

## Innovation

### A selection from the Bodleian's Special Collections for the Vice Chancellor's Circle

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#### 'Computus Vice-Chancellor' (Vice-Chancellor's Accounts), 1697–1735

Until 1868, the Vice-Chancellor was personally responsible for maintaining the University's accounts. The details of these financial affairs were noted in a series of volumes, containing neat and well-organised summary accounts detailing University income and expenditure for the preceding financial year. This volume, which covers the period 1697–1735 contains a number of interesting entries, from a reference to the credit crisis of the late 1690s (the University having lost money 'by the fall of guinnys' [guineas]) and a purchase of a swordfish for the museum, for the princely sum of £10!

*OUA/WPBeta/21/6*

#### Illustrations of diagnosing illness, England, 1250s × 1270s

By the twelfth century, those who fell ill in England typically turned first to a physician – if they could afford it. These four scenes show the combination of faith and science in the medieval approach to medicine, concluding with a highly unusual depiction of autopsy. A physician and monk perform uroscopy and warn of a patient's state. After her death, a barber-surgeon, considered a manual labourer, is directed in autopsy by a physician and monk. Post-mortem examinations occurred only in exceptional circumstances: this was likely a wealthy woman whose family suspected poisoning.

*MS. Ashmole 399, fols. 33v–34r*

#### Architectural innovation from the past, Rome, 1565

Pirro Ligorio (c. 1512–1583) was an architect from Naples who studied surviving ancient buildings to improve construction methods. This album is one of several surviving books collecting his sketches and notes, containing everything from studies of classical inscriptions and decoration to detailed plans of monuments. This drawing shows the

Sistine Chapel with emergency buttressing, erected under Ligorio's supervision after it was discovered in the autumn of 1565 that the chapel was in imminent danger of collapse. After a major earthquake hit Ferrara in 1570, Ligorio applied his studies to create earthquake-resistant structures.

*MS. Canon. Ital. 138, fol. 106v*

## A Bead-Embroidered Qur'an Portion. India (?), 20th century

There is a long tradition of embroidery in the Islamic world. Probably the most famous example is the *kiswah* or covering of the Ka'bah at the Temple at Mecca which is renewed every year and features gold embroidery of Qur'anic verses and pious formulae. This new acquisition is a portion of the Qur'an on paper with a linen backing and written using very small beads, so bead embroidery or beadography. The beads are strung in rows to make up the letter-forms over the written-in text. The script is quite a good emulation of traditional *naskh* script and the main text is in green beads. The single chapter heading on folio iv is in blue beads and is in what appears to be a different script called *thuluth*, traditionally used for chapter headings. It is not known whether this was part of a complete copy of the Qur'an, which would have been a tremendous task to complete. In any case it was probably an individual pious act of devotion.

*MS. Arab. d. 258*

## Growing penicillin in ceramic vessels in the Sir William Dunn School of Pathology, Oxford

Women were crucial to the development of penicillin, including Ethel Florey, who supervised trials, and Margaret Jennings and Jean Orr-Ewing, who co-published the preliminary results on penicillin as part of Howard Florey's team. Not least were the "penicillin girls", Ruth Callow, Claire Inayat, Betty Cooke, Peggy Gardner, Megan Lankaster and Patricia McKegey, who did the necessary and difficult work of growing enough of the drug for the clinical trials.

*MS. 12202 Photogr. 2*

## Letter from Dorothy Hodgkin to her husband Thomas, concerning her work on penicillin, 29 Sept. 1943

Dorothy Hodgkin (1910–1994) was a chemist and x-ray crystallographer. During her long career at Oxford, as a Fellow at Somerville College, she determined the structure of penicillin, vitamin B<sub>12</sub> and insulin. She received the Nobel Prize for Chemistry in 1964 and is still the only British female scientist to have received a Nobel Prize. Letters to her

husband, Thomas, 1941–5, contain vivid accounts of her daily life. Amongst the catalogue of children's illnesses, domestic crises and routine tutorial work, are insights into her ground-breaking work on the structure of penicillin: classified work which was contributing towards the war-effort.

'This is a very exciting day.

1/ the first half of penicillin – the stuff we began to look at last year – has been synthesised and proved identical with the natural product. Grand.

2/ a telegram has come from Rockefeller making the grant. So that bit of worry is past.'

*MS. Eng. c. 7934/8*

## Congratulatory letter to Dorothy Hodgkin, 12 February 1945

This letter from Bill Astbury congratulates Hodgkin on confirming the molecular structure of penicillin. He calls it 'a triumph for a) crystallography, b) women, c) Oxford, and d) Somerville'.

Astbury was professor of biomolecular structure at Leeds University and his daughter, Margaret, who was working with Hodgkin in the laboratory, had told him of the exciting developments. Hodgkin's work was covered by the Official Secrets Act until long after the war, and this is one of the few letters of congratulation that she received.

*MS. Eng. c. 5599/1*

## Christopher Strachey, Draughts game

Christopher Strachey (1916–1975) was a computer scientist who, as an enthusiastic amateur, developed what is considered one of the first 'video games'. This led to a pioneering career ranging from computer and programming language design to theoretical computer science.

These items are the programme and punched deck for the game of 'draughts' devised by Strachey in the early 1950s for the Pilot ACE.

*MS. Eng. misc. b. 258/c. 27*

## Christopher Strachey, Letter to Alan Turing

In 1951 Strachey wrote to Turing on what he thought was a fundamental way to progress computing. In this letter Strachey talks about the similarities in process between teaching and making a computer learn which, if it were possible, would be a step closer to making it think. It continues a tradition of algorithmic thinking, stretching back to Euclid.

*MS. Eng. Misc. b. 258/c.22*

## Euclid, *Elements of geometry*

This is the oldest surviving manuscript of what would become the standard version of Euclid's *Elements*, as re-edited in the fourth century AD by Theon of Alexandria. Theon standardized Euclid's style and vocabulary, and expanded numerous passages with a view to helping the reader.

The manuscript is open to show 'Euclid's algorithm' (Book 7, proposition 2), one of the oldest algorithms still in use, whereby the greatest common divisor of two numbers can be found.

*MS. D'Orville 301, fols. 123v-124r*

## Ben Denzer, *20 Slices*

Seemingly frivolous, this book has been used perhaps more than any other modern item in recent years for teaching students to really consider what a book is, or can be. It is made of 20 slices of Kraft Cheese. Wags joke that being American Processed Cheese, it will last forever. Alas, this is not the case and we are in touch with Ben about the ethics aesthetics of periodically replacing the slices.

*Cons. Res. 41*

## Ben Denzer, *60,000 immortal individuals*

This weighty, intricately constructed, difficult-to-handle book dramatically presents data on human cell lines. The impact of its message is delivered in a way that would be impossible in the data's usual digital habitat. Denzer explores the ethical issues involved in the use of 'immortal' cell lines preserved for medical and scientific research. He is concerned in particular with questions of race and data and the book draws attention to the case of Henrietta Lacks, an African American woman whose cancer cells are the source of the HeLa cell line, the first immortalised human cell line.

*Rec. g. 40*

## Veronika Schäpers, *First You Have to Prove It To Me*

This artist's book is about misinformation and conspiracy theories inspired by the COVID-19 pandemic. It consists of 24 photograms and two letterpress printed texts—a contemporary short story on a modern conspiracy theorist by H.M. Hartmann and excerpts from the 1679 treatise on the "popish plot" by Titus Oates. Schäpers is an

influential book artist who has worked in Germany and Japan. Her style is characterised by extreme precision and detachment combined with an ironic sense of humour. We are the first UK institution to begin collecting her work in earnest.

*Rec. c. 205*