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Citation rates differ for each discipline. The number of citations indicating a classic in botany, a small field, might be lower than the number required to make a classic in a large field like biochemistry. The relative impact of each classic can be seen by considering that the average 1973 article published in an SCI-covered source journal was cited approximately 10 times between 1973 and 1982. Citation counts include data from the 1955-1964 SCI cumulation when relevant.

For *Citation Classics* we ask the author to write an abstract and commentary about the publication, emphasizing the human side of the research—how the project was initiated, any obstacles encountered, and why the work was highly cited.

Seven weekly editions of *Current Contents*® include a *Citation Classic* that has been selected to fit the interests of that edition's readers. However, some are deemed appropriate for more than one edition. Since there is a large number of highly cited life sciences publications, that edition of *Current Contents* includes two classics each week. *Citation Classics* appear on the following page(s) in all editions.

## Citation Classics® In Current Contents® this week.

### CC® / Agriculture, Biology & Environmental Sciences

Evans P D. Biogenic amines in the insect nervous system. *Advan. Insect Physiol.* 15:317-473, 1980.

### CC/Arts & Humanities CC/Social & Behavioral Sciences

Yuker H E, Block J R & Young J H. *The measurement of attitudes toward disabled persons.* Albertson, NY: Human Resources Center, 1966. 170 p.

### CC/Clinical Medicine

Starzl T E. *Experience in renal transplantation.* Philadelphia: Saunders, 1964. 383 p.

### CC/Engineering, Technology & Applied Sciences CC/Physical, Chemical & Earth Sciences

Barker J A & Henderson D. What is "liquid"? Understanding the states of matter. *Rev. Mod. Phys.* 48:587-671, 1976.

### CC/Life Sciences

Birnboim H C & Doly J. A rapid alkaline extraction procedure for screening recombinant plasmid DNA. *Nucl. Acid. Res.* 7:1513-23, 1979.

Reuter H & Seitz N. The dependence of calcium efflux from cardiac muscle on temperature and external ion composition. *J. Physiol.—London* 195:451-70, 1968.

Starzl T E. *Experience in renal transplantation*. Philadelphia: Saunders, 1964. 383 p.  
[University of Colorado School of Medicine and Surgical Service, Veterans Administration Hospital, Denver, CO]

This account of 75 patients treated with renal transplantation from January 1962 to May 1964 at the University of Colorado was the first report of consistent success with this operation, and it was an important step as well toward the transplantation of organs other than the kidney. [The SCI® indicates that this book has been cited in over 490 publications.]

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In December 1961, I moved to the University of Colorado from Northwestern University in Chicago, and within a few weeks I performed the first clinical renal transplantation in a series that was the basis for this book.

Kidney transplantation in our Chicago research laboratories was an afterthought to our all-consuming objective of canine liver transplantation, but it became the prime model for research in preclinical trials of immunosuppression by 1961. In 1962 and 1963 75 patients at the University of Colorado were given kidney transplants from nontwin familial donors, from unrelated living donors, from cadaveric donors, and in six instances from baboons. Polypharmaceutical therapy to prevent rejection was introduced, administering the synergistic agents azathioprine and prednisone. The majority of recipients survived and were rehabilitated. This experience, including a description of the reversal of rejection and the development of a state of graft acceptance,<sup>1</sup> was published in numerous articles. These articles and the chapters of the book were being written at the same time. Even on the eve of the book's publication there was little realization that a new field had already evolved, and this was reflected in surprisingly bitter criticisms of the clinical trials in highly

respected journals as late as the spring of 1964.<sup>2</sup>

Thus, the book was more an original scientific contribution than a classical textbook. The observations and lessons learned were so explicit that they provided a platform on which dozens and finally hundreds of new programs could be mounted. One of the 28 chapters was devoted to arguments that lessons learned with the kidney would be applicable to the treatment of other organs, and this proved to be true. In 1963 the first attempts at liver transplantation were made,<sup>3</sup> and by 1969 a compendium of new material, but this time about the liver, was published in a second, similar textbook.<sup>4</sup> In the liver book, the role of the kidney forerunner in making possible transplantation of the liver and other organs was retraced, and an update was provided about what had evolved with renal transplantation in the five years between the two texts. By 1969 the first successful trials with heart, pancreas, and lung transplantation also had been made, and the immunosuppressive agent, antilymphocyte globulin, had been added to the therapeutic armamentarium.

I began writing the kidney book in the late spring of 1963 and finished it one year later. Without exception, those who contributed to the book achieved distinguished positions, if they had not done so already. The chapter on pathology by K.A. Porter of London was by itself a classic.

Because of my heavy clinical duties as chief of surgery at the Denver Veterans Administration Hospital, I did practically all of the writing, editing, and data analysis at night. Just when the page proofs arrived, in the late summer of 1964, I developed a nearly lethal bout of acute B virus hepatitis and wondered if I would live to see the finished product. The great effort to complete this book and the subsequent one on liver transplantation would not have been possible without a realization of the practical as well as scientific implications of the work.

Our recent experience<sup>5</sup> with a computerized point system for the assignment of cadaver kidneys could lead to a system for the equitable allocation of vital extrarenal organs.

1. Starzl T E, Marchioro T L & Waddell W R. The reversal of rejection in human renal homografts with subsequent development of homograft tolerance. *Surg. Gynecol. Obstet.* 117:385-95, 1963. (Cited 130 times.)
2. Elkinton J R. Moral problems in the use of borrowed organs, artificial and transplanted. *Ann. Intern. Med.* 60:309-13, 1964. (Cited 20 times.)
3. Starzl T E, Marchioro T L, von Kaulla K N, Hermann G, Brittain R S & Waddell W R. Homotransplantation of the liver in humans. *Surg. Gynecol. Obstet.* 117:659-76, 1963. (Cited 165 times.)
4. Starzl T E. *Experience in hepatic transplantation*. Philadelphia: Saunders, 1969. 553 p. (Cited 340 times.)
5. Starzl T E, Gordon R D, Tzakis A, Staschak S, Floravanti V, Broznick B, Makowka L & Bahannon H T. Equitable allocation of extrarenal organs: with special reference to the liver. *Transplant. Proc.* 20:131-8, 1988.