



Reflections

## Pioneers in Anesthesia: The Bourne Generation

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What does it take to become a professional discipline as opposed to an artisanal craft? In the early 1900s, Canadian anesthesia relied on empirical encounters with little scientific evidence to guide practice (1). It would take roughly the next seven decades for academic anesthesia departments to be established in all 17 Faculties of Medicine throughout Canada (2). Exposure to anesthesia through four years of medical school training can be quite limited, and the origins of anesthetic techniques in Canada is not directly focused on. While it would be inaccurate to attribute the development of an entire medical specialty to one individual, early pioneers deserve special attention and consideration. Through supreme dedication and a foundational knowledge built on

anatomy, biochemistry, physiology and pharmacology (3), Dr. Wesley Bourne paved the path for an entire generation of anesthesiologists to come.

Born in Barbados in 1886, Bourne's early years were spent in the vibrant environment of a tropical plantation home (4) surrounded by fields of green, a bright sky, and sounds of the sea. His education prior to medical training occurred at 'Lodge School' where he would be taught by Oxonian scholars (5). He came to Canada in 1907 to complete his education and graduated from McGill Medical School in 1911 (5). Over the next year he would provide medical care to a railway construction group in Western Canada before returning to the Royal Victoria Hospital in Montreal to commence

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training in surgery. He was the star pupil of Dr. Edward Archibald (internationally recognized as the “father” of thoracic surgery, 6), forming a close friendship with his professor. It was not until Archibald asked Bourne to “pour ether” that he discovered the realm of anesthesia which he would devote the next 50 years of his life towards.

Bourne was appointed lecturer in Pharmacology at McGill University in 1921 (7) and thus began his scholarly work for which he would become world-renowned. He recognized the importance of basic science as the foundation of clinical anesthesia and worked to elucidate the actions of anesthetic medications and their effects on the body (8). His first paper, “The Anesthetic Properties of Pure Ether” opened the flood gates for numerous scientific writings (9). With over 130 publications from 1921–1950 (3), Bourne brought forth intellectual cutting edge developments in anesthesia during these formative years. Included in these works is his review of gaseous anesthetics (10), barbiturate use in obstetrical medicine (11) and writings on anesthesia in war circumstances (12). As a prolific investigator, he pushed the limits of clinical practice. To say his pantheon of research achievements is impressive would be a gross understatement, but perhaps even more astounding is his contributions to the creation of academic anesthesia as a discipline across Canada.

Throughout his professional life, Bourne was actively involved in the creation and maintenance of anesthesia associations. In 1920, he founded the Canadian Society of Anesthetists, which ten years later would merge with the Canadian Medical Association (13). He served as president of the International Anesthesia Research Society in 1925 and again in 1940 (13). Among the numerous awards and honors he received, highlights included the prestigious Henry Hill Hickman Medal from the Royal Society of Medicine and the first Gold Medal of the Canadian Anesthetists’ Society (14). Bourne was also elected president of the American Society of Anesthesiologists in 1942 and remains the only non-American ever to hold this position (15). He represented Canada on a global scale, pronouncing to the world to the accomplishments and discoveries of Canadian clinicians. His commitment and passion for anesthesia would slowly, but surely mold itself into an autonomous specialty that came to be recognized across Canada and the world.

A major step in the development of anesthesia in Canada occurred in 1945. Prior to the second world war, no formal education existed for the up and coming

anesthetist. Dr. Bourne and a few other Montreal colleagues started offering intensive courses to medical officers from the Canadian Armed Forces (15). The four-month course was organized to teach both the basic science and clinical aspects of anesthesiology with practical applications for the ongoing war. The programme was designed by Bourne, which further became the springboard from which McGill would formally establish the first independent department of anesthesia in the country (16).

Bourne was appointed Professor and Chairman of the new department in 1945 and proceeded to organize structured teaching in anesthesia for undergraduates and post-graduates. He served as the architect of a unique three-year diploma course for specialist training. Utilizing educational techniques still applicable in medical school today, students would rotate every 6 months between hospitals and come together weekly for seminars, presentations, and discussion forums. The meticulous curriculum planning and attention to detail shifted the world of medical education from the Socratic method (17) to a more holistic approach. Bourne created the blueprint for anesthesia training across Canadian medical institutions and many other parts of the world. His role as an educator inspired many and Dr. Francis H. McMechan accurately praised him as the “builder of bridges to the coming generation of anesthetists” (14).

Upon retirement in 1951, Bourne had witnessed his beloved speciality blossom into academia. There were nearly 500 recognized anesthetists in Canada at this time, compared to only 8 just three decades prior (17). A collection of his works was published as a book “Mysterious Waters to Guard” in 1954 in which he states “although it is not given to us to know the whole truth, we do know that the secret of all learning lies in the passion for the search” (18). Indeed, it was this passion that forged one of the great Canadian anesthetists of our time.

The legacy of Dr. Wesley Bourne lives and breathes through anesthesia residency programs today. As a brilliant scientist, energetic professor, and masterful clinician, Bourne was an influential leader as anesthesia developed in Canada during the mid-20th century. He ignited in his students a spirit of devotion to duty, learning, and to the welfare of humanity (4). He ensured the next generation of coming anesthetists would be fully equipped to push the boundaries of the field and uphold the professional discipline he worked so hard to establish. In the words of Bourne himself, “Let us

avoid becoming too fond of any one idea or thing, any one drug or method, even be it methods of teaching. Let us rather do all in our power to bring it about that the anesthetist of tomorrow will be more accomplished than are we” (19).

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