



Baylor University Medical Center Proceedings

The peer-reviewed journal of Baylor Scott & White Health

ISSN: 0899-8280 (Print) 1525-3252 (Online) Journal homepage: <https://www.tandfonline.com/loi/ubmc20>

Dwight Emary Harken, MD, an all-American surgical giant: Pioneer cardiac surgeon, teacher, mentor

Peter A. Alivizatos

To cite this article: Peter A. Alivizatos (2018) Dwight Emary Harken, MD, an all-American surgical giant: Pioneer cardiac surgeon, teacher, mentor, Baylor University Medical Center Proceedings, 31:4, 554-557, DOI: [10.1080/08998280.2018.1471896](https://doi.org/10.1080/08998280.2018.1471896)

To link to this article: <https://doi.org/10.1080/08998280.2018.1471896>



Published online: 29 Oct 2018.



Submit your article to this journal [↗](#)



Article views: 60



View Crossmark data [↗](#)



Citing articles: 1 View citing articles [↗](#)

Dwight Emary Harken, MD, an all-American surgical giant: Pioneer cardiac surgeon, teacher, mentor

Peter A. Alivizatos, MD^{a,b}

^aBaylor University Medical Center, Dallas, Texas; ^bOnassis Cardiac Surgery Center, Athens, Greece

Criticism of pioneering is always the tool of men frustrated by their own inability to create.

—Dwight E. Harken

I cannot deny the fact that it is difficult for me to describe my first teacher in cardiac surgery. It is as if you have come face to face with a sheer granite cliff and are trying to work out how to get to the top. The personality, the achievements, the legend are all daunting.

Dwight Harken (b. 1910) (*Figure 1*) came from the small town of Osceola, Iowa, where his father, a family physician, would visit his patients on horseback. Dwight, like many other promising young physicians, began his specialization at the Bellevue Hospital in New York City. He did postgraduate studies at the famous Royal Brompton Hospital in London, working with the renowned thoracic surgeon Tudor Edwards.¹ When the Normandy invasion took place in 1944, he became a lieutenant-colonel in the medical corps and acquired a good reputation for removing bullets and shrapnel from the chests of 134 wounded soldiers—78 within or in relation to the great vessels and 56 in or in relation to the heart—without losing a single one.² Techniques at that time were primitive and, of course, there was no heart-lung machine. He would therefore make a hole in the heart or blood vessel, remove the foreign body, and then suture it rapidly with the blood spurting up to the ceiling! The operation required nerves of steel and stamina, qualities that Dwight must have had after being an amateur boxer. As expressed by R. Meade, this was the greatest technical advance in chest surgery during World War II.³ Further, F. B. Berry called this series “the first consistently successful operations in this area.”⁴

Returning to the USA after the war, he joined the staff of Harvard under Professor Elliott Cutler, a pioneer who had

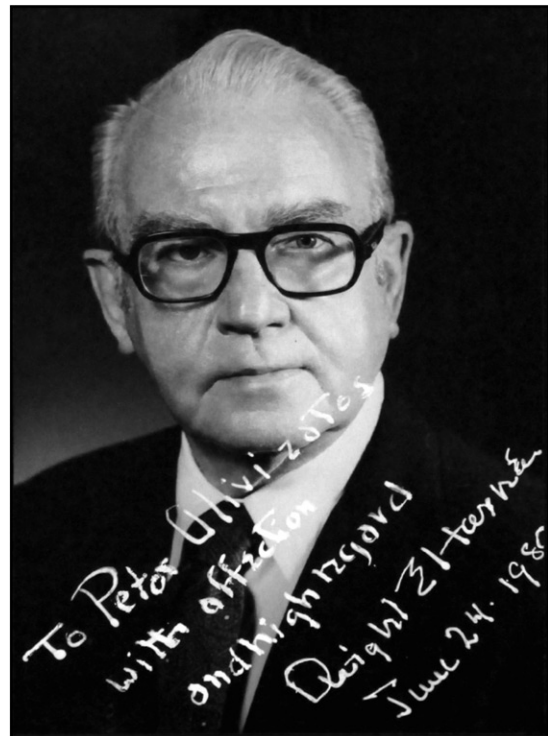


Figure 1. Dwight E. Harken, MD, professor at Harvard University. The “father” of cardiac surgery, a great teacher, and an incomparable organizer.

opened stenoses of the mitral valve in 1923 with an instrument of his own invention.⁵ In June 1948, Harken in Boston successfully introduced a cardiovalvulotome—given to him by Professor Cutler—through the left auricle and into the heart of a 27-year-old with severe mitral stenosis. He had been preceded 6 days earlier by Charles Bailey in Philadelphia. Yet Harken managed to publish his case first;

Corresponding author: Peter A. Alivizatos, MD, Baylor University Medical Center, 3600 Gaston Avenue, Suite 404, Dallas, TX 75246 (e-mail: paliviz2013@gmail.com)

Color versions of one or more of the figures in the article can be found online at www.tandfonline.com/umbc.
Submitted April 18, 2018; Accepted April 20, 2018.



Figure 2. The great Dwight at work (1970).

hence the subsequent debate and antagonism as to who really was the first one.^{6,7} Bailey called his technique *valvotomy*, a term that was anathema to Dwight, who himself called it *valvuloplasty*. The reason was that in addition to fracturing the fused commissures back to the annulus on both sides with the finger, Harken was freeing up the chordae in the subvalvular apparatus by exerting downward pressure. Both surgeons initially used a small knife (or a saw) along the inserted index finger to crack the commissures.⁸ At first, things did not go well and he almost had to give up after losing six patients in a row. Thanks to the intervention of his chief, he was given one last chance (personal communication). The seventh patient survived, and hundreds—later thousands—of patients followed him. Whereas at first the mortality rate was around 14%, after 500 operations it fell to 0.6%, which bears out the saying, “practice makes perfect.”^{9–11}

Like all leaders, Dwight knew history. He brought back from obscurity a completely forgotten English surgeon, Sir Henry Souttar, who in 1925 did more or less the same as Dwight. His patient survived despite the hemorrhage, which was not fatal, but Sir Henry did not repeat the operation. In a letter to Harken in 1961, he explained that the medical establishment in England at that time called his surgical intervention “nonsensical” and condemned it as “unjustified.” They did not send him any more patients, and both the operation and Sir Henry were forgotten. He ended his letter on a note of bitterness: “There’s no advantage in being ahead of one’s time.”¹²

In the late 1950s, Harken developed and then implanted, in June 1960, the first stainless steel cage prosthesis with a Lucite ball in the normal—that is, in the subcoronary—aortic position. This patient, Mary Richardson, made history, being alive 20 years later.⁸ In 1968, Harken introduced a new, low-profile, discoid mitral prosthesis consisting of a four-strut titanium cage and a mobile Silastic disc.¹³ He also pioneered the implantation of the first pacemakers at the Peter Bent Brigham Hospital at Harvard,¹⁴ where experiments were also carried out with counterpulsation, today’s intra-aortic balloon pump, which has saved lives.¹⁵ It is widely accepted that the idea originated with the Greek professor S. Mouloupoulos when he was working in the USA in

1961, but Harken’s original publication dates from the same year. Harken, with great perspicacity, foresaw the applicability of this new concept for treating acute myocardial infarction and the associated cardiogenic shock.¹⁶ Last but not least, he was one of the early and most vociferous opponents of smoking.¹

One of his greatest achievements was the creation of the intensive care unit.¹⁷ Very early on he realized that the first hours after surgery were crucial for the survival of the patient while all the functions are in a delicate state of interdependence. And so he started to organize such units, which later were extended to other specialties. Harken also proved to be an excellent teacher, bringing in dozens of trainees as fellows from all over the world. Many later imparted what they had learned back in their own countries. Another of Dr. Harken’s accomplishments was the creation of the Heart House in Bethesda. It was a dream that became reality through untold hours of his solicitation and planning as Funds Campaign Committee chairman.¹ This shrine of cardiovascular education is located in the national headquarters for the American College of Cardiology. Harken was also instrumental in founding “Mended Hearts,” the support group formed by patients who had survived the surgery and then had overcome the psychological trauma of this ordeal. The benefits to patients and to their families was inestimable, and the club’s membership exceeded 25,000 across the nation.⁸

When I first met him in June 1970 (*Figure 2*), his formerly red hair had become white, but he still had rosy cheeks and sparkling blue eyes, which I thought were boring into me from behind his glasses. It was practically impossible to keep up with him because he was perpetually in motion, always doing something, and his philosophy was that one should fill every minute creatively because life is so short. He could do three things at once, which made one dizzy just looking at him. I would say that he was more of a physical phenomenon than a human being. His energy overflowed like lava from a volcano. His industry and stamina were superhuman, with no pity for his subordinates. He behaved like a football coach—harsh, restless, indubitably a leader. He referred to his surgical team as “the organization,” as if it were a secret society, and sometimes was as authoritarian and oppressive as the leaders of such bodies. He was not mean—the opposite I would say—but woe to anyone who crossed him—He was capable of annihilating him. Afterward he would extend his hand to help him up—a sign of greatness. I got a good dose of his philosophy when I first came under his wing. He said, “Peter, you are a real gentleman and I am a real bastard! So move fast in this country or you will be eaten up by the traffic.” Then he added, “We have to turn you into a very, very, very aggressive American surgeon.” That he did, and I will be eternally indebted to him.

As a first-rate teacher, Dwight gave his all in the operating room so that his trainees would learn all of the rules that his experience had shown him were of vital importance for

success. He would repeat, "Do it by the numbers," and he emphasized that "good surgeons repeat the operation in their minds over and over and over." His advice, "Don't change the routines," was the essence of wisdom. Mistakes happen when someone changes something without informing his opposite number who carries on doing what he has known up to then. To fix these catastrophic mistakes in the minds of his trainees, he had given each fatal maneuver the name of one of his colleagues. And so we had the "Matloff maneuver,"^{1*} which was nothing less than "the tearing of the inferior vena cava and calling me at 3:00 in the morning to fix it." Or again, the "Taylor maneuver"^{2†}; that is, the rupture of the atrioventricular groove, which usually costs the patient his life. These maneuvers had been formalized after the departure of the particular surgeons from his team. I understood that this happened mainly because he felt a deep bitterness that they had abandoned him to go elsewhere and not because he hesitated to tell them to their faces. He was easily hurt, as so often happens with great men. "Never give up!" was the phrase that best rendered his personal philosophy, urging us never to accept defeat, saying that the difference between success and failure was that extra 5% of effort. And the same percentage yield made the difference between a "superior" and a "mediocre" surgical team.

A touching story that he told me shows his emotional attachment to his patients. During the 1950s when there was no such thing as extracorporeal circulation, Dwight tried to open a stenotic aortic valve using an instrument, with the blood shooting up to the ceiling! Despite all of his desperate efforts, the patient died on the table. Devastated, he returned home and went to bed saying that "he wanted to die." A few hours later, still in the same state, someone rang the doorbell and gave him a letter, which, to his great surprise, was from the patient he had just lost. Curious, he opened it and read the single phrase: "In any case, thank you for trying." His eyes filled with tears even though many years had passed since this incident.

His reactions were often mercurial, and it was surprising how quickly he would pass from one mood to another. In the summer of 1970 when I had just joined his team, he performed a reoperation and, after a struggle lasting hours, we finished up with a dead patient on the table and Dwight covered in blood. You had to feel sorry for him. His voice breaking, he said: "I've lost Ted, I've lost Ted. Ted was my good friend. I had operated on him twice before and now he is dead. I can't believe it. I want to die. I want to die!" We closed the patient, the nurses cleaned him up, and a devastated Dwight withdrew to the locker room. We all quickly gathered around him trying to console him while he repeated rhythmically: "Ted is dead. I can't believe it." A short while

later we were informed that a female patient awaiting surgery had arrived on the second floor. There he showed the guts of a true leader. He sprang like a sergeant from a marine landing craft in the Pacific and got us moving. "O.K., boys, let's go and see the patient. We're still the best team in the world!" He went in front and led us briskly to the patient's room. She was operated on the following day and all went well. One of his trademark sayings was, "Good guys bounce back," paraphrasing the famous coach Vince Lombardi: "I don't care if someone falls down; I'm only interested in whether he can get up again."

His ability to organize was also astounding. Every time he left for a trip to give a lecture or take part in a conference, the day before he would circulate his itinerary, which gave in detail the time he was due to leave home, when he would be in the airport, what flight he was on, and what time he would arrive at the hotel, along with all of the telephone numbers so that he would be continuously available. It was a deadly sin for him not to answer a telephone call, wherever it came from. "You cannot practice medicine unless you are always available," he would say. When he realized that I was missing the announcements over the loud speaker, he dressed me down in front of everybody. Of course, he could not imagine that the reason was, for me, the "distorted" Bostonian pronunciation of the telephone operators.

Public relations was another of his great talents. The fact that he was a member of so many scientific societies and that they invited him from all over the world, where he had hundreds of friends and admirers, says something about his ability to handle human nature. He knew how to praise his people, how to motivate them to give more, and how to promote them with enthusiastic letters of recommendation for their future careers. It was wonderful how he brought out the good points of a candidate, keeping quiet about his weaknesses but without ever resorting to lying. On his recommendation, I secured the place at the Lahey Clinic and later a much more important one with Richard Lower, the father of heart transplantation. Occasionally, though, his letters did not bring the desired result, like the one he addressed to my Greek professor when I was about to return to Greece in 1973. In it he stressed that he should use me only in cardiac surgery instead of making me dabble in cardiac, general, and vascular surgery, like himself.

It is a truism to repeat that great leaders are, as a rule, great orators. In this he was helped by his voice, which he knew how to change from a whisper to a thunderclap, like a preacher. During one of the weekly grand rounds we, sitting at the back, were half asleep after an exhausting night. Various attending surgeons made comments that probably no one noticed. Then Dwight entered the amphitheater. His very first words were like an electric current passing through the audience! Those sitting next to me on the benches woke up with a start and began to listen to him, spellbound. It was not just what he said but how he said it, as if he were engraving it with hammer and chisel in their heads. I never met a

^{1*} Jack M. Matloff, his former associate and subsequently chief cardiac surgeon at Cedars Sinai Hospital.

^{2†} Warren J. Taylor, a former associate and subsequently an independent cardiac surgeon in the Boston area.

more impressive speaker than Dwight Harken in all my 25 years of working in an Anglo-Saxon environment.

A year after I had left his team, I met him again at the New England Deaconess Hospital where he was giving a talk. Of course I went to listen to him. In our conversation afterward, he did not miss the opportunity to complain about his team's casualties. In that dramatic voice, he said: "Your compatriot Nick has abandoned us," referring to my university colleague who had succeeded me but had resigned, obviously because he was not able to stand the rough treatment of "Sergeant Harken." And he completed the list with an Arab cardiac surgeon who had joined the team to refresh his skills. Dwight was down on him to such an extent that the poor man suffered gastrointestinal bleeding and had to undergo emergency surgery! He was furious with the Arab who had "cheated" him, because he "knew" that he had an ulcer but had not told him when he applied for the position. The possibility that he had developed a stress ulcer because of his anxiety did not even cross his mind! He took for granted the health and stamina of the people who worked for him and asked for nothing more than what he expected of himself.

As the years passed, his sight began to fail because of diabetic retinopathy. I saw him years later at some conference wearing thick glasses with a prism in the left lens. He explained to me that his sight was now limited to what he could see through the prism. It was tragic for someone who still had a razor-sharp mind and interminable mobility, and I wondered why such exceptional people were condemned to disability at the end of their lives. Perhaps it was because they were not lucky enough to die young.

"The father of heart surgery," as he was described in the obituary in *The New York Times*¹⁸ died in August 1993 in Cambridge, Massachusetts, where he had lived most of his life. Despite the subsequent poor outcome of my relationship with my Greek professor, I am in his debt because he introduced me to the Giant.

1. Wertenbaker L. *To Mend the Heart*. New York, NY: Viking Press; 1980.
2. Harken DE, Williams AC. Foreign bodies in and in relation to the thoracic blood vessels and heart; migratory foreign bodies within the blood vascular system. *Am J Surg*. 1946;72:80–90. doi:10.1016/0002-9610(46)90139-0. PMID:20987921.
3. Meade RH. *A History of Thoracic Surgery*. Springfield, IL: C.C. Thomas; 1961.
4. Berry FB. *Surgery in World War II: Thoracic Surgery*. Vol 2. Washington, DC: US Government Printing Office; 1965.
5. Cutler EC, Levine SA. Cardiomy and valvulotomy for mitral stenosis. Experimental observations and clinical notes concerning operated case and recovery. *Boston Med Surg J*. 1923;188:1023–1027. doi:10.1056/NEJM192306281882601.
6. Harken DE, Ellis LB, Ware PF, Norman LR. The surgical treatment of mitral stenosis—valvuloplasty. *N Engl J Med*. 1948;239:801–809. doi:10.1056/NEJM194811252392201. PMID:18890600.
7. Bailey CP. The surgical treatment of mitral stenosis (mitral commissurotomy). *Dis Chest*. 1949;15:377–397. doi:10.1378/chest.15.4.377. PMID:18114648.
8. Stoney WS, Harken AH. In: *Pioneers of Cardiac Surgery*. Nashville, TN: Vanderbilt University Press; 2008:341–353.
9. Harken DE, Dexter L, Ellis LB, Farrand RE, Dickson JF III. The surgery of mitral stenosis. III. Finger-fracture valvuloplasty. *Ann Surg*. 1951;134:722–742. doi:10.1097/00000658-195110000-00018. PMID:14878383.
10. Otto JF Jr, Hutcheson JM Jr, Abelmann WH, Harken DE, Gary JE, Ellis LB. Clinical observations before and after mitral valvuloplasty; physical, radiologic and electrocardiographic changes. *N Engl J Med*. 1955;253:995–1005. doi:10.1056/NEJM195512082532301. PMID:13272828.
11. Harken DE, Curtis LE. Heart surgery—legend and a long look. *Am J Cardiol*. 1967;19:393–400. doi:10.1016/0002-9149(67)90453-5. PMID:5335864.
12. Harken DE. Open versus closed mitral valve surgery. In: Bailey CP, ed. *Rheumatic and Coronary Heart Disease*. Philadelphia, PA: Lippincott; 1967:77–82.
13. Harken DE, Matloff JM, Zuckerman W, Chauv A. A new mitral valve. *J Thorac Cardiovasc Surg*. 1968;55:369–382. PMID:5642704.
14. Zuckerman W, Matloff JM, Harken DE, Berkovits BV. Clinical application of demand pacing. *Ann N Y Acad Sci*. 1969;167:1055–1059. doi:10.1111/j.1749-6632.1969.tb34168.x. PMID:5263796.
15. Clauss RH, Birtwell WC, Albertal G, et al. Assisted circulation. I. The arterial counterpulsator. *J Thorac Cardiovasc Surg*. 1961;41:447–458. PMID:13693965.
16. Jacobey JA, Taylor WJ, Smith GT, Gorlin R, Harken DE. A new therapeutic approach to acute coronary occlusion. II. Opening dormant coronary collateral channels by counterpulsation. *Am J Cardiol*. 1963;11:218–227. doi:10.1016/0002-9149(63)90063-8.
17. Lefemine AA, Harken DE. Postoperative care following open-heart operations: routine use of controlled ventilation. *J Thorac Cardiovasc Surg*. 1966;52:207–216. PMID:5337899.
18. Lambert B. Dwight Harken, 83, the pioneer of surgery on the heart, is dead. *New York Times*, August 29, 1993. <https://www.nytimes.com/1993/08/29/obituaries/dwight-harken-83-the-pioneer-of-surgery-on-the-heart-is-dead.html>. Accessed August 21, 2018.