

MILITARY MEDICAL HISTORY

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Democratizing Medicine

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Gunther von Hagens, MD, PhD, is known as the progenitor of *Body Worlds*, the exhibitions of human and animal bodies. Once the purview of anatomy laboratories and medical museums, Professor von Hagens's plastinated attract global attention and the kind of attendance that rivals that of blockbuster films and exhibitions. The National Museum of Health and Medicine (NMHM) holds a number of plastinated organs prepared by Dr. von Hagens. What started as an effort to create preserved single organs for study attained the complexity of portraying entire bodies posturing to reveal bone and muscle at work. His work elicits both accolade and scorn. Central to his effort is the commitment to the concept that our knowledge of anatomy is essentially democratizing—that the awareness of the composition and structure of our bodies should not remain the exclusive purview of physicians and researchers and health care providers; rather all of us should have direct opportunities to see and learn our composition, and with that knowledge, be fully informed and participate in health and medical decision making. His is a highly visual endeavor, often appealing to Enlightenment imagery of anatomical form.

But what of those with limited sight? Teaching anatomy to those with visual impairments has received equally creative attention. Granted, von Hagens's durable preparations are touchable and can be passed from person to person, conveying heft and dimension, texture, and complexity. But there are other thoughtful devices to teach anatomy, complete with labels bearing names of structures, distinctive raised textures to indicate normal direction of fluid flow, and descriptors of

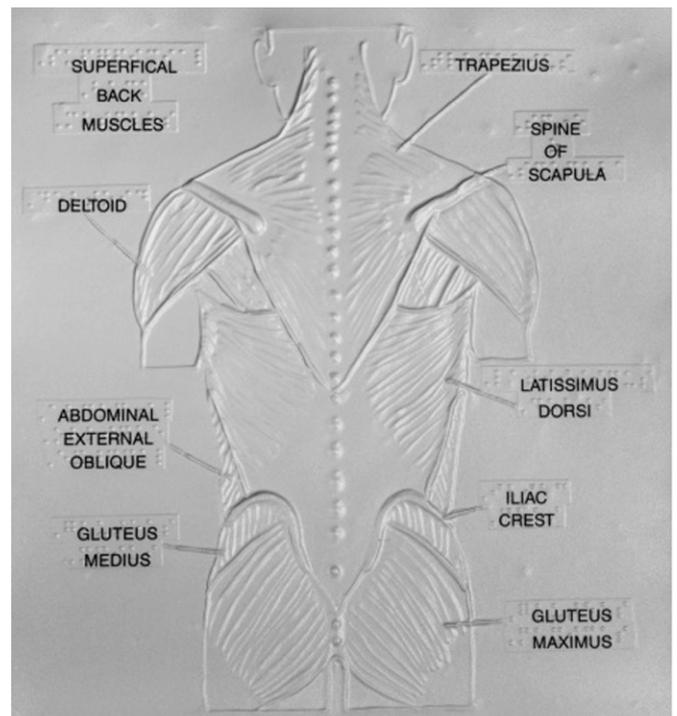


FIGURE 1. 150817-A-MP902-100. Page from Tamburlin J and Severin C: Tactual Human Anatomical Atlas, Produced under NSF Grant no. MDR-8954779, no page; no date. From the collections of the National Museum of Health and Medicine. The museum's collections represent the assembly of models, charts, 3D, and other instructional materials used in military medical research over time.

National Museum of Health and Medicine, Defense Health Agency—Research, Development and Acquisitions Directorate, 2500 Linden Lane, Silver Spring, MD 20910.

The National Museum of Health and Medicine (NMHM), a Department of Defense (DoD) museum founded as the Army Medical Museum in 1862, is committed to documenting the nation's military medical heritage while sustaining a repository of contemporary medical technology to advance military medicine. For more about NMHM, visit www.medicalmuseum.mil.

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physiologic function—all at micro and macro levels. One of the most remarkable is held here at NMHM—the three-volume *Tactual Diagrams and Related Texts of the Human Body* (Fig. 1) and associated audiotapes. Working at State University of New York at Buffalo, Judith Tamburlin, PhD, and Charles Severin, PhD, developed, produced, and evaluated the work under National Science Foundation (NSF) auspices from 1987 to 1992. It was pioneering.

Although some earlier instructors had assembled relief images, this new atlas was the first to assemble, in one comprehensive and portable device, large volumes of anatomical information for the visually impaired. Professor Tamburlin's

inspiration was a student in her undergraduate anatomy class, blind since early childhood. “She taught me how to teach her,” Tamburlin recalled. (Conversation with author, September 11, 2015) Her work made Professor Tamburlin much more aware of how learning styles differ from individual to individual, and how alternative explanations and descriptors are often necessary to convey vital information. Supplemental grants for production, field testing, distribution, and a conference to teach instructors how to use the atlases were provided by the NSF, and three atlases were given to each state in the nation, remaining available to ensure no one is beyond the reach of anatomical enlightenment.