

Science in culture

Medical models

The German Hygiene Museum in Dresden is reopening its doors.

Alison Abbott

Last year an undetonated Second World War bomb was discovered near the German Hygiene Museum in Dresden. It was a reminder, if any were needed, of the dramatic history of the museum, which this week reopens its valuable permanent collection, 14 years after German reunification.

Most of the bombs did their job in 1945, however — the museum was 80% destroyed. Gone, too, was the Nazi ideology that had perverted its original, progressive, aim: enlightened health education.

By the start of the twentieth century, the infectious basis of common diseases was understood and, in the absence of antibiotics, the emphasis was on avoiding infection. Interest was high — some 30 nations took part in the First International Hygiene Exhibition held in Dresden in 1911.

The exhibition, which attracted more than five million visitors, was so successful that a permanent German Hygiene Museum was founded in Dresden the following year, moving into its permanent home — an imposing building in the Bauhaus tradition — in 1930.

Workshops sprang up to manufacture anatomical models and teaching aids of ever greater ingenuity and no small artistic value. These included moulages, or wax models of healthy or diseased body parts, transparent human organs produced by a new method developed by the Leipzig doctor Werner Spalteholz, and didactic wall charts. Most famously, Franz Tschakert prepared plastic-coated anatomical statues known as *Gläserne Menschen* (transparent people), complete with real or artificial skeleton, wax organs and thousands of metres of painted wire representing blood vessels and nerves.

The first Transparent Man was unveiled at the opening of the museum's new building in 1930. He stood on a plinth in an apse-like recess, a setting that no doubt added to the spiritual atmosphere he exuded with his exultantly outstretched arms.



It's clear to see: the Transparent Woman reveals her internal organs at the Hygiene Museum.

But three years later the atmosphere changed. Extending the general enthusiasm for hygiene to racial hygiene and eugenics, Nazi Germany subverted the museum for propaganda. In 1933 the Nazis also sacked the museum's Jewish employees and destroyed the frescoes in its restaurant painted by expressionist Otto Dix, as they considered him a degenerate artist.

The museum somehow maintained its professional reputation to the extent that its rebuilding became a priority for the Russian occupying army shortly after the bombing, and was completed within a year. The museum became a flagship of the new Communist state of East Germany, where it continued its official mandate to educate the public

about health issues. It spoke to the wider world — albeit with forked tongue — of East Germany's strengths in technology and education. Despite shortages of materials, the manufacture, sale and export of its anatomical models grew. It produced the first black anatomical models for export to Africa, and developed special wax for moulages exported to hot climates. It sold more than a hundred transparent men and women, extending its repertoire to transparent cows and horses.

But reunification put an end to the museum's official purpose — West Germany already had a government office for health education.

The permanent exhibition is part of the museum's development of a fresh identity. The first of the four new exhibition rooms is dedicated to the Transparent Man, which remains a metaphor for enlightenment and transparency about the past, as well as allowing us to see tissues and organs. Instrumentation on show includes a first-generation X-ray machine. And there is a range of historical anatomical models, including the first Transparent Woman and a more recent model whose organs light up when buttons are pressed. The other rooms feature life and death, eating and drinking, and sexuality. Three additional rooms, dedicated to movement and the cardiovascular system, neuroscience, and skin, will open next year.

The museum's curators have eschewed recent trends towards amusement-park styles of presentation. This is a place to learn, and the museum's important collection is central. Unobtrusive computer terminals provide further information, which can be e-mailed to visitors' home computers. The displays' strong, simple and light design — the ultimate in German chic — creates an effect that is modern and learned, calm and uncluttered, despite the wealth of objects. Its elegance is a tribute to its early, avant-garde history.

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autistic mind is literal and sees more of the parts than the whole. An impairment in the process of concept formation denies intuition, but allows access to details that are normally non-conscious. Consequently, the autistic mind must build logically from the parts to what is intuitive to a normal mind.

The autistic mind seems to be suited to working algorithmically within a closed system of specified rules. In contrast, the normal mind can make unexpected connections between seemingly disparate systems — often by breaking the rules of each when taken in isolation, but not as an ensemble. In other words, a normal mind invents entire new systems rather than finding novelty within a previously prescribed space. Is it possible to have the best of both worlds? Could certain psychopathologies inadver-

tently plunge someone into a temporary state of autism, allowing them to see the parts normally denied to conscious awareness?

To gain deeper perspective on such issues requires information from diverse research. The second book under review, edited by Uta Frith and Elisabeth Hill, gives a valuable update in 13 insightful chapters, written by authorities on the subject. I especially enjoyed the editors' two chapters and those by the groups of Baron-Cohen, Happé and Schultz. Although tilted to the specialist, this excellent book portrays a panoramic view of autism. It is loaded with all kinds of goodies: autism is no longer a rare disease; it can be associated with congenital blindness; people with autism have difficulty recognizing faces; they show a strong desire to systematize; and on average their brains are larger

and heavier than normal brains from around the age of 2–4 years (but probably not as adults). Movement disturbances may play a role in autism — a reduction in facial expressions may reflect problems with the underlying social brain network.

We are told that there is still no unifying theory of autism. But I suggest that a failure in the process of concept formation and its associated top-down inhibition of the parts that make up the whole may offer a mechanism that could unite the current descriptive theories. Concepts order the world internally. Without them, order must be imposed externally, hence the setting up of rigid routines. ■

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