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Preface

The sixth volume of *Essays of an Information Scientist* contained all of my essays published during the previous year in *Current Contents.* It also included an appendix containing many other papers never published in *Current Contents,* although they may have been discussed in one or more essays. Volume Seven continues this precedent. Indeed, by a perhaps not fortuitous yet unplanned occurrence, these eight publications cover most of the main projects that have been my preoccupation for over thirty years. My 1964 paper in *Science* was the culmination of a decade's work reported in that journal in 1955. The primordial paper was included in Volume Six of *Essays* along with a parallel paper on patent citation indexing, also matched in this volume. Very much related to these is the work on the *Genetics Citation Index,* which quite recently enabled me to do a revealing analysis of the work of Barbara McClintock in *Current Contents.* My only major published description of the *Permuterm Index* concept is included here. Finally, my algorithm for translation of chemical nomenclature is included. This was my doctoral dissertation at the University of Pennsylvania. By reprinting it here, I have resolved the chore of copying if for those occasional seekers after the original thesis. Chemists and historians are never really satisfied with surrogates.

Beginning this year, the titles of the books in the *Essays* series will change. The Series will retain the name *Essays of an Information Scientist* to preserve the Series identification. To emphasize the fact that each volume is unique in many ways, however, each book will now also have its own title. The title of the 1984 volume is *The Awards of Science and Other Essays.*

The essays for 1984 cover my "usual" assortment of citation studies, as well as topical articles on general science, health related concerns, and personality profiles. And of course, many describe ISI products and services such as *SciMate* microcomputer software. This personal database management system is now widely used by scientists.

The publication of the 1955-64 *Science Citation Index* cumulation in 1984 was a significant event. This permitted me to up-date several studies, including the list of all-time citation classics. The first five of a multi-part series discussing and listing the most-cited papers for 1961-1982 is included here. The first group of 100 is comparable to an earlier study in 1974, in which we identified the then most-cited papers. Citation aficionados should be interested in noting the changes in these lists.

In the same essays I described the process by which we select candidates for the autobiographical commentaries published in *Current Contents* under the rubric of *Citation Classics.* These commentaries are of significant interest not only to bench scientists and historians of science. They also serve as models of discovery for students and provide insights into the scientific process not discernible by simply reading the original papers. We plan to cumulate these commentaries in the future in separate volumes.

Our citation studies indicate that primordial articles in life sciences frequently appear in general medical journals. This volume includes essays in which we examine three groups of 100 classic articles published in the *New England Journal of Medicine,* the *Lancet,* and *Annals of Internal Medicine.* While these are among the highest impact journals, future essays will examine citation classics from other significant medical and scientific journals, especially multi-disciplinary publications like *Science* and *Nature.* Nevertheless, the latter journals are well represented by the studies already mentioned.

In addition to my essays on *Citation Classics,* this volume also contains a major two-part piece on Latin American Research. This study highlights the productivity and impact of Central and South American scientists. ISI's continuing interest in Third World research has helped draw further attention to this little-studied subject. Indeed, it will be the subject of discussion at a forthcoming NSF conference to be held in Philadelphia as well as a conference in Trieste sponsored by the Third World Academy.

The volume also contains several journal citation studies and numerous other lists of most-cited articles. My review of entomology journals also highlights the work of Dr. Miriam Rothschild, whose extraordinary life and research I describe in a subsequent personality profile. In addition to publishing more than 275 research works in fields ranging from marine biology to plant-insect interactions, she has written a biography of her uncle, Walter Rothschild, a noted naturalist. *Dear Lord Rothschild* depicts his colorful life against the backdrop of Victorian and Edwardian England.

As before, I have continued to analyze each year's crop of Nobel Prize winners, but not to the neglect of the numerous other prestigious awards—the non-Nobel prizes. The latter study, among others, represents a prodigious effort by my tireless assistants named in each essay. Given all the attention that is traditionally focused on the Nobel Prize and its recipients, other notable prizes of science are often overlooked. The essay identifies the many prestigious non-Nobel awards, names the recipients of these awards, identifies their most-cited and most-significant papers, and points out the multiplicity of awards given to the same person. It is noteworthy that Barbara McClintock, mentioned above, a 1983 Nobelist, also received three of the non-Nobel awards described in the article. However, a separate essay about her Nobel Prize appeared in *Current Contents* February 18, 1985. It shows in detail a different picture than was portrayed by the popular press. This essay will be included when the Eighth Volume of *Essays* appears.

My more controversial essays frequently prove to be almost too timely. At about the time that my comments on animal experimentation appeared, a vigilante group of animal rights advocates broke into a laboratory at the University of Pennsylvania School of Veterinary Medicine and attempted to destroy the laboratory's research records. Fortunately, the laboratory and all concerned survived this onslaught.

The essays about S. R. Ranganathan need no further elaboration except the expression of my gratitude to S. Arunachalam, editor of the *Indian Journal of Technology,* for his tireless efforts not only on my tour of India, but also in his quest to bring scientometrics and information technology of age in his country.

Volume Six was dedicated to the memory of my friend and colleague Derek J. deSolla Price. However, this volume contains my editorial tribute to him, which was extended in a festschrift volume of *Scien-*

tometrics, now in press. Recently, that journal honored me with the first Derek deSolla Price medal. More recently, Robert K. Merton and I have completed a Foreword to the forthcoming reprint of the classic *Little Science, Big Science,* to be published by Columbia University Press.

This volume is dedicated to the memory of four close friends. In 1984, my good friend and colleague Mort Mass died unexpectedly as did my good friend Anders Martinsson, the former editor of *Lethaia* and other journals and inventor of the *Biblid.* The loss of my friend and co-worker, Melvin Weinstock, added yet another sad note to an eventful year. And as I write this preface, I learned about the death of my classmate Knut Thalberg, the distinguished Director of the Libraries at the Norwegian Technical University in Trondheim.

It is tempting to recap the entire contents of this volume, but that is more simply done by reference to the Table of Contents. It is important to emphasize that I intentionally devote attention to several categories of topics each year, especially those that are of wide public interest but are treated less systematically by the popular press and more arcanely by the scientific journals. That I have achieved some success in this is reflected in the use of my essays by organizations that have a special interest in such topics as gerontology, twins, cystitis, anorexia, and agoraphobia. The typical media journalist cannot devote this kind of effort to each article, often published under pressure of a daily deadline. Short of an entire book on the research involved in each area, it is a special challenge to condense all this information in about eight to ten pages. This would not be possible without access to ISI's unique database, which I described in some detail when I introduced the *Atlas of Science.* My essays will increasingly reflect the use of historiographs and the research fronts they portray graphically as ISI moves towards its destiny of encyclopediaism in the electronic age.

On a recent trip to Boston, I made a pilgrimage to the subway to see the 100-foot-wide mural showing the origins of that institution created by Lilli Ann Killen Rosenberg. My essay on her work describes the marvelous mosaic-in-concrete mural she created for ISI's now famous Caring Center for Children and Parents. The insert that accompanied the essay is also included here. A limited number of reprints in color are still available.

The very last *Current Contents* essay for 1984 has already received attention in the press, indicating the wide public interest in the problem of selecting science books for children.

Finally, I would like to convey my appreciation to Gerald Holton, Professor of Physics and a Historian of Science at Harvard University, for contributing the Foreword to this volume. We share an interest in scholarship that explains how science and technology help shape industry and society. All scholars should be grateful to him not only for his contributions to the literature but also for his role in gaining for the History of Science Society a firm financial foundation for years to come. His wide intellectual and popular appeal is demonstrated by some of his more recent work in the *New York Review of Books* and the *Times Literary Supplement*.