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This crocodile hatchling is one of more than 2,000 specimens in the Hunterian Museum.

Hunter's anatomical treasure chest

Surgical wonders and questionable medical ethics combine at a reopened London museum. By Nisha Gaind

ighteenth century Scottish surgeon and anatomist John Hunter made trailblazing contributions to both fields, including performing one of the first instances of artificially inseminating a woman. But he is perhaps best known today as an inveterate collector who acquired, dissected and preserved human and animal tissues from all corners of Earth.

All in all, Hunter, who lived from 1728 to 1793, filled more than 14,000 specimen jars. Most have been lost over the years, including more than 10,000 destroyed by the bombing of London during the Second World War. But many of those that remain tell poignant stories, from a tiny crocodile hatchling emerging from its egg to a man's bullet-perforated anatomy. Together with objects from Hunter's London homes and items such as surgical saws, hammers and retractors, roughly 2,000 of these surviving specimens form the centrepiece of the Hunterian Museum in London, which reopened in its home at the Royal College of Surgeons of England on 16 May after a six-year, £4.6-million (US\$5.8-million) refurbishment.

The revamped museum traces the history of surgery from its barbaric origins in the ancient world to the slick, robot-assisted practices followed in many parts of the world today. For Dawn Kemp, the director of museums who led the refurbishment, its unique offering lies in displaying Hunter's work as a comparative anatomist. He studied forms from across the animal and plant kingdoms - often exotic species that were brought to him from military or exploratory voyages – which lie alongside human organs, often in strange juxtaposition. "He's linking all of the living things on Earth. So it's putting humans into nature, not apart from it," says Kemp.

At the heart of the museum is the Long Gallery – an atmospherically lit corridor lined with cabinets containing ethanolpreserved remains glowing ghostly white. They are organized into two groups. There are the healthy specimens, including the brains of a tiger (surprisingly small) and a horse, and a Surinam toad caught in the middle of reproduction. Then there are the unhealthy: organs ravaged by cancer and a collection of grisly specimens that have venereal diseases, one of Hunter's specialist subjects. Off this corridor are rooms that explore different aspects of Hunter's career, including his work with his older brother William, who was also an anatomist and physician, and his home life with his wife Anne, a poet.

Hunter clearly had a voracious appetite for knowledge. One exhibit chronicles Hunter's

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As part of its refurbishment, the museum aims to address the sinister side of Hunter's legacy.

run-in with the scientific integrity issues of his day: it shows the cancer-stricken breast of a woman who had been treated with a spurious chemical remedy for cancer, called Plunkett's powder. Hunter was sceptical of such 'cures' and confronted its promoter about what proof he had for his claims. "Evidence-based science of any sort is absolutely Hunter's maxim," says Kemp.

But drastically different ethics now underpin Hunter's artefacts, how they were collected and their display – uncomfortable facts that the reimagined museum explicitly acknowledges. For example, one wall features portraits of people of different races who at the time had gained celebrity status as human curiosities. These portaits were originally displayed alongside human and animal specimens in Hunter's home in London's Leicester Square. There is some speculation that he invited some of those portrayed to his house, and Hunter's work explored human variation, which influenced later racial theories. Kemp acknowledges that the Hunterian was a place "where some of those closely involved in the Western 'colonial project' developed sinister and awful ideas on racial theory".

The gallery's introductory panel notes that Hunter gathered his specimens before modern standards of consent were established. The concept of an ethical review board was as alien to Hunter as 'body-snatching', the gruesome practice through which he procured many remains, is to viewers today. "We recognise

the debt owed to those people – named and unnamed – who in life and death have helped to advance medical knowledge," it reads.

Rather than choosing not to display items whose provenance is uncertain, Kemp's team has tried to address this legacy by making the effort to research and show the names of previously anonymous people. "We had to have these people represented to be able to understand and tell their story," she says. The museum has, however, removed from display the 2.3-metre skeleton of the 'Irish Giant' Charles Byrne, whose remains Hunter acquired at his death in 1783 for a rumoured £500, despite Byrne's wish to be buried at sea.

Recognizing that issues of ethics can't be addressed solely by labels, the museum plans this year to launch Hunterian Provocations, a programme that will include events, workshops and exhibitions that explore themes such as decolonization, the ethics of display, and inclusion and diversity in surgery. "We know these things were wrong. How do we learn and repair, and have a place for open debate where we really value hearing these perspectives?" says Kemp.

Another of Kemp's guiding principles was to emphasize surgery as a human story and

The Hunterian Museum 38–43 Lincolns Inn Fields, London, UK hunterianmuseum.org

to feature patients' experiences. This shines in the museum's final galleries, which explore modern surgery in brightly lit rooms reminiscent of an operating theatre. Video interviews tell the stories of 11 people who have undergone life-changing surgeries — including a mother whose baby with spina bifida was operated on *in utero* (the videos are viewable on the museum's website).

Alongside is an arresting final specimen: the excised heart of Jennifer Sutton, a woman with a congenital heart condition who received a transplant 16 years ago in her early 20s. Sutton leapt at the chance to have her original heart exhibited. "Surgeons and doctors have innovated and been able to get to a point where I can have a heart transplant," she says. "It allows people to hopefully get to the end of the exhibition and think, look at everything that's come before me. I wouldn't be here if it wasn't for that."

Sutton's condition is one that might, in the not-too-distant future, be treated by geneediting techniques, negating the need for an operation. But the universality of surgery, and the opportunity to view our common, bloody building blocks, is what Kemp hopes will draw people to the Hunterian. "You're looking at human body parts that are the same as you have," she says. This visceral museum is "a unique place to contemplate what it is to be human".

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