developments: the first a growing experience of drawing from life, the second the requirements of the new genre of cast portrait medals created by Pisanello. In 1438, as emperor John VIII Palaeologos paraded through Ferrara, Pisanello made rapid annotated sketches to record the details of the visitor's robes, horse, and headdress, with a fluency unmatched by anyone in Florence at that date. Only in the 1470s do we see, in the work of Pollaiuolo and Verrocchio, a similarly assured rendering of movement; what these artists had in common was that they were trained as goldsmiths. To make figures in wax and clay they had to observe their models from different angles, and swiftly translate between three

dimensions and two. This craftsman's technique may also have accounted for Pisanello's precocious facility. Though Professor Ames-Lewis had found no evidence that Leonardo ever saw Pisanello's drawings, his energetic *Child with a cat* sketches of 1479 show us that Leonardo was truly Pisanello's heir.

In her paper 'Leonardo and Generation' Monica Azzolini (University of Edinburgh) explored Leonardo's work on the human reproductive system, at another cusp that occurred at the end of the fifteenth century. In 1489 Leonardo was planning a book on generation and reproduction, assembling text and images based on (often misleading) anatomical texts, drawings of dissections and speculative illustrations of his own theories. Aristotelian misconceptions about the relative roles and anatomy of the mother and father were deeply rooted in Italian society, and the mysterious nature of male 'and female' sperm was hotly debated. Even Vesalius depicted the vagina and uterus as a homologue of the penis. Female corpses, especially pregnant ones, were difficult to come by, though Leonardo gained privileged access to them through his association with the Milanese medical community. Hanged men were easier to observe. Noticing that the latter often had erections, Leonardo challenged the widely accepted Galenic theory that air inflated the penis, he having observed on the contrary that 'settled blood' was responsible, and that the penis contained only two ducts not three. Dr Azzolini outlined Leonardo's attempts to work out how conception occurred, how the foetus 'breathed' in the womb without drowning, and how fluids moved in the umbilical cord. Though he got some of his ideas wrong, for instance knowingly depicting a cow's placenta rather than a human's, and ingeniously drawing the foetus with its heel positioned to cut off an imagined passage of urine, we see how deeply Leonardo was engaged in debates about anatomy, and what a thriving environment Renaissance Italy furnished for the conduct of such investigations.

Martin Kemp (University of Oxford) treated us to a tour of 'Leonardo's Turin Codex; Bird flight revisited'. The Codex comprises eighteen folios of birds and other subjects. It was dated 1505, a time when Leonardo should have been working on the *Battle of Anghiari* not speculating on the mechanisms of flight. He used the term *uccello* for a mechanical bird as for a natural one, convinced that a bird flies in accordance with the same mathematical laws that would govern a bird machine. He drew and annotated his experiments, judging and testing materials, weights and forces. In order to follow the progression of Leonardo's experiments Professor Kemp had to understand the direction of his thoughts and plot the pagination of the Codex, an apparently simple diagram

making light of what must have been weighty archaeological work. The intense subtlety of Leonardo's observation is shown in his attention to all kinds of locomotion and wing forms. He used models to test different wind strengths, he assessed the surplus power of human legs and the relatively light strength a bird needs to move its tail. He worked out the power/weight ratio needed for a human to take off and power-glide. He worried about side-winds that would topple a bird-man but not a bird. Though careful to avoid the anachronistic term 'comparative anatomy', Professor Kemp showed drawings of artificial wings compared with real wings, and human arms compared to bird wings, precise studies that reduce the arm/wing to diagrammatic components. 'Miraculous' sketches of little birds, drawn from life or more likely from memory, also show Leonardo's acute observation. When animated with intermediate drawings, their movement is perfect. Though no authentic models of Leonardo's flying machines can be made, an experiment on the Sussex Downs proved that a modified version of one at least could and did work.

Andrew Gregory (University College London) presented 'Harvey on the Nature and Uses of Animals', explaining – with a hand-out of apt quotations – Harvey's practical and philosophical route to his understanding of the workings of the heart and circulation, and the crucial role that animal studies played in his research. In this he was carrying on an ancient tradition. In the 'age of scientific revolution' he saw man as a microcosm. Far from being a 'modern', Harvey was rooted in the late Renaissance, completing Fabricius's Aristotelian programme of anatomy. He understood that observation of all animals would lead him to an understanding of the workings of 'the most perfect of all animals, man'. Because the motion of the heart is not evident in death, Harvey experimented on live mammals such as dogs and pigs, as well as a wide selection of lesser species whose anatomy was simpler. Cold-blooded animals have hearts that beat more slowly, so it was easier for him to observe the heart beating in an adder, an eel or a shrimp. Galen had theorised that blood from the liver was consumed in the heart. Harvey realised that there was too much blood in the heart for this to be true, and therefore it must circulate, just as water circulates on earth, in the macrocosm. To disprove Galen's theory that the septum was permeable, he forced water from one side of a heart to the other, and saw that it worked in the manner of the 'clacks of a water bellows'. But he opposed Descartes material philosophy, holding fast to an organic, non-mechanical conception of humans guided by the 'divine agent' and in continuity with the animal kingdom.

Finally, J. V. Field (Birkbeck, University of London) treated us to 'Athanasius Kircher on Music'. This mathematician, historian, astrophysicist and priest sought to explain music by reference, amongst other theories, to animals. In his 1700-page, multi-volume 'encyclopedia' *Musurgia universalis*, much of it based on Mersenne's *Harmonie Universelle* and some lifted verbatim from Kepler's *Harmonices mundi*, he presented a didactic variety of theses. Kepler's work, for example, provided him with the data he needed to examine the celestial music of the spheres. Despite shortcomings of style and a disorderly presentation, and with no claim to originality or profundity, the *Musurgia* was good for looking things up in and had excellent illustrations. Kircher was interested in the way that music expressed emotions and caused affects in the soul, finding examples in Gesualdo and Monteverdi, for example, of passages that excited particular feelings. But these examples also highlighted the difficulties musicians had with tuning instruments and accurately reproducing the notes of the scale. Simon Stevin had used mathematical ratios to determine the intervals of the octave. But these did not satisfactorily explain the affects or the use of dissonance that often provoked them. So Kircher looked to the animal kingdom for an answer, notating birdsong to see if it might lead to a better understanding of human song. Then he heard from a traveller in South America about the song of the sloth, a creature reported to sing up and down the diatonic scale. Perhaps, Kircher surmised, South America was the site of the Garden of Eden and the birthplace of music. As it turned out, the song was that of a bird called the potoo that shared the branches of the sloth's tree, and does indeed sing part of the scale. Alas, despite his true understanding of music and his imaginative research, Kircher failed to establish the place of music in creation.

### **The Annual General Meeting and Annual Lecture 2009 on Friday 8 May 2009**

The AGM and Annual Lecture next year will be held probably, as usual, in the Kenneth Clark Lecture Theatre at the Courtauld Institute of Art (to be confirmed), on Friday 8 May 2009: the AGM at 5.30 pm and the Annual Lecture at 6.00 pm. The Annual Lecture will be given by Professor Richard Gregory (University of Bristol), whose title will be "Cues and Clues of Trompe l'oeil Painting". Professor Gregory writes: Trompe l'oeil paintings do seem to be very interesting for perceptual cues and clues, and they exhibit remarkable dynamic illusions when the observer moves, especially in the cases of actually flat painted domes. These transform in shape most dramatically. There is also the very interesting

phenomenon of trompe l'oeil pictures rotating to keep facing one as one moves.

### ***Leonardesque News***

#### **A fourth travelling exhibition of drawings by Leonardo da Vinci in the Royal Library, Windsor Castle.**

This exhibition has been mounted to celebrate the sixtieth birthday of HRH the Prince of Wales, who is Chairman of the Royal Collection Trust. It has been, or will be, displayed in four venues, the Royal Cornwall Museum, Truro, the Stirling Smith Art Gallery and Museum, Stirling, the National Library of Wales, Aberystwyth, and Manchester Art Gallery. The Introduction to the handsome catalogue, and the catalogue notes themselves, are by Martin Clayton. It is a small selection intended to show the 'infinite variety' of Leonardo's brilliance as a draughtsman. The exhibition opens with the exquisite, mature silverpoint profile portrait of a young woman, dating from the late 1480s; in contrast with this is one of the 1489 series of ultra-precise pen-and-ink studies of the sectioned skull, and a pen-and-ink sheet of much the same date showing two grotesque profiles. The large, elaborately drawn 'scene in an arsenal' revolves around the struggle of a large team of nude men to manoeuvre a massive bombard into position. The gun-barrel is very similar to the 'Great Turkish Bombard' of the mid-fifteenth century now in the Royal Armouries at Fort Nelson near Portsmouth.

There follows one of the beautifully drawn and coloured maps of the river Arno, upstream from Florence, probably commissioned by the Florentine government in 1504 in connection with river-bank maintenance work. One of Leonardo's finest botanical drawings, of a branched bur-reed, was probably made around 1505 as a study for the plants shown in the lost *Leda and the Swan*. Next comes a sheet of studies of ca. 1508-10 for the Trivulzio Monument, in which Leonardo experiments with the relationship of the rearing horse and rider and the elaborate plinth which was to include a funerary monument. These sketches show the increasing freedom of his handling of the pen. In contrast, the eighth exhibit is a carefully worked drapery study, dating from 1515-17, for the *Madonna and Child with St Anne*, for which Leonardo developed a complex mixed technique, using charcoal, black chalk washed over in places, with brown wash and white heightening. The last two drawings, a design for a dragon costume, probably for a masque at the court of King François I, and one of the extraordinary, late 'deluge' studies show Leonardo's ability to switch from light-hearted revelry to apocalyptic vision in his last years.

## **A catalogue of drawings by Leonardo da Vinci and his circle in French public collections**

Publication is announced of a new catalogue, compiled by Pietro C. Marani, entitled *Disegni di Leonardo da Vinci e della sua cerchia nelle collezioni pubbliche in Francia*, with a forward by Carel van Tuyl van Serooskerken and Françoise Viatte. It is published by Giunti Editore, Florence, under the auspices of the President of the Republic and of the Commissione per l'Edizione Nazionale dei Manoscritti e dei Disegni di Leonardo da Vinci. 280 pp, 114 facsimile reproductions, 118 drawings and a loose sheet; boxed; price: 5.200 euros. The volume was presented in Florence on 27 October and at a reception held in the Sala delle Asse of the Castello Sforzesco, Milan, on 19 November. *Chrysa Damianaki writes*: On 27 October a prestigious corpus of drawings by Leonardo, his pupils and followers, held in French collections, with commentary by Pietro C. Marani, was presented in Florence. It is a lavish and much anticipated volume of facsimile reproductions of one hundred and fourteen drawings, the latest in the series of Italian national editions inaugurated in 1985 with *Disegni di Leonardo da Vinci e della sua cerchia nel Gabinetto Disegni e Stampe della Galleria degli Uffizi a Firenze*, edited by Carlo Pedretti and Gigetta Dall'i Regoli.

The origins of this volume were the studies and the new material which emerged following the preparation of the 2003 Louvre exhibition, *Dessins et manuscrits de Léonard de Vinci*, curated by Françoise Viatte and Varena Forcione, with the collaboration of an extensive group of European and American scholars. This was preceded early in the same year by the exhibition *Leonardo da Vinci: Master Draftsman*, curated by Carmen C. Bambach, with the collaboration of an analogous group of Leonardo specialists, held in the Metropolitan Museum of Art, New York. Pietro C. Marani was a member of both working groups. The catalogues for these two exhibitions are the indispensable reference point for this new facsimile edition of the drawings by Leonardo and his circle held in five French museums. Marani also makes use of an extensive corpus of archival, inventorial and bibliographical research, as well as research around questions about the works' origins, which had already been gathered and analysed by those groups of scholars, together with the necessary bibliographic updates, integrations and, as far as possible, amendments.

The book also seeks to offer new points for discussion, above all, on questions of attribution and chronology. This has been possible thanks to Pietro Marani's new and extensive examination of the

original works by Leonardo and his pupils, carried out after the 2003 Paris exhibition, with the cooperation of conservators from the Département des Arts Graphiques du Louvre. The museum's own collection of drawings was a particular focus of investigation. The book aims to go beyond the scholarly work coordinated hitherto by Françoise Viatte and Varena Forcione, and by Carmen Bambach. The cataloguing work is extended to include further drawings from the Louvre collection, together with drawings from other collections that were being held for examination. This has made possible the inclusion of scores of drawings by Leonardo and his circle that have not previously been either exhibited or published in facsimile. The volume examines not only all Leonardo drawings from various French museums but also those of his pupils and followers kept at the Louvre and in other French collections. Only a small number of these drawings were collected together for display in the Louvre exhibition of 2003.

Many drawings by Leonardo's pupils and copies from Leonardo's works are here examined in detail for the first time. Leonardo's drawing from the Musée Bonnat in Bayonne, which was not included in the Paris and New York exhibitions, is reassessed as an autograph Leonardo work, on the basis of detailed examination and stylistic analysis. Marani's volume includes forty original drawings by Leonardo, and seventy-eight drawings and copies by his pupils and followers: in total 118 sheets, including a page written by Father Resta.

Additionally, Marani's new volume offers a more complete technical study of Leonardo's drapery studies in the Jabach collection than that made by Viatte in the 2003 Louvre catalogue. Marani examined Leonardo's drapery drawings executed on linen canvas (as well as those by Solario and Luini made on paper), and found that these drawings have seventeenth-century retouches and overpaintings; these were probably carried out by artists working for the French collector Jabach. The writer's examination of the works in their historical context has also yielded new material on the history of collecting of Leonardo drawings, by focussing not just on French but also on Italian collectors such as Giuseppe Bossi and Giuseppe Vallardi. This beautifully produced book is a monumental and invaluable guide to drawings by Leonardo and his circle in French collection, and is designed to appeal to both the general public and scholars alike. It is soon to be followed by another volume on drawings by Leonardo and his school kept in English collections, edited by Martin Kemp and Juliana Barone.

Volume 32 of *Raccolta Vinciana* was published some six months ago. It will be of particular interest to readers of the Leonardo da Vinci Society *Newsletter* because it includes articles by two members of the Society's Executive Committee, Dr Matthew Landrus, on 'The proportions of Leonardo's "Last Supper" (pp, 43-100), and Dr Juliana Barone, on 'Rubens and Leonardo on motion: figures, inscriptions and texts' (pp, 343-93). Also published is the speech made by Professor Martin Kemp when he presented *Raccolta Vinciana* volume 31 in June 2006.

The other articles are:

Edoardo Villata, 'L'Adorazione dei Magi di Leonardo: riflettografie e riflessioni';  
Maria Teresa Fiorio and Anna Lucchini, 'Nella Sala delle Asse, sulle tracce di Leonardo';  
Sara Tagliagambara, 'La rappresentazione del grottesco in Leonardo. Ricapitolazione del problema';  
Luisa Cogliati Arano and Paolo Spezzani, 'Da "Leonardesco" a Leonardo';  
Attilio Pracchi, 'Un progetto di Leonardo "per Milano"';  
Rosalba Antonelli, 'Una proposta di riordino del Manoscritto H e nuove ipotesi sulle antiche numerazioni';  
Marco Versiero, 'Alcune fonti di pensiero politico di Leonardo e un aspetto del suo rapporto intellettuale con Machiavelli';  
Roberto Nanni, 'Leda dei moderni';  
Donatella Livia Sparti, 'A new manuscript of the *Trattato della Pittura*';  
Vittorio Pini, 'Notizie sul pittore Cesare Magni';  
Simone Riccardi, 'Lanino di fronte ai modelli di Leonardo: un nuovo San Giovanni Battista nel deserto'; and  
Mario Valentino Guffanti, 'Leonardo e le Bohn's Libraries'.

Also of high importance is the *Bibliografia internazionale leonardiana* (BIL) for 2005-07, compiled by Monica Taddei, in which 549 books, articles and other publications on matters Leonardesque published during that period are listed.

We would always be grateful for suggestions of material, such as forthcoming conferences, symposia and other events, exhibitions, publications and so on, that would be of interest to members of the Society for inclusion in this *Newsletter* or on the webpage, which can be visited at this address:

<<http://www.bbk.ac.uk/hafvm/leonardo>>

President: Dr J.V. Field, School of History of Art, Film and Visual Media, Birkbeck College, 43 Gordon Square, London WC1H.0PD; e-mail: [jv.field@hart.bbk.ac.uk](mailto:jv.field@hart.bbk.ac.uk)

Vice-President: Emeritus Professor Francis Ames-Lewis, 52 Prebend Gardens, London W6.0XU; tel.: 020.8748.1259; e-mail: [f.ames-lewis@bbk.ac.uk](mailto:f.ames-lewis@bbk.ac.uk)

Secretary: Noël-Ann Bradshaw, School of Computing and Mathematical Sciences, University of Greenwich, Old Royal Naval College, Park Row, London SE10 9LS; 020.8331.8454; e-mail: [N.Bradshaw@gre.ac.uk](mailto:N.Bradshaw@gre.ac.uk)

Treasurer: Tony Mann, School of Computing and Mathematical Sciences, University of Greenwich, Old Royal Naval College, Park Row, London SE10 9LS; 020.8331.8709; e-mail: [A.Mann@gre.ac.uk](mailto:A.Mann@gre.ac.uk)

Committee members:

Dr Monica Azzolini, Department of History, University of Edinburgh; e-mail: [m.azzolini@ed.ac.uk](mailto:m.azzolini@ed.ac.uk)

Dr Juliana Barone, Department of History, University of Oxford; e-mail: [juliana.barone@btinternet.com](mailto:juliana.barone@btinternet.com)

Dr Jill Burke, Department of History of Art, University of Edinburgh; e-mail: [j.burke@ed.ac.uk](mailto:j.burke@ed.ac.uk)

Professor Frank A.J.L. James, Royal Institution Centre for the History of Science and Technology, Royal Institution of Great Britain, 21 Albemarle Street, London W1X.4BS; e-mail: [fjames@ri.ac.uk](mailto:fjames@ri.ac.uk)

Dr Matthew Landrus, Rhode Island School of Design; e-mail: [mlandrus@risd.edu](mailto:mlandrus@risd.edu)

Please send items for publication to the editor of the *Leonardo da Vinci Society Newsletter*, Emeritus Professor Francis Ames-Lewis, 52, Prebend Gardens, London W6 0XU; tel. and fax: 020.8748.1259; e-mail: [f.ames-lewis@bbk.ac.uk](mailto:f.ames-lewis@bbk.ac.uk)