Journal of Visual Communication in Medicine

ISSN: 1745-3054 (Print) 1745-3062 (Online) Journal homepage: http://www.tandfonline.com/loi/ijau20

Audrey Juliet Arnott (1901-1974): The Legacy of an Artist in Neurosurgery

Reuben D. Johnson D. PhilFRCS (Neuro. Surg.) & Willow J. Sainsbury AB, MSc

To cite this article: Reuben D. Johnson D. PhilFRCS (Neuro. Surg.) & Willow J. Sainsbury AB, MSc (2009) Audrey Juliet Arnott (1901-1974): The Legacy of an Artist in Neurosurgery, Journal of Visual Communication in Medicine, 32:3-4, 88-90, DOI: 10.3109/17453050903402853

To link to this article: http://dx.doi.org/10.3109/17453050903402853

Audrey Juliet Arnott (1901-1974): The Legacy of an Artist in Neurosurgery

REUBEN D. JOHNSON D.PHIL, FRCS (NEURO.SURG.)
Department of Neurosurgery, West Wing, John Radcliffe Hospital, Headley Way, Oxford, OX3 0ER, UK

WILLOW J. SAINSBURY AB, MSC
Institute of Social and Cultural Anthropology, University of Oxford, 51153 Banbury Road, Oxford, OX2 6PE, UK

Audrey Arnott, a graduate of the Royal College of Art, was first employed as an artist by Hugh Cairns at the London Hospital. Cairns arranged for Arnott to be trained as a medical illustrator under Max Brödel, a close friend of Harvey Cushing and founder of the first 'Department of Art as Applied to Medicine' at Johns Hopkins University. During her time at John Hopkins Arnott developed a close friendship with Dorcas Padget, medical illustrator to Walter Dandy. Arnott was a highly accomplished artist and trained numerous other British medical illustrators and was one of the founders of the Medical Artists Association. Arnott's training and friendship with Brödel and Padget enabled her to pass on a legacy of neurosurgical illustration to the United Kingdom.

Audrey Juliett Arnott (1901-1974) trained at the Royal College of Art. She began her career in surgical illustration at the London Hospital working for Hugh Cairns (*Figure 1*). Cairns found funding for Arnott to travel to the Johns Hopkins in 1932 to train in medical illustration with Max Brödel (1870-1941) who has been described as the "father of medical illustration"[1] and "the man who put art into medicine"[2]. Brödel trained at the Academy of Fine Arts in Leipzig and founded the 'Department of Art as Applied to Medicine' at Johns Hopkins in 1911, the first department in the world dedicated to the training of medical artists (*Figure 2*). Brödel influenced Arnott in several regards. Most importantly he taught Arnott the technique of drawing on Ross-board with carbon dust, a technique she was later to pass on to other British medical artists. Brödel was a close friend of Harvey Cushing and helped nurture Cushing's own drawings of his surgical procedures. During her time at Johns Hopkins, Arnott became good friends with

Figure 1. Max Brödel (1870-1941), founder of the Department of Art as Applied to Medicine at Johns Hopkins University and one of his well known illustrations of Cushing operating in 1912. Brödel uses a ciaroscuro technique to emphasise the approach to the pituitary fossa. Photo from Crosby RW, Cody J. Max Brödel: The man who put art into medicine, New York: Springer, 1991. Photo and illustration courtesy of the Max Brödel Archives, Department of Art as Applied to Medicine, Johns Hopkins University.

Correspondence: Reuben D. Johnson, 24 William Street, Marston, Oxford, OX3 0ER, UK.

Journal of Visual Communication in Medicine, September–December 2009; Vol. 32, Nos. 3–4, pp. 88-90
ISSN 1745-3054 Print/ISSN 1745-3062 online
DOI: 10.3109/17453050903402853

informa
healthcare

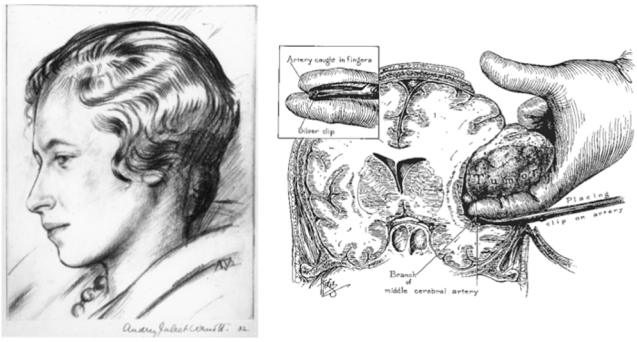

Figure 2. A portrait of Hager Padget (1906-1973) by Audrey Arnott and one of Padget's illustrations for Walter Dandy's *Surgery of the Brain* in W. F. Lewis' Practice of Surgery; Vol 12.Hagerstown: W. F. Prior, 1945. Brödel Archives, Johns Hopkins Department of Art as Applied to Medicine.

Dorcas Hager Padget (1906-1973) who had been Brödel's star pupil between 1926 and 1929 and who had been working as illustrator to Walter Dandy since 1929 (*Figure 3*). This close association with the two illustrators to the two great neurosurgeons Cushing and Dandy undoubtedly influenced Arnott's later decision to follow Cairns to Oxford when he opened the neurosurgical department there in 1939. Arnott was the only British artist to have trained with Brödel and is credited with introducing his techniques to the United Kingdom.

Upon her return to the United Kingdom she worked as a medical artist in the Nuffield Department of Surgery in Oxford during which time she produced a series of neurosurgical illustrations for Hugh Cairns. Arnott's talent as surgical illustrator was to simplify composite subject matter so as to remove clutter that can disorientate in a photograph. She exhibited a brilliant combination of technical skill with an anatomic eye and an understanding of the subject matter that can only come from experience of the surgery and a close dialogue with the surgeon. The Ross-board technique that she had learned from Max Brödel at Johns Hopkins enabled her to work quickly in order to capture the overall image and scale. The technique involved drawing the image on tracing paper first and then transferring it to the stipple board. This provided an outline to which layers of carbon dust were layered in order to create depth and tone. The resulting illustrations retain the clarity of a black and white photograph, but with more expression and feeling. The use of layered carbon dust allows the white background of the stipple board to form the essential highlights of the picture, a technique which owes much to the *chiaroscuro* techniques of the Renaissance. Arnott, also used this keen observational skill and subtlety of line and shade to draw scenes from the ward. These illustrations are unique in embodying an empathetic gaze and clinical objectivity. In order to execute these meticulous illustrations, Arnott developed a thorough understanding of the anatomical, surgical, and pathological aspects of her subject matter, while maintaining a stylistic distinctiveness of an artist.

Arnott was particularly influential in the development of medical illustration in the United Kingdom. She trained numerous artists in the Ross-board technique. One of the first people she taught was Margaret McLarty who she met whilst she was working in London and who followed her to Oxford. McLarty worked for many years as the medical artist for the anaesthetic department in Oxford and with Professor Harold Ellis published a volume on *Anatomy for Anaesthetists* which proved to be most popular for those sitting

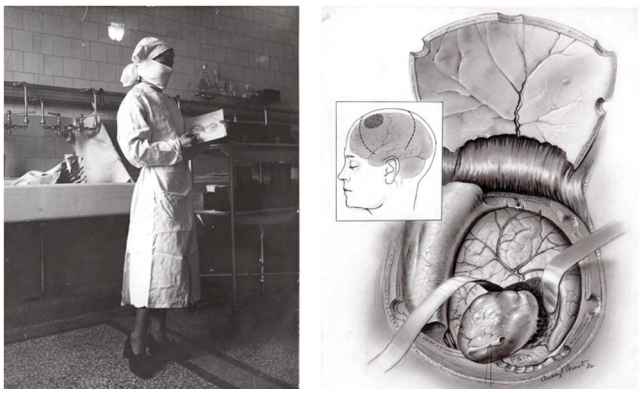

Figure 3. Audrey Arnott (1901-1974) in Hugh Cairns'neurosurgery theatres at the Radcliffe Infirmary, Oxford, and one of her Ross-board illustrations of the removal of of a falcine meningioma from one of Cairns' patients.

the primary FRCA examinations[3]. McLarty's *Illustrating Medicine and Surgery* proved to be a seminal volume on medical illustration and a core text for medical illustrators[4]. Arnott and McLarty were life-long friends who, with two other illustrators, founded the Medical Artists Association of Great Britain at a meeting of prominent medical illustrators at their home in Nunnery Close, Upper Wolvercote, Oxford on the 2nd April 1949. The foundation of a professional body for medical artists recognised the multidisciplinary nature of medical illustration and the need for an institution to promote and safeguard training of medical artists. Most importantly, the Medical Artists Association has endeavoured to raise the standard of medical art by education and through the conduction of examinations and the granting of diplomas. Arnott was a master of neurosurgical illustration and her legacy has been long-lasting.

ACKNOWLEDGEMENT

The authors are most grateful to Professor Gary Lees at the Department of Art as Applied to Medicine at Johns Hopkins for allowing the use of material from the Max Brodel Archives.

[1]Crosby RW, Cody J. Max Brödel: The man who put art into medicine, New York: Springer, 1991.
[2]Crosby RW, Cody J. Max Brödel: The man who put art into medicine, New York: Springer, 1991.
[3]Ellis H, McLarty M. *Anatomy for Anaesthetists* (1st edition). Blackwell Scientific Publications, Oxford, 1963.
[4]McLarty M. *Illustrating Medicine and Surgery*. E&S Livingstone Ltd. Edinburgh and London, 1960.

REFERENCES

1. Archer P. From the beginning: an historical review of medical art. *Journal of Audiovisual Media in Medicine.* 1989; **12:** 51–62.
2. Crosby RW, Cody J. Max Brödel: The man who put art into medicine, New York: Springer, 1991.
3. Ginn SR, Lorusso L. Brain, mind, and body: interactions with art in renaissance Italy. *J Hist Neurosci* 2008; **17:** 295–313.
4. McLarty M. *Illustrating Medicine and Surgery.* E&S Livingstone Ltd. Edinburgh and London, 1960.
5. Ellis H, McLarty M. *Anatomy for Anaesthetists* (1st edition). Blackwell Scientific Publications, Oxford, 1963