Memorial of the unknown warrior

Ladislav Kováč

Who would you describe as a major benefactor of humanity? Charles Darwin or Albert Einstein? Louis Pasteur or Alexander Fleming? William Shakespeare or Wolfgang Amadeus Mozart? I made my choice when I lay on an operating table and watched, on a screen over my head, the surgical procedure taking place. I felt no pain; the lower half of my body was desensitized by spinal anaesthesia. After the operation, I experienced the slow recovery of sensitivity. At night, when the pain came in force, a nurse soothed it by injecting an analgesic.

I realised that the greatest benefactors of humanity were those who discovered how to suppress or annihilate pain. Returning home, I watched a film adaptation of Tolstoy's *War and Peace*. It includes scenes in a military hospital that depict the terrible suffering of soldiers bleeding from open wounds, screaming as doctors amputate their limbs, or groaning in agony until death liberates them from pain. I felt ashamed of not knowing the name of the heroes who endowed humanity with anaesthesia and analgesia. Curiously, very few of my colleagues from medical circles could recall them either; their names have not become part of our cultural history.

Until the middle of the nineteenth century, official medicine was not familiar with the suppression of pain or the artificial induction of unconsciousness. A method practised at the Imperial Court of China involved rendering patients unconscious by a sudden blow to the jaw. In fact, those who first applied true anaesthesia in the early 1840s were not academic scientists: William E. Clarke was a medical student and Horace Wells a dentist. Clarke used ether to anaesthetize an acquaintance before extracting her tooth, and Wells used the pain-relieving properties of nitrous-oxide gas to have one of his own molars removed painlessly.

William Thomas Green Morton, a dentist and medical student, was the first to publicly demonstrate the advantages of anaesthesia after he experimented with ether at the suggestion of his chemistry professor, Charles Jackson. Morton approached John Collins Warren, professor of surgery at Harvard, to perform a public operation on a patient under ether anaesthesia in 1846.

Following that successful operation—which had actually been preceded in 1842 by a similar operation conducted by Georgian country doctor Crawford W. Long—the practice of using ether spread with lightning speed across the USA and Europe in the late 1840s. James Young Simpson, professor of surgery at Edinburgh University, soon introduced chloroform as an alternative to ether in 1847. Let us bear in mind that before the anaesthetic era, surgical operations were agonizing experiences beyond the imagination of humans of the third millennium.

It is amazing that scholars in the past paid little attention to pain; perhaps because it was ubiquitous and considered invincible. In many cultures, pain was regarded as a virtue and enduring it as a sign of virility. In ancient times, many philosophers valued resistance or indifference to pain as a mark of wisdom. The same applies in Oriental religions and philosophy. Later, theodicy attempted to explain why God allows evil in the world: Church authorities considered physical pain to be an inevitable fate by which God probes his devotees and punishes sinners. Thus, attempts to suppress pain were condemned as blasphemy. In the spirit of Aurelius Augustine, a monk in the fourth century, emphasis was placed on fighting sin, rather than fighting suffering. Only as late as February 1957 did Pope Pius XII proclaim that “the Christian’s duty of renunciation and of interior purification is not an obstacle to the use of anaesthetics.”

The history of the battle against pain is not only lacking famous names, but also marked by an abasing episode—hélas, all too human—of squabbles over who discovered the anaesthetic properties of ether. Morton, Wells and Jackson fought bitterly for years, eventually involving both the US House of Representatives and the Senate. This might be the reason that a memorial erected in the Public Garden of Boston in 1868 in honour of painless surgery carries no name and assigns no credit. Rather than celebrating an individual, it has become a monument “to commemorate the discovery that the inhaling of ether causes insensibility to pain”.

I would propose to attribute another meaning to the Boston memorial and make it a more general symbol. Science has been customarily acknowledged as a human endeavour to discover truth, or—to use Karl Popper’s notion—to reduce ignorance, but science has also been much more than that. From its very beginning, science has helped to improve the human condition or—again in Popperian diction—to reduce human worry; to abate human suffering. Accordingly, the Boston monument is a memorial to all individuals who, in the service of science, devoted their lives to defeating distress and pain. The statue is akin to the Tomb of the Unknown soldier in London’s Westminster Abbey or beneath Paris’s Arc de Triomphe. Rather than characterizing science in a descriptive term, a normative statement should make the mission of science explicit: science does, and ought to, minimize suffering in the world. In my opinion, molecular biology is worthy of praise for promoting biotechnology in service to this goal. It should now focus on pain, both physical and mental, as its forthright target.

Ladislav Kováč is Professor of Biochemistry at Comenius University, Bratislava, Slovakia. E-mail: kovacl@fns.uniba.sk

EMBO reports (2011) 12, 286. doi:10.1038/embor.2011.36