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X-Ray mannequins

- CT scans reveal internal workings of 100-200 year old mannequins
- Results used to test software for clinical research

The fascinating results of CT scans performed by the radiology team at Addenbrooke's Hospital on two mannequins from the 18th and 19th centuries are going to be presented at a public event at the Fitzwilliam Museum on 28 October, exploring four astounding science and conservation stories from the exhibition *Silent Partners*.

The scans of the two historic mannequins were taken at Addenbrooke's Hospital, part of Cambridge University Hospitals, to discover their internal workings without damaging them. At the same time, radiologists and engineers were able to use the data from the non-human bodies to test not yet clinically approved software on the images, furthering research for potential clinical practice in the future.

The procedure was led by radiologist Dr Tom Turmezei. He said: "The mannequins contain both natural materials and worked metals, making for an interesting human analogue. Humans are getting more and more artificial metal parts in their bodies, for example in joint replacements, clips and plates. When these are scanned with the CT machine it creates a starburst effect in the final image, called an artifact, and this bright white flare-like trace obscures details in the surrounding tissue. Clinically this can be a big problem as it can make it difficult to perceive both damage to the metal part and any disease in the tissue around it, such as an abscess, blood clot or tumour. As we are moving towards more metallic, electronic and even robotic body parts, being able to reduce the artifact in the scan is ever more important."

Metal Deletion Technique software from Revision Radiology was used on the scans to look at the effectiveness of the algorithm to reduce the artifact.

The two mannequins scanned were 'Child no. 98', a high quality 19th century Parisian stuffed lay figure from the Hamilton Kerr Institute, and an 18th century, largely wooden mannequin once belonging to Walter Sickert (1860-1942) from Bath Spa University.

Alongside the mannequins scanned at Addenbrooke's, the public event on 28 October will tell the fascinating stories of two more historic figures: a 68cm tall figure from the Museum of London once belonging to the sculptor Louis-François Roubiliac (1695-1762) which was scanned separately to reveal an internal 'skeleton' made of iron, bronze and brass; and how three specialists restored a 19th century figure belonging to the artist Alan Beeton (1880-1942) which had tattered fingers and a broken nose, this included a textile conservator, a modeller of medical prosthetics and a sculptress specialising in papier mâché.

Artist's mannequins, although fascinating objects, were tools to be used in the studio: as such their history was not always rigorously documented, and today there are gaps in our knowledge about their exact manufacture. The Addenbrooke's CT scans also allowed documentation of their construction in detail, and uncovered hidden damages to the internal workings of the figures over time. A fractured left knee joint in the Bath Spa mannequin was noted so the object can now be moved safely in the future.



Lay figure once owned by Walter Sickert (1860-1942). Reconstruction of computed tomography imaging data of the figure's head. Image courtesy of the Department of Radiology, Cambridge University Hospitals NHS Foundation Trust and Dr Tom Turmezei, Clinical Research Fellow, University of Cambridge

Dr Turmezei continued: "Above all, the purpose of doing these scans was art historical; to discover their material composition and construction in a non-invasive way and confirm suspicions art historians had about these objects. Looking at these mannequins you can see the incredible drive to create a more accurate model of the human body and the developments that happened to allow this to take place. The Bath Spa model is mostly wood, by the time Child no. 98 was made they had moved to a wooden skeleton and metal joinery, padded out with horse hair and hessian. A great deal of effort was taken to give Child no. 98 as accurate anatomy as possible: the body has padding inside for flank and abdominal muscles, there is padded material inside the chest to make lungs, a belly button and even glass beads under the chest 'skin' for nipples."

The collaboration on the scans is part of a continuing relationship between Addenbrooke's Hospital and art institutions in the region, including ongoing displays of art for patients and visitors and the recent Quintin Blake commissions for the Hospital.

The story of the four mannequins will be discussed in detail at a *Curating Cambridge* festival event at the Fitzwilliam Museum on 28 October, *Mannequins with x-ray vision*, which will explore how makers strove to produce the 'perfected' mannequin to serve the artist's every need. Tickets are £6, call 01223 332904 or email education@fitzmuseum.cam.ac.uk to book. The event is part of the exhibition *Silent Partners: Artist and Mannequin from Function to Fetish* at the Fitzwilliam Museum until 25 January 2015.

- Ends -

For further information and images contact the Press Office:
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Notes to editors:

The Fitzwilliam Museum, Trumpington Street, Cambridge CB2 1RB
FREE ADMISSION

OPEN: Tuesday - Saturday: 10.00 - 17.00
Sundays and Bank Holiday Mondays: 12.00 - 17.00
CLOSED: 24-26 & 31 December, 1 January and Good Friday.

What is a CT Scan?

Produced using X-rays from a source rotating around the patient and a computer algorithm to compile the data from them, the images produced by a CT scan give greater 3D detail than standard X-rays (although standard x-ray radiographs do have better spatial detail). A CT scan can produce images of structures inside the body, including the internal organs, blood vessels, bones and tumors.

Curating Cambridge: our city, our stories, our stuff

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To curate is to select, to organise and to care for objects but what does it mean to you? Displaying sea shells collected on holiday on a window sill? Developing a blockbuster art exhibition? Planting a riot of colourful flowers in the garden? Programming a season of theatre performances? Commissioning art for public spaces? Join us on a journey of exploration into the culture, community, passion, diversity, vision and individuality that makes Cambridge what it is. *Curating Cambridge: our city, our stories, our stuff* is presented by the University of Cambridge Museums with the Festival of Ideas, cultural partners and community organisations.
www.curatingcambridge.org.uk

Silent Partners: Artist & Mannequin from Function to Fetish

Fitzwilliam Museum, Cambridge | 14 October 2014 - 25 January 2015

Free admission

Silent Partners is a ground-breaking exhibition devoted to the artist's mannequin that uncovers its playful, uncanny - and sometimes disturbing - history from the Renaissance to the present-day. For centuries, the mannequin, or lay figure, was little more than a studio tool, a piece of equipment as necessary as easel, pigments and brushes. This major new loan exhibition reveals the multiple purposes it serves - from fixing perspective and painting reflections, to being a support for drapery and costume - and shows how it gradually moved centre stage to become the subject of the painting, photograph or film, eventually becoming a work of art in its own right.
www.silentpartners.org.uk

Founded in 1816 the Fitzwilliam Museum is the principal museum of the University of Cambridge and lead partner for the University of Cambridge Museums (UCM) Major Partner Museum programme, funded by The Arts Council. The Fitzwilliam's collections explore world history and art from antiquity to the present day. It houses over half a million objects from ancient Egyptian, Greek and Roman artefacts, to medieval illuminated manuscripts, masterpiece paintings from the Renaissance to the 21st century, world class prints and drawings, and outstanding collections of applied arts, ceramics, coins, and Asian arts. The Fitzwilliam presents a wide ranging public programme of major exhibitions, events and education activities, and is an internationally recognised institute of learning, research and conservation.
www.fitzmuseum.cam.ac.uk

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