Editor's note

Fifty Years Ago. . . Few specialties can identify a “defining moment” as precisely as can cardiac surgeons. On one momentous day, the dream of fixing abnormalities *within* the heart became a reality. The idea of supporting the function of the heart and lungs was stimulated by the frustration of trying to treat fatal pulmonary embolism in the postsurgical setting. The consequence was the development of sophisticated machines and devices capable of pumping blood, oxygenating it, filtering it, altering its temperature—all done outside of the human body. Millions of patients have had the quality and duration of their lives improved by the remarkable invention of the “heart-lung machine.” The case described by Dr Dobell on page 984 was the beginning, not the culmination, of a research effort pioneered and brought to fruition by Dr John Gibbon. Although that remarkable success was followed by failures and might not have survived internal review board approval in today’s litigious climate, its impact on our specialty was huge.

Today, we can look back and recognize the many investigational aspects of our specialty that have their roots in the need to safely apply this technology. Fundamental properties of blood, blood-surface interaction, coagulation, surface coatings, biomaterials, mechanisms of inflammation, ventricular assist devices, novel physiology of the arterial system, organ function under conditions of hypothermia, and absent pulsatility are areas of interest stimulated by the need to make these amazing machines compatible with the bodies they support.

All cardiac surgeons should take an extra look at the maze of tubing, blood holders, and pumps behind or in front of them in the operating room and at our skillful colleagues who possess the knowledge and expertise to run these complex systems with zero tolerance for error. That which we take for granted today came about as a consequence of brilliance, perseverance, courage, and the commitment of our predecessors to labor long hours in the laboratory in the quest to perfect this incredible machine. The concept of “then” is dramatically captured in the understated style of Dr Dobell as he presents a few excerpts from the first application on a patient of the heart-lung machine.

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