

Celebrating the 200th Anniversary of the Stethoscope with a Song

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September 2016 marked the 200th anniversary of the invention that marked the transformation of diagnostic medicine; from evidence vulnerable to misleading patient histories and examiner bias, to evidence that is objective and replicable. According to Sherwin B. Nuland in his book *Doctors: The Biography of Medicine*¹, for the first time in history, “here was a tool that taught the healer that he could separate the objective evidences of his own five senses from the subjective responses of a sick person.”

On September 13, 1816, French physician René Laennec (1781-1826) examined a woman suffering from general cardiac symptoms at Necker-Enfants Malades Hospital in Paris. The patient’s age, sex, and larger body habitus inhibited him from his usual form of auscultation: placing his ear to the front of the chest. Being a skilled musician, as well as physician-surgeon, Laennec rolled a pad of paper into a cylinder and placed one end to the patient’s precordium and the other to his ear. It was at this moment that the first stethoscope was employed—admittedly more retro than the version in current circulation.

Laennec reconditioned the cylindrical pad of paper into a monaural wooden tube for better acoustics. In two successive editions of his *Traité de l’auscultation médiate* in 1819 and 1826, Laennec presented the various studies and examinations he had performed with his new instrument. He coined the phrases used today to describe

auscultation: rales, bruits, fremitus, egophony, and more. With the rudimentary monaural version, many physicians of the same era complained of the variability of the sounds and corresponding imaginative diagnoses. It would not be until 1855 that Dr. George Philip Cammann of New York would develop the much improved, flexible binaural version that served as the prototype for today’s stethoscope. Still, Laennec’s stethoscope altered the trajectory of the physical exam and, according to Nuland, “demonstrated to physicians not only that it was possible to be truly scientific in diagnosis, but that a technology must be pursued to permit the fulfillment of that promise.”¹

Since then, the pursuit of technology has certainly enhanced and revolutionized patient care. Every day, health care professionals make medical judgements based on a milieu of imaging modalities, molecular diagnostics, and non-invasive monitors. On the brink of the bicentennial of the instrument that initiated the technological evolution in diagnostic medicine, however, there is no better time for physicians to be reminded of the danger of over-reliance on new technology. Indeed, shortly after increased enthusiasm for the stethoscope began to spread, Harvard physician and poet Oliver Wendell Holmes (1809-1894), aimed to prompt a similar warning in an 1848 poem titled, “The Stethoscope Song; a Professional Ballad.”²

The poem describes a young physician from Paris who had recently travelled to Boston to exam-

ine patients with his brand new stethoscope. However, before the physician could see his first patient, his stethoscope became a home for a hungry spider:

*It happened a spider within did crawl,
And spun him a web of ample size,
Wherein there chanced one day to fall
A couple of very imprudent flies.*

With his stethoscope full of flies in tow, the Frenchman took charge of caring for an extremely ill patient. Eager to use his stethoscope, he examined her, and he was alarmed by what he heard:

*The bourdonnement is very clear,—
Amphoric buzzing, as I'm alive!
Five doctors took their turn to hear;
Amphoric buzzing, said all the five.*

Convinced the patient had a pleural empyema, the doctors tapped the patient's pleura, and she subsequently died. For the young physician's next patient, the diagnosis was seemingly obvious:

*Oh, Ho! The matter is clear, no doubt;
An aneurism there plainly is.
The bruit de rape and the bruit de scie
And the bruit de diable are all combined;
How happy Bouillaud would be,
If he a case like this could find!*

Excited by the rare patient, the neighboring doctors initiated aggressive treatment, and the patient perished. At the conclusion of the poem, Holmes describes the development of a stethoscope that allows one to clean out its inner components, and, thereby, provides a solution to the flies. He closes the poem with a warning to all physicians, young and old:

*Now use your ears, all you that can,
But don't forget to mind your eyes,*

*Or you may be cheated, like this young man,
By a couple of silly, abnormal flies.*

Holmes' satirical poem about the stethoscope provides an applicable message regarding technological advances to today's practicing physicians. Relying solely on one point-of-view, such as auscultation, can be misleading. When making medical decisions, we must integrate all sources of information: a patient's story, the physical exam, imaging, blood counts, etc. Undeniably, the composition of the matter in between our ears will be forever indispensable, and we cannot relax our minds in lieu of new technology. Every new technology comes with its own limitations, much like Laennec's stethoscope. It is with realizing these limitations that a technological advance becomes genuinely useful. The 200-year-old stethoscope has continued to be an essential tool for every physician because we have determined its advantages in context with its restrictions. If we fail to do this for current and future technologies, we may succumb to hearing bruits and murmurs when we are truly hearing flies.

Reference

1. Nuland, Sherwin B. *Doctors: The Biography of Medicine*. 2nd ed. New York: Vintage, 1995. 220-237.
2. Willius, Fredrick A., and Thomas E. Keys. "The Stethoscope Song; A Professional Ballad; by Oliver Wendell Holmes. *Cardiac Classics; a Collection of Classic Works on the Heart and Circulation, with Comprehensive Biographic Accounts of the Authors; Fifty-two Contributions*. St. Louis: C.V. Mosby, 1941. 831-833.