

Historical scientific research on disability at the Royal Society

Disability and Industrial Injury

We may think of lasting physical injury caused by the nature of our work to be a modern phenomenon, but it has a long history. The Royal Society's journals contain early examples of such cases since they were often of interest to the medical community at large and to surgeons in particular.

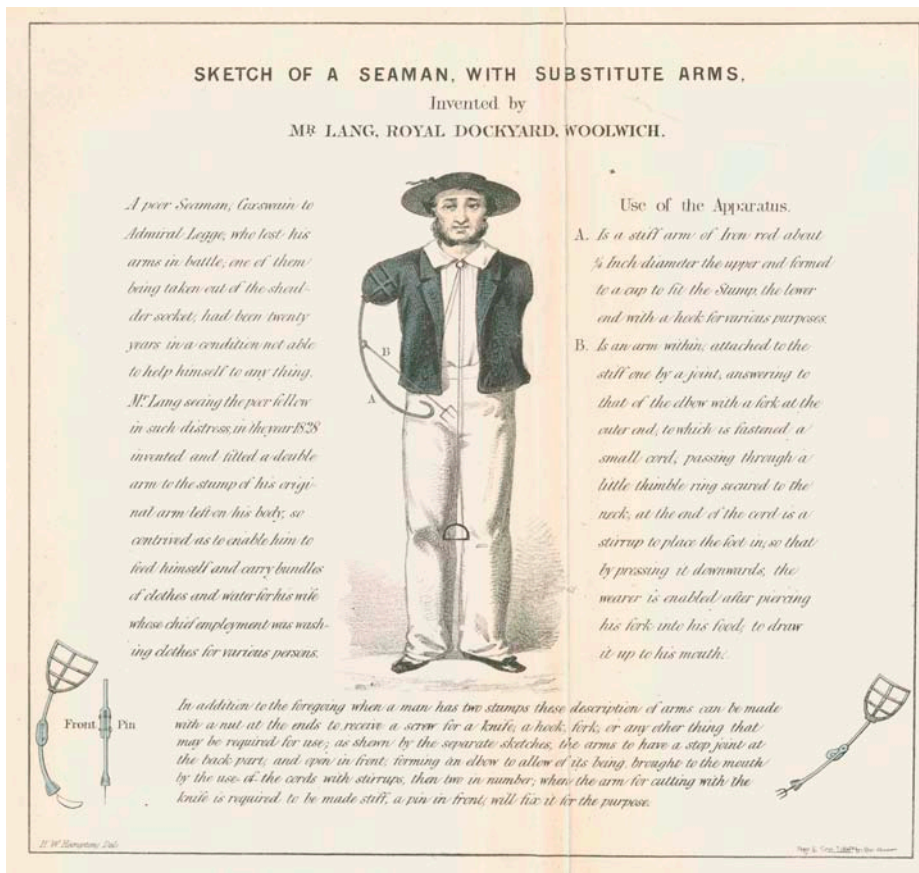
The accident that befell the 26 year-old Samuel Wood at a corn mill near Deptford in 1737 was described in some detail by Guy's Hospital surgeon John Belchier FRS (1706-1785) in the *Philosophical Transactions*. Belchier was interested both in the extreme nature of the accident (Wood's arm was caught in machinery and torn off at the shoulder) but also in his survival. The main blood vessels were not surgically tied and the flow of blood from the wound was initially staunched by loaf-sugar and yet Samuel Wood lived.



Portrait of Samuel Wood (published by him) with an inset reconstruction of his accident, c.1737/The Royal Society

Belchier's account is not particularly sympathetic to the patient ("careless") and his interest ceases with the science. There is no investigation of Wood's later life and how he might have coped with his disability. Some clue to victim's future prospects is given in a nineteenth-century account of *double* amputation this time of an unnamed sailor 'coxswain to Admiral Legge' whose battle injuries led to the shipwright Oliver Lang designing prosthetic arms. The seaman "had been twenty years in a condition not able to help himself to anything. Mr Lang seeing the poor fellow in such distress, in the year 1828 invented and fitted

a double arm to the stump of his original. to enable him to feed himself and carry bundles of clothes and water for his wife..."



A disabled seaman with prosthetics, by H W Hampden, 1853/The Royal Society

By the early twentieth century, the scientific investigation of industrial disease and injury was aimed at understanding and preventing harm: but such research might have unexpected benefits for all of the population, in major and minor ways. John Scott Haldane FRS (1860-1936) was a pioneering physiologist, both in understanding the debilitating and sometimes explosive effects of toxic gases mixtures in coal mines but also pressure effects in industrial and naval diving. These researches would lead to the first dive tables, eventually enabling sports and recreational scuba diving.