

## SPECIAL ANNOUNCEMENT

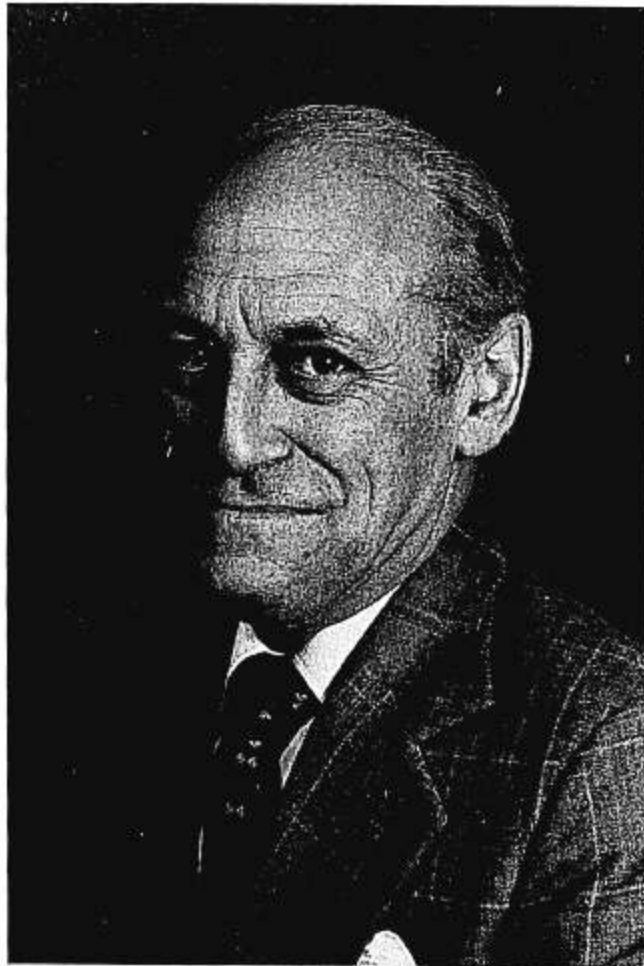
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### *ASA Award: John F. Nunn*

THE EXCELLENCE IN RESEARCH Award of the American Society of Anesthesiologists is presented in recognition of original outstanding research in the field of anesthesiology and sustained significant contributions to the extension and advancement of the science of anesthesiology. Rarely if ever have these qualifications converged more felicitously than in the person of Professor John F. Nunn, recipient of the award for 1991. Dr. Nunn is the first non-American investigator to receive this honor. The exceptionally varied and important record of his activities and publications speaks eloquently to the unerring judgment of his transatlantic peers.

Dr. Nunn is both a clinical and a laboratory scientist, an exceptional product of rigorous and protracted British training. He obtained his first degree in medicine from the University of Birmingham in 1948, after which he served 5 years as an anesthetist in the Colonial Medical Service before returning to the University of Birmingham as anesthetics registrar. In this post he gained the qualification of Fellow of the Faculty of Anaesthetists of the Royal College of Surgeons. His next 4 years in Birmingham were dedicated to earning a Ph.D. degree. There followed advanced studies as Leverhulme Research Fellow of the Royal College of Surgeons of England, culminating in the advanced degree of Doctor of Medicine (Honours). Dr. Nunn also holds the rare distinction—rare, that is, among anesthesiologists—of being admitted to the Fellowship of the Royal College of Surgeons of England. He is also a fellow of the Faculty of Anaesthetists of the Australian and Indian Colleges of Surgeons.

Dr. Nunn's career reached a turning point at a time when the post-World War II "brain drain" to the shores of North America was at its height. His remarkable abilities and attainments led to his being courted by several ambitious anesthesia departments in the United States. However, certain established and far-sighted leaders in the field in this country perceived that Dr. Nunn's unique qualifications would be critical to the advancement of the specialty in his native land and encouraged him to accept an appointment as Lecturer in Anaesthetics at the Postgraduate Medical School of the University of London. Four years later, Dr. Nunn was chosen to be the Professor of the newly formed Department of Anaesthesia at the University of Leeds, a chair that he held with such distinction that he soon was picked to head the Division of Anaesthesia at the newly created Clinical Research Center



John F. Nunn

of the Medical Research Council of Great Britain at Northwick Park, the post he is now preparing to relinquish for compulsory retirement after an incredibly productive and distinguished academic career. Before scrutinizing his many achievements, it is fitting to note that the foundation of that edifice has been his marriage to Sheila, a union blessed with two daughters and a son.

John Nunn has exhibited a talent for asking prescient sequences of questions that he has proceeded to study and answer in a logical progression of papers. One example is his investigation of the production and elimination of carbon dioxide during anesthesia and the limited role of military pulmonary atelectasis. These explorations spanned the better part of a decade and led, among other developments, to a striking example of the creative quantification that

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suffuses so much of his work—to wit, the 1968 publication, with Kelman, of *Computer Produced Physiological Tables*.<sup>1</sup> This volume may represent the first book calculated and printed entirely by computer, years before desktop publishing was more than simply dreamed of.

Dr. Nunn's versatility and energy were never more apparent than in that *annus mirabilis* (1968), during which he published with Bay and Prys-Roberts a clinical study on the effect of postoperative shivering on metabolism,<sup>2</sup> with Kain a practical analysis of the economics of the Magill circuit,<sup>3</sup> with Ivanov a physiologic report on the rise time of carbon dioxide partial pressure,<sup>4</sup> with Allison a brilliant paper in *Nature* presenting evidence for a revolutionary molecular theory of anesthesia through inhibition of neuronal microtubular transport,<sup>5</sup> and a provocative discourse on the history of atmospheric oxygen<sup>6</sup>—all of this while finishing and sending to the printer the first edition of *Applied Respiratory Physiology*,<sup>7</sup> which promptly became a recognized masterwork of scientific clinical anesthesiology. The list exemplifies Dr. Nunn's uncommon practice of making enduring contributions both in basic and clinical research, although it is somewhat invidious to single out any particular year because his output of noteworthy publications has continued undiminished up to the present.

His contributions, in a span approaching four decades, can be roughly divided into three periods. The first of these, approximately coextensive with the 1960s, was in the arena of physiologic and clinical studies of respiration related to anesthesia, culminating in the appearance of his *Applied Respiratory Physiology*, noted above. This text, incidentally, had the additional important role of publicly and authoritatively documenting anesthesiologic expertise in a territory that until then had been regarded as the prescriptive province of basic respiratory physiologists. The book is a luminous, literate *tour de force* and has gone through several reprints and editions, most recently in 1987.

Dr. Nunn's second period, roughly that of the 1970s, produced consistently innovative work on the molecular mechanisms of anesthesia, starting with the microtubular bravura with Allison, which for a while convulsed a somewhat dormant subject. For the next decade his laboratory continued to produce cellular-level studies, using criteria such as lymphocyte mitosis, the swimming velocity of *Tetrahymena*, and the rate of DNA synthesis as quantitative indicators of anesthetic effect. I remember, among others, Sturrock, Nunn, and Jones's beautiful study of the effects of oxygen on pulmonary macrophages and alveolar epithelium type II cells in culture,<sup>8</sup> as well as numerous contributions by Halsey and his collaborators. Through the years, John Nunn was able to hold his team and trainees together and maintain unflagging productivity despite the harsh restraints that threatened to hobble scientific research in the British Isles. Along with these

numerous basic contributions, Nunn's output of major clinical writings remained undiminished. He became the coeditor, with Professor Cecil Gray, of the third and fourth editions of *The Textbook of General Anesthesia*, and senior editor and author of four chapters of the fifth edition.<sup>9</sup>

Dr. Nunn's third phase, roughly that of the 1980s, is of interest especially in evidencing his singular ability to detect and demonstrate the practical pay-off that lurks in cellular studies. Once again, he triggered a dramatic turn in anesthesiology, this time by an editorial in the *British Journal of Anaesthesia*<sup>10</sup> in which he apprised researchers of the potential of nitrous oxide for inhibiting vitamin B12 synthesis; his own attention was directed to this effect through studies of nitrous oxide in *in vitro* systems. Anesthesiologists and surgeons had known of the baneful effect of this gas on cellular division, but now concern would focus on a specific and vital biochemical pathway, with the unsettling knowledge that inhibition of methionine synthetase by nitrous oxide might harm the patient and might be slowly poisoning any occupant of an inadequately ventilated operating room. Dr. Nunn's laboratory explored the quantitative limits of these hazards and meticulously defined them in a rat model.<sup>11</sup> The vigorous debate that arose over the safety of nitrous oxide for patients and practitioners has only recently subsided and is still fresh in the minds of many readers.

The honors and awards that John Nunn has received fill three pages of a tightly printed *curriculum vitae*. A sampling shows that he was elected both to the Board of the Faculty of Anaesthetists of the Royal College of Surgeons and to its Board of Examiners. He held the outstanding honor of Dean of the Faculty from 1979 to 1982; he presented the Vickery lecture of the Royal College of Surgeons in 1982; and he was the first to be awarded the Magill Medal by the Association of Anaesthetists, in 1988.

Through the spoken and written word, John Nunn's influence on our field has been unique. His innumerable lectureships, examinerships, and invited visits to foreign countries can be explained not only by his unusual achievements as a laboratory and clinical investigator but also by his gift of communicating the essence of esoteric subjects in a manner that unfailingly edifies and captivates his listeners. No one who was present can forget the contagious, soaring enthusiasm of his lecture at the University of Washington in 1966, when he held his audience of respiratory physiologists and physicians enthralled by the history of atmospheric oxygen on this planet, his account of the Holland model, and his explanation of oxygen both as a fundamental necessity and as a lethal hazard to major living systems of the globe.

Famous and internationally admired by virtue of his professional attainments, John Nunn is dearly loved for his personal qualities—a gift for friendship, engaging wit, readiness to praise others, eloquent charm, and modesty

that conceals a leading expert on hieroglyphics and the history of surgery in the Old Egyptian Kingdom as well as a skilled builder of working model machines, such as his precision miniature of the famous steam engine that once actuated the Tower Bridge of old London Town. Richly earned as his forthcoming retirement will be, the general public and the profession he has so bountifully graced look forward to contributions unifying the two worlds of literature and science that only the pen of John F. Nunn is capable of making.

B. RAYMOND FINK, B.Sc., M.B., B.S., F.F.A.R.C.S.  
*Professor Emeritus*  
*Department of Anesthesiology*  
*University of Washington*  
*Seattle, Washington 98195*

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