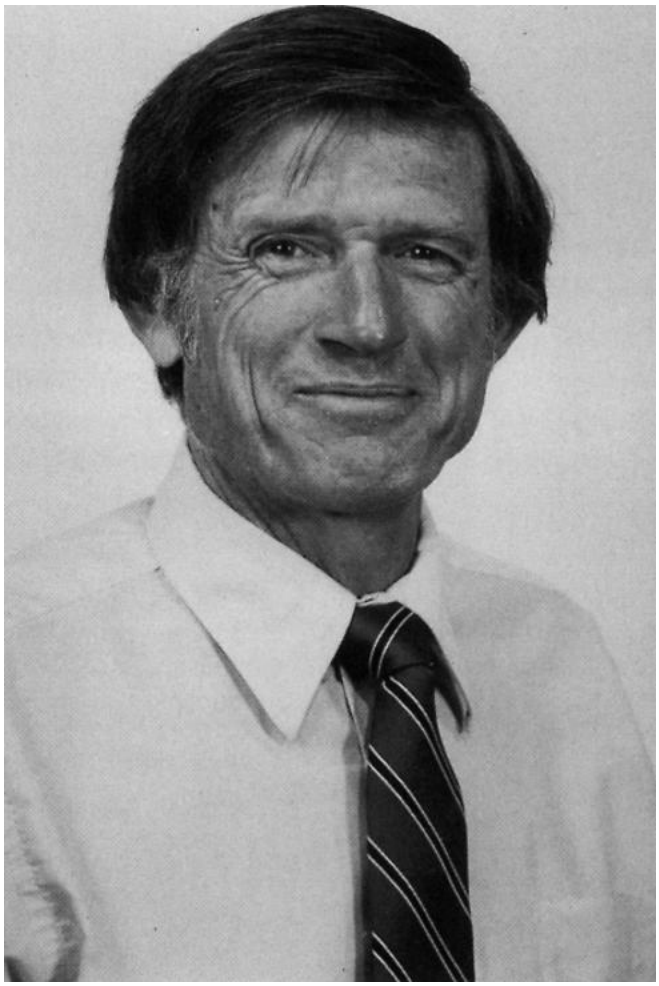
THE FACULTY OF MEDICINE
Harvard University

G. Octo Barnett



Guy Octo Barnett, MD is recognized worldwide as one of the founding fathers of the field of medical informatics and widely known for his influential work in clinical computing and hospital-based information systems. In 1964 he founded the Laboratory of Computer Science as the Division of Medical Informatics in the Department of Medicine at Massachusetts General Hospital (MGH). For over 50 years, Dr. Barnett tackled some of the most fundamental challenges in applying computer technology to medical research and clinical care.

Born in Chula Vista, California, Dr. Barnett ("Octo") grew up in the Depression-era Deep South, on a small farm raising peanuts and cotton on Highway 31 south of Greenville, Alabama. His father was recalled to active military service on the eve of World War II and died in the early days of the war, leaving Octo and his mother — a Latin teacher at his high school — to run their farm and roadside gas station. After hearing about a scholarship while sitting in a barber's chair, Octo attended Vanderbilt University, majoring in chemistry and earning Phi Beta Kappa. He began medical school just up the road on Highway 31 at the Medical College of Alabama, where tuition was free. After demonstrating clear talent in research and publishing several academic papers, the head of his lab suggested that Octo should transfer to a medical school "up north." Harvard offered him the best scholarship and in 1956 he completed his medical degree at Harvard Medical School.

After graduating from Harvard, Dr. Barnett spent several years doing cardiac physiology research at the NIH and the University of Washington before completing his internal medicine residency at the Brigham. He stayed on to pursue cardiovascular physiology research and began using computers for his physiology modeling — early enough that he was soon recruited to lead a struggling NIH-funded "Hospital Computer Project" at Massachusetts General Hospital, one that had stalled for lack of physician direction. He was told it was a "great opportunity" and although the technology was rudimentary at best, the Laboratory of

In tribute to their dedicated efforts to science and medicine, deceased members of the Harvard Faculty of Medicine (those at the rank of full or emeritus professor) receive a review of their life and contributions with a complete reflection, ***a Memorial Minute****.*

Computer Science was born.

Under Dr. Barnett's leadership at LCS, the Massachusetts General Hospital Utility Multi-Programming System (MUMPS) was invented when a colleague ignored his advice against doing so (characteristically humble, he would later reflect: "Well, through most of my life, the best of things happen when people ignore what I say"). This uniquely practical combination of a compact programming language with an integrated database was adopted enthusiastically by the computing community when he elected to place it into the public domain. It became the programming system of choice for numerous commercial companies. Now known as M, it remains the origin of InterSystems' Caché database and was the foundation of numerous clinical systems including Epic, one of the leading electronic health records in the nation, as well as the Department of Veterans Affairs health information system VistA. Dr. Barnett also directed the development of the Medical Query Language (MQL), a language that enabled MUMPS users without a background in programming or computer science to ask questions and mine the value of their data.

In the 1970's, Dr. Barnett led the creation of CoStAR — the Computer Stored Ambulatory Record — one of the first electronic health records in the nation, built for the newly formed Harvard Community Health Plan with a problem-based data model that was both novel and practical. CoStAR supported an effective quality assurance program at HCHP to detect deficiencies in patient care, providing timely feedback to medical staff to correct the deficiency, leveraging the data collected as part of normal routine operations. CoStAR was also used at MGH's Internal Medicine Associates practice for decades and seeded a family of successor systems, including those used by Boston's Healthcare for the Homeless Program, MGH Obstetrics, and many other MGH practices. Those who worked with him on the obstetrics system fondly recall an intensive six-month effort that culminated in the successful recording of the first newborn delivered when the new service opened.

Dr. Barnett was an early and persistent champion of computer-based clinical decision support, and DxPlain — one of the first diagnostic systems with artificial intelligence capabilities — became one of the laboratory's most enduring contributions. By generating differential diagnoses that included conditions a clinician might not have considered, it offered a quiet check against missed or delayed diagnoses. Dr. Barnett took pleasure in hearing from clinicians who had used DxPlain to find their way to the right answer. These conversations confirmed what he had always believed: that a physician working together with a computer could be better than either one alone.

Dr. Barnett, who described himself as "just a country doctor" and "the most overtrained, underqualified doctor", turned the Laboratory of Computer Science into a crossroads for a generation of leaders who went on to shape the field at Harvard, Stanford, Columbia, Albert Einstein, Rice, Henry Ford Health System and Walter Reed among many others. He had high expectations for himself and his lab but would be the first to laugh when a mistake turned out to be an "act of GOB" — a play on his initials. He was a founder of the American Medical Informatics Association (AMIA) and a founding fellow of the American College of Medical Informatics (ACMI), and also elected to the Institute of Medicine. He was honored with ACMI's Morris F. Collen lifetime achievement award in 1996. When Dr. Barnett was later asked what he was most proud of, he said: "I suppose my greatest accomplishment, in some sense, is making it possible for — and attracting some — excellent people to work here. There's very little I can really point to and say, 'Boy! I did that!'" Nearing retirement after fifty years, he summarized his thoughts on what makes a successful product: "Do real people use it for real things? Does somebody pay for it with real money? Do other people take it to say they invented it?" And he also fondly pointed out:

“Life is pretty much made up of fortuitous circumstances”, and “There is no such thing as ‘free text’.”

There was, of course, a whole life outside the laboratory. Before all his successes and even before finishing residency, Octo met Sarah Luhrs from upstate New York — a kindred spirit who knew something about starting over, having grown up in a family that had moved more than twenty times in a single two-year stretch. They were set up by friends on a ski trip (neither of them could ski at the time) and married just before Octo began his stint at the NIH. Together they raised three sons and Sarah pulled Octo into her many volunteer causes, among them pushing to mandate child car seats and preserving open space in their hometown. They loved being in the outdoors with their friends in all seasons – cross-country skiing, sailfish regattas and hiking the White Mountains. For more than thirty years, they made an annual canoe trip to Maine with many of the same friends, timed for just after the ice broke but hopefully before the black flies emerged. When their sons were older, the Barnett family and many of those friends would hike in the Sawtooth Mountains, canoe the Boundary Waters, and sail off the coast of Maine. For decades Octo hosted a Monday night tennis game where he could get competitive with his colleagues; as he got older, he even instituted his own novel “Medicare rules” for scoring. Octo and Sarah were lifelong Unitarians who wore their faith lightly and lived it fully — in their love for family and friends, in the causes they championed, and in the quiet work of leaving things a little better than they had found them. Above all, Octo was a relentless advocate for everyone who had the unique privilege of being part of his community and inspired by his love for life and learning.

Respectfully submitted,

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