

History of diabetes

A selection from the History of Diabetes exhibition that accompanied the RCPE Diabetes Symposium on 7 October 2011.

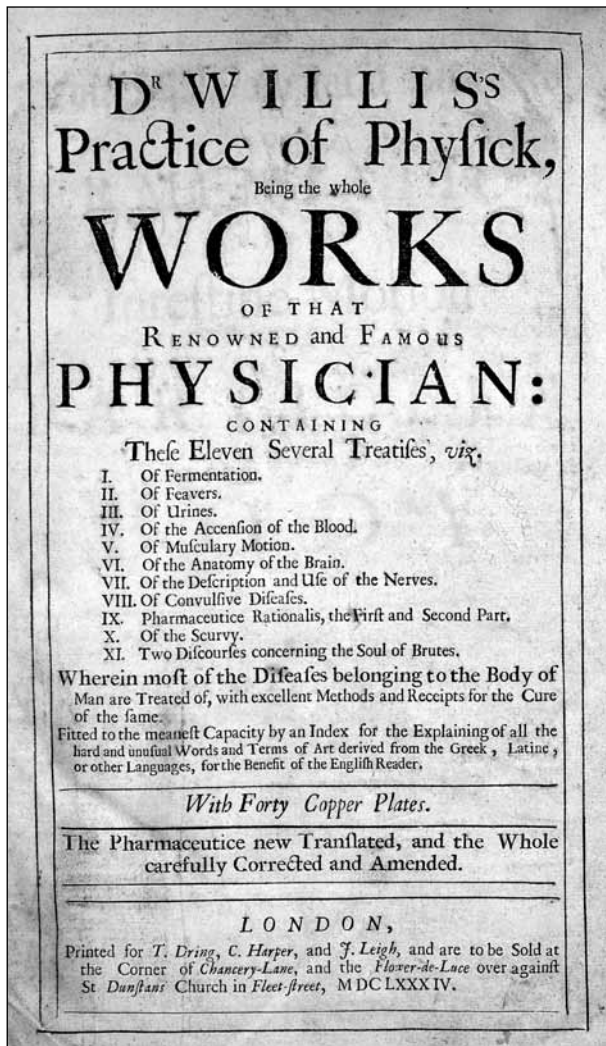


FIGURE 1 Thomas Willis (1621–75). *Dr Willis's practice of physick, being the whole works of that renowned and famous physician*. London: T Dring, C Harper and J Leigh; 1684.

The first book exhibited was *Dr Willis's practice of physick, being the whole works of that renowned and famous physician*. Thomas Willis (1621–75) studied classics then medicine at Oxford, where he later became professor of natural philosophy. He worked on diseases of the nervous system and muscles and was a pioneer in the study of the brain.

Willis was the first to use the term *mellitus* in relation to diabetes and distinguished it from diabetes insipidus. In his *Pharmaceutice rationalis*, he commented on the sweetness of the urine in diabetic patients 'it seems more hard to demonstrate, why the Piss of such as are

sick of this Distemper, is so wonderfully sweet, or should taste like Honey'. Willis failed to understand the urine actually contained sugar. 'But why it should be so wonderfully sweet, like Sugar or Honey, is a knot not easie to untie.'

It was nearly a century later that Mathew Dobson (1732–84) proved conclusively that the urine of diabetic patients contained sugar. He noticed that the urine of one of his patients left the 'white cake' after evaporating. While Dobson was one of William Cullen's students at

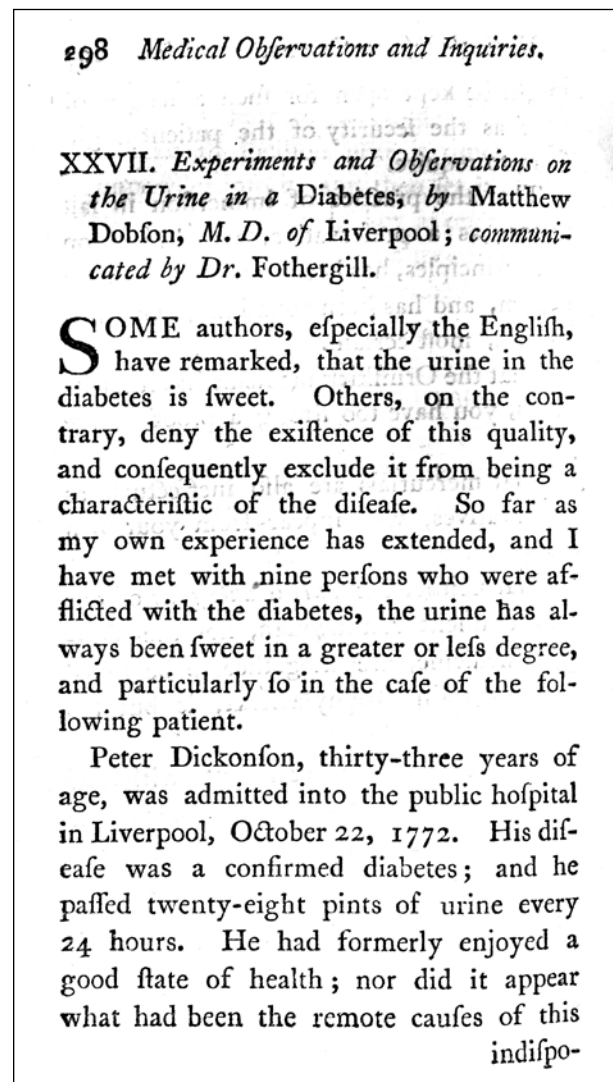


FIGURE 2 Matthew Dobson (1732–84). *Experiments and observation on the urine in diabetes, communicated by Dr Fotherhill. Medical observations and inquires* 1776; 5:298–316.

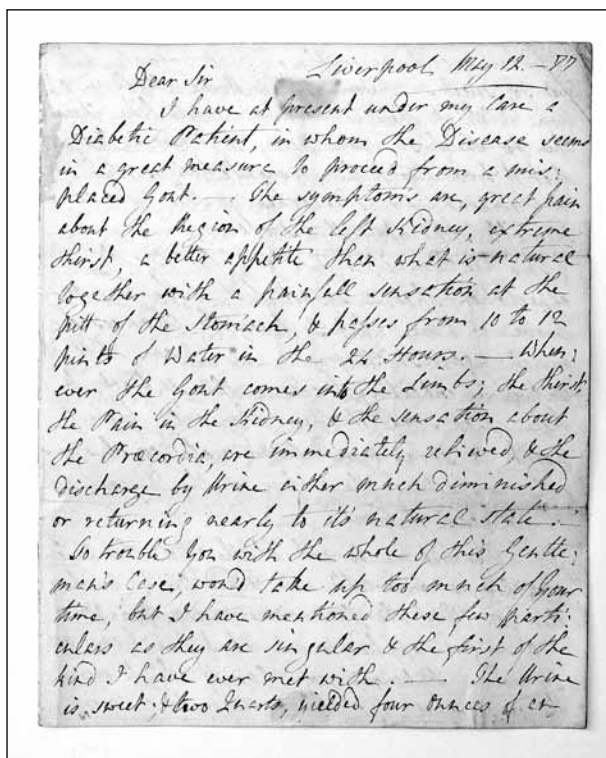


FIGURE 3 Dobson's letter to William Cullen in 1777, describing a case of diabetes.

Glasgow University in the early 1750s he assisted Cullen with his experiments on evaporation and it was Cullen who inspired Dobson's interest in chemistry.

Dobson sent a letter to Cullen in 1777 asking for help with a case of a diabetic patient. He describes:

'extreme thirst, a better appetite than what is natural, ... passes from 10 to 12 pints of water in the 24 hours. ... The urine is sweet, & two quarts yielded four ounces of an extract exactly resembling thick treacle, but not so sweet.'

The letter comes from the RCPE Library's extensive collection of William Cullen correspondence.

Johann Brunner (1653–1727) was a Swiss anatomist who performed experiments which are now regarded as the first on the internal secretions of the pancreas. He described them in this book, published in 1709.

Brunner had set up his experiments on dogs to explore the function of the pancreas. He removed the pancreas and spleen and was surprised to see that the first dog survived for three months afterwards. 'I expected from day to day the death of the animal which from the ideas widely accepted I could not but predict'. In his most



FIGURE 4 Johan Conrad von Brunner (1653–1727). *Experimenta nova circa pancreas. Accedit diatribe de lympha & genuinopancreatis usu*. Lugduni Batavorum: apud Theodorum Haak; 1709.

famous experiment he noted that on the fourth day after removing a dog's pancreas 'he was thirsty & drank exceedingly from a brook flowing past the town'. Interestingly, despite describing the symptoms of polydipsia and polyuria, Brunner didn't associate them with diabetes.

The frontispiece of Brunner's *Experimenta nova circa pancreas* shows a group of women carrying out experiments on two dogs. The dog on the table is being operated on while in the foreground another dog is being sewn up. One of the figures watching the action from a distance in the background is Aesculapius who can be identified by the coiled serpent on his staff. Our copy of Brunner's book is inscribed 'e libris Huxhamij MD'.

Estela Dukan and Iain Milne