

# Current Comments

## The 1980 NAS James Murray Luck Award for Excellence in Scientific Reviewing: Conyers Herring Receives Second Award for His Work in Solid-State Physics

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On April 21 of this year, the National Academy of Sciences (NAS) presented the 1980 James Murray Luck Award for Excellence in Scientific Reviewing to Conyers Herring, professor of applied physics, Stanford University. Herring was honored at the awards ceremony at the Academy's 117th annual meeting in Washington, DC. This is the second year the award has been presented. I was particularly glad to attend because I have known Conyers Herring for many years. I might add that I was not consulted about his selection by a committee of the Academy.

Last year, ISI<sup>®</sup> and Annual Reviews, Inc., began sponsorship of this new award which honors outstanding authors of scientific reviews.<sup>1</sup> The award is named for the founder of Annual Reviews, James Murray Luck, who served as that organization's editor-in-chief until his retirement in 1969. Luck remains on the editorial committee of the *Annual Review of Biochemistry*, which he started in 1932. He was also present at the awards ceremony.

The James Murray Luck Award is administered by the NAS and carries a \$5,000 honorarium co-donated by ISI and Annual Reviews. In 1979, the winner of the first award was chosen from among several candidates in the life sciences. G. Alan Robison, University of Texas at Houston, was selected for his authoritative reviews on cyclic AMP.<sup>1</sup> This year, Herring was chosen from among a field of nominees in the physical sciences.

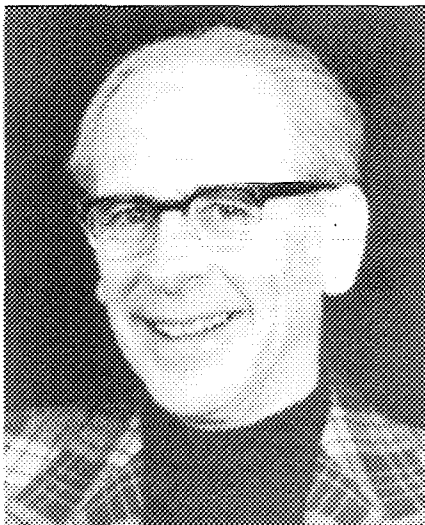
In introducing Herring to the assembly at the NAS meeting, David Pines, who edits the *Reviews of Modern Physics*, referred to Herring's "encyclopedic knowledge of condensed matter physics, his receptiveness to new ideas, and his ability to place things in proper context.... Conyers has [also] rendered signal service to the review literature in physics by his careful, quantitative examination of the need for more and better reviews."

Herring received his PhD from Princeton in 1937. In 1946, he joined the technical staff of Bell Laboratories in Murray Hill, New Jersey, where he remained until 1978. Since that time, he has been at Stanford. Herring is a member of the NAS and the American Academy of Arts and Sciences. His society memberships include the American Physical Society and the American Society for Information Science.

Herring has a long and distinguished career in research. He has authored more than 40 influential papers in solid state physics. One paper that he wrote in 1950, 11 years before the first *Science Citation Index*<sup>®</sup> (*SCI*<sup>®</sup>), was cited enough times after 1961 to become a *Citation Classic*.<sup>2</sup>

But in addition to his original research papers, Herring has written a number of scholarly reviews. His 1949 review on thermionic emission, the giving up of electrons in response to heat, was particularly influential.

Albert Clogston, a longtime colleague of Herring at Bell Labs, recalls Her-



Conyers Herring,  
Professor of Applied Physics  
Stanford University.

Recipient of James M. Luck Award, 1980.

ring's 1966 book entitled *Exchange Interactions Among Itinerant Electrons*.<sup>3</sup> According to Clogston, "This volume set an entirely new standard for scientific reviews by its critical analysis of all the enormous literature of the magnetism due to itinerant electrons in metals, even to the extent of pointing out and correcting errors in the original publications."<sup>4</sup> Clogston also confirms that scholarliness and precision have always been the hallmarks of Herring's work.

More recently, Herring accomplished the formidable task of managing the NAS's review of the literature of nuclear risks. This exhaustive and highly technical review effort is being prepared by a committee chaired by Herring. The committee's work is nearly completed, and they expect to release a full report later this year.

A selected bibliography of Herring's scientific reviews, along with the number of citations for each paper, appears in Figure 1.

Aside from his own review efforts, Herring has been an outspoken sup-

porter of the art of review writing. His paper "Distill or Drown: the Need for Reviews"<sup>5</sup> is both a precise description of the role of reviews in the communication of scientific information, and an exhortation to his colleagues within the scientific community. The paper includes graphs which illustrate how the information explosion has caused most researchers to narrow the range of topics of which they keep abreast. Herring acknowledges the role that current awareness tools such as *Current Contents*<sup>®</sup> have played in ameliorating the situation. He also notes the importance of the scientific "grapevine" as a method of exchanging information.

Nevertheless, Herring asserts, "No set of information tools is going to supply what we need of them unless they include some means of digesting, evaluating, and...condensing the scattered bits of information into coherent and comprehensible packages. This is the function that treatises and critical reviews should serve."<sup>5</sup>

It's hard to overstate the importance of review articles to the advancement of science. I have even gone so far as to propose that review writing be considered a profession unto itself.<sup>6</sup> And just a cursory glance at the *SCJ's Journal Citation Reports*<sup>®</sup> reveals that review journals consistently achieve high impact. There's a chronic shortage of people who author reviews on a frequent basis, and no wonder. To collect the available literature in any subject and turn it into a single, digestible work requires much time, knowledge, and writing skill. Research funding agencies should find a way to sponsor reviewing on a regular basis. ISI's *Index to Scientific Reviews*<sup>™</sup> can help researchers make the most of the reviews that are written.<sup>7</sup> But this service is only as good as the reviews it contains.

Until recently, there existed no formal award to recognize the contributions made by the most capable scientific reviewers. The co-sponsorship of the James Murray Luck Award by ISI

and Annual Reviews, Inc., is intended to encourage more scientists, especially younger ones, to try their hand at it.

Next year's award will be presented to a reviewer from the social and behavioral sciences. The award is not limited to those disciplines recognized by Academy membership categories. Submit

nominations to the Office of the Home Secretary, NAS 247, 2101 Constitution Ave., Washington, DC 20418 before August 15, 1980.

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**Figure 1:** Selected bibliography of reviews by Conyers Herring, including number of citations each received from 1961 to date.

<b>Total Citations</b>	
<b>1961-1980 (To Date)</b>	
256	<b>Herring C &amp; Nichols M H.</b> Thermionic emission. <i>Rev. Mod. Phys.</i> 21:185-290, 1949.
22	<b>Herring C.</b> The atomistic theory of metallic surfaces. <i>Metal interfaces. A seminar on metal interfaces held during the thirty-third National Metal Congress and Exposition.</i> 13-19 October 1951, Detroit, MI. Cleveland: Amer. Soc. Metals, 1952. p. 1-19.
208	....., The use of classical macroscopic concepts in surface-energy problems. (Gomer R & Smith C S, eds.) <i>Structure and properties of solid surfaces.</i> Chicago: Univ. Chicago Press, 1953. p. 5-81.
16	....., Theoretical ideas pertaining to traps or centers. (Breckenridge R G, Russell B R & Hahn E E, eds.) <i>Photoconductivity conference.</i> New York: Wiley, 1956. p. 81-109.
18	....., Role of low-frequency phonons in thermoelectricity and thermal conduction. (Schon M & Waler H, eds.) <i>Halbleiter und Phosphore.</i> Braunschweig: F. Vieweg, 1958. p. 184-235.
22	....., The current state of transport theory. <i>Proceedings of the International Conference on Semiconductor Physics.</i> 1960, Prague. Prague: Czechoslovak Academy of Sciences, 1961. p. 60-7.
80	....., Direct exchange between well-separated atoms. (Rado G T & Suhl H, eds.) <i>Magnetism.</i> New York: Academic Press, 1966. Vol. 2B. p. 2-181.
485	....., Exchange interactions among itinerant electrons. (Rado G T & Suhl H, eds.) <i>Magnetism.</i> New York: Academic Press, 1966. Vol. 4. 407 p.

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2. **Herring C.** *Citation Classic.* Diffusional viscosity of a polycrystalline solid. *Current Contents/Physical, Chemical & Earth Sciences* (35):16, 27 August 1979.
3. ...., Exchange interactions among itinerant electrons. (Rado G T & Suhl H, eds.) *Magnetism.* New York: Academic Press, 1966. Vol. 4. 407 p.
4. **Clogston A.** Personal communication. 16 May 1980.
5. **Herring C.** Distill or drown: the need for reviews. *Phys. Today* 21(9):27-33, 1968.
6. **Garfield E.** Proposal for a new profession: scientific reviewer. *Current Contents* (14):5-8, 4 April 1977.\*
7. ...., So you wanted more review articles—ISI's new *Index to Scientific Reviews (ISR)* will help you find them. *Current Contents* (44):5-6, 30 October 1974.\*

\*Reprinted in: **Garfield E.** *Essays of an information scientist.* Philadelphia: ISI Press, 1980. 3 vols.