

# Current Comments®

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## *Science Times* Exemplifies Role of Newspapers in Reporting and Interpreting Science and Technology

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Twelve years ago, I began a series of essays in *Current Contents*® (CC®) about the popularization of science. In that series, we profiled *Science News*,<sup>1</sup> *The Sciences*,<sup>2</sup> *Science*,<sup>3</sup> *Nature*,<sup>4</sup> *Scientific American*,<sup>5</sup> *New Scientist*,<sup>6</sup> *Omni*,<sup>7</sup> and *Science 80*,<sup>8</sup> which eventually was absorbed into *Discover*. The latter magazine just ceased publication this summer. The creation of these magazines reflected a heightened interest by society in science and technology. However, most of these publications explain findings to a well-educated audience, including journalists.

As a consequence, much greater attention has been paid to science in the daily press. While American newspapers have had science journalists for nearly 50 years, *The New York Times* was the first to give formal recognition, in 1978, to the changed situation when it launched its Tuesday section called *Science Times*. Acknowledging the widespread influence of this section in the popularization of science, it is appropriate to review its history and present status.

### **Aimed at the Layperson**

While *The New York Times* certainly addresses a relatively educated audience, *Science Times* seeks to explain the significance of scientific developments in terms requiring little formal education or training in science. That of course was the goal of most newspaper science journalism even before it was formalized in a special weekly section. In the *Times*, as with the *New Scientist*, among others, science means science and

technology. The applications of science receive greater attention than basic research.

By 1984, six years after its launch, 19 other major American newspapers had followed the *Times*'s lead and started sections of their own. Most joined the bandwagon in 1983 after retail ad managers took note that *Science Times* recorded a phenomenal 127 percent increase in section advertising sales. Special newspaper science-based sections initially concentrated heavily on medical and health topics, but it soon became apparent that high technology and computers drew almost as much reader attention.

According to the Scientists' Institute for Public Information (SIPI),<sup>9</sup> there were at least 95 daily newspapers by 1990 in the US that carried science sections (Table 1). About half of these sections were devoted mostly or entirely (75 to 100 percent) to health and medicine.

Consider that in 1978, when I first covered science journalism in *CC*,<sup>10</sup> only about 5 percent of American newspaper stories were devoted to science and medicine. The same percentage was true in 1958. In contrast today that percentage has multiplied significantly.

The increase in newspaper science sections comes at a time when recent polls, ranging from Gallup to the National Geographic Society, report that an astonishing 27 percent of Americans believe the sun revolves around the earth, 40 percent cannot locate the Pacific Ocean on a map, and 47 percent do not believe in evolution.<sup>11</sup> Given this low level of scientific literacy, one must look to the educational system as well as the

inept use of television for this widespread illiteracy.

The newspaper science sections thus are performing a valuable service in providing the public with understandable information so that they can evaluate complex issues, such as ozone depletion, the greenhouse effect, and studies on AIDS. All this comes under the heading of science popularization.

Paul R. Ryan, director of Corporate Communications at ISI®, called to my attention an interesting commentary on popularization in *The Log from the Sea of Cortez*, by John Steinbeck and Ed Ricketts. "It is usually found that only stuffy little men object to what is called 'popularization,' by which they mean writing with a clarity understandable to one not familiar with the tricks and codes of the cult. We have not known a single great scientist who could not discourse freely and interestingly with a child. Can it be that the haters of clarity have nothing to say, have observed nothing, have no clear picture of even their own fields?"<sup>12</sup>

### How *Science Times* Got Started

Ryan and I conducted interviews with present and former editors of *Science Times*. The credit for establishing the section goes to A.M. Rosenthal, *The New York Times* executive editor in 1978 and now a columnist for the paper, and Arthur Gelb, then deputy managing editor and now director of the Times Foundation. According to John Noble Wilford, twice winner of the Pulitzer Prize and chief of the science news department at the time, Rosenthal was "genuinely in awe of scientific discoveries." He was "all excited" like "a little boy" watching the launch of *Apollo 15* at Cape Canaveral.<sup>13</sup> Wilford received a Pulitzer Prize in 1984 for his coverage of the space program.

In all, *Times* science section writers have won five Pulitzers. The most recent was awarded this year when Natalie Angier was recognized for her stories on a variety of science topics. However, department member Malcolm Browne received his Pulitzer at the Associated Press before coming to the *Times*.



Gene Magglio, NY Times Studio

Nicholas Wade

Wilford remembers that Rosenthal persuaded top management at the *Times* to go with the science section rather than a contemplated fashion section. Both Rosenthal and Gelb thrived on "hard" news. Gelb was particularly stung by criticism in journalistic circles that the *Home* and *Living* sections of the paper were pure fluff and puff, full of "soft" stories. He lobbied management with the argument that a science section would be something of substance and social significance.<sup>14</sup>

Gelb told CC that *Science Times* made it a policy never to "patronize the general reader" in its coverage. Today, he added, the section is used in many high school classrooms as a supplemental textbook. The science section, he noted, was the fifth started by the *Times*, following the *Weekend*, *Living*, *Home*, and *Sports* sections.

The first editor of *Science Times* was William Stockton. He was followed by Richard Flaste (1982-1988) and Eric Eckholm. Philip Boffey became editor in 1989. When he was promoted to deputy editor of the editorial page, the job went to Nicholas Wade in November 1990.

### Wade Manages Staff of 18

Wade oversees a staff of 18. In addition to *Science Times* and the Thursday *Health* sec-

**Table 1.** Newspaper science sections in the US.

State	Newspaper	Section Name	Days it runs	Year started	Section Writer or Editor	% Health and Medicine	Circulation
AL	Birmingham News	Health & Fitness	Monday	1985	John Mangels, Health/Science	80	170,029
	Huntsville Times	Science Week	Monday	1988	Martin Burkey, Science	50	58,305
AZ	Sun City Daily News-Sun	Health	Tuesday	1986	Doug Dollemore, Health	100	20,126
	Phoenix Gazette	Health & Fitness	Monday	1987	Chris Lavelle, Features	100	103,015
AR	Little Rock Gazette	Health & Fitness	Tuesday	1988	Marilyn Myers, Health & Fitness	100	134,942
CA	Contra Costa Times*	Learning and Technology	Thursday	—	Michael La Lumiere, Features	0	90,924
		Health	Tuesday	—		100	
	Los Angeles Times	Science/Medicine	Monday	1987	Joel Greenberg, Science	50	1,234,033
	Orange County Register	Health-Tech	Thursday	1984	Shari Roan, Science	40	333,560
	Riverside Press Enterprise	Health and Fitness	Monday	1985	Judy Graffam, Asst. Features	100	143,467
	San Diego Union	Quest	Monday	6/89	David Graham, Science	†	261,558
	San Francisco Examiner & Chronicle	Spectra	Sunday	3/86	Joanne Derbort, Spectra	45	138,388
	San Jose Mercury News	Science & Medicine	Tuesday	1983	Sylvia Wright, Science & Medicine	50	271,787
	Santa Cruz Sentinel	Health/Science	Friday	9/86	Peggy Townsend, Health/Science	60	27,136
	CO	Boulder Daily Camera	Discovery	Thursday	1984	Juliet Wittman, Features	50
CT	Hartford Courant	Health and Science	Thursday	3/86	Donna Larcen	65	223,448
	Meriden Record-Journal	Health	Thursday	1989	Steve Volpini, Health	100	30,902
	New London Day	Sci-Tech	Sunday	3/87	Bob Hamilton, Science	0	38,436
		Health & Fitness	Monday	1988	Beth Dufresne, Lifestyles	100	
	Norwich Bulletin	Living	Thursday	1985	Ken Mazur, Features Ed.	50	34,118
DC	Washington Post	Health	Tuesday	1/85	Abigail Trafford, Health Editor	100	769,318
FL	Leesburg Daily Commercial	Vista	Sunday	1988	Steve Burns, Editorial Page	30	28,047
GA	Albany Herald	Science & Medicine	Sun. & Wed.	1981	David Fuller, Managing Ed.	65	44,278
	Atlanta Journal and Constitution	Science/Medicine	Tuesday	1985	Michael Toner, Science	50	183,499
ID	Twin Falls Times News	Health & Fitness	Monday	—	Darlene Huner, Features	100	20,750
IL	Galesburg Register-Mail	Science	Thursday	1981	Mike Homco, News Editor	50	18,981
	Moline Daily Dispatch	Help-Yourself	Tuesday	4/88	Laura Fraemef, Asst. Features	100	30,079
	Rockford Register Star	Health/Science	Thursday	2/86	Wally Haas, Health/Science	50	73,158
KS	Wichita Eagle-Beacon	Health	Monday	1985	Ed Arnone, Features	100	120,211
KY	Owensboro Messenger-Inquirer	Extra	Thursday	1983	Ann Whittinghill, People Editor	40	32,024

\*The "Learning and Technology" and "Health" sections produced by the Contra Costa (Walnut Creek, CA) Times are published on the same days by the (Pleasanton, CA) Valley Times, San Ramon Valley Times, and (Pinole, CA) West County Times.

† Too new for a meaningful analysis.

State	Newspaper	Section Name	Days it runs	Year started	Section Writer or Editor	% Health and Medicine	Circulation	
LA	Baton Rouge State Times	Health/Medicine	Tuesday	1985	Pat Tessier, Trends	100	28,715	
	Lafayette Daily Advertiser	Health Care	Tuesday	4/86	Gretchen Krueger, Health	100	29,885	
MD	Baltimore Sun	Health	Tuesday	10/87	Linda Searing, Health	100	379,517	
MA	Boston Globe	Sci-Tech	Monday	1982	Nils Bruzelius, Sci-Tech	50	509,060	
	Boston Herald	Health	Monday	1987	Susan Brink, Medical	100	360,459	
	Berkshire Eagle (Pittsfield)	Health	Wednesday	4/86	Charles Bonenti, Features	100	33,888	
	Cape Cod Times (Hyannis)	Sci-Health	Sunday	—		50		
	Worcester Evening Gazette	Health/Science	Thursday	1980	Alicia Blaisdell-Bannon, Lifestyle Ed.	50	46,207	
MI	Alpena news	Health-Science	Monday	1984	Chris Dunphy, Lifestyle	85	75,075	
	Ann Arbor News	Health	Tuesday	1/89	Pat Yantomasi, Health	100	13,017	
	Ann Arbor News	Science Connection	Thursday	1985	Anne Rueter, Connections	25	48,701	
	Detroit Free Press	Science & Medicine	Thursday	1982	Nancy Ross-Flanigan, Science	30-50	629,065	
	Detroit News	Science	Thursday	1983	Hugh McCann, Science	10	677,385	
	Kalamazoo Gazette	Science	Tuesday	1985	Bill Krasean, Health & Science	80	62,188	
	Saginaw News	K-zoo Health/Science	Friday	3/86	Geri Rudolf, Science	45	56,120	
	St. Paul Pioneer Press & Dispatch	Science & Health	Monday	1987	Holly Mullen, Health & Fitness	100	192,603	
	MO	Kansas City Star	Health & Fitness	Monday	1985	Craig Nienaber, Sunday Editor	70	184,882
		Star Tech	Star Tech	Tuesday	1985	Craig Nienaber, Sunday Editor	70	184,882
NV	Las Vegas Review Journal	Health, Medicine, & Fitness	Tuesday	1989	Frank Fertado, Features	100	121,321	
NH	Nashua Telegraph	Science/Technology	Sunday	4/86	Margaret Clements, Sunday Editor	0	31,868	
	Nashua Telegraph	Health/Fitness	Sunday	—	Sunday Editor	100		
NJ	Asbury Park Press	Health & Fitness	Tuesday	1985	Judy Holmes, Health & Fitness	100	145,818	
	Newark Star-Ledger	Health and Fitness	Sunday	1985	Joan Whitlow, Medical	100	462,084	
NY	Albany Times Union	Science & Health	Tuesday	4/88	Bill Dowd, Managing Editor, Features	30	105,865	
	New York Newsday	Discovery	Tuesday	1984	B.D. Colen, Science	30	680,926	
	New York Times	Science Times	Tuesday	1978	Nicholas Wade, Science and Health	25	1,038,829	
	Rockland Journal-News	Health & Science	Tuesday	1982	Len Maniace, Science	50	41,255	
	Westchester Rockland Newspapers**	Health	Tuesday	1985	Pat Riley, Asst. Metro Editor	100	172,612	
NC	Syracuse Post-Standard	Science	Thursday	1984	John Grau, Science	10	85,821	
	Raleigh News & Observer	Science/Medicine	Wednesday	1986	Kathleen Clute, Science	25	139,978	
	Roanoke Rapids Daily Herald	Health	Sunday	1987	Bill Hess, Editor	100	11,870	
ND	Fargo Forum	Health	Monday	1984	Janna Anderson, Features	100	55,004	
	Grand Forks Herald	Discover	Thursday	1984	Greg Booth, Science	10	38,276	
OH	Akron Beacon Journal	Health and Fitness	Tuesday	1986	Charlene Nevada, Medical	100	152,471	
	Cleveland Plain Dealer	Health and Science	Tuesday	1983	Cathy Gabe, Health	90	444,884	
	Columbus Dispatch	Discovery	Sunday	1984	Mike Lafferty, Science	15	253,884	

\*\*Westchester Rockland Newspapers, Inc.: The Daily Argus (Mt. Vernon), Daily Times (Mamaroneck), The Standard-Star (New Rochelle), Daily Item (Port Chester), The Reporter Dispatch (White Plains), Daily News (Tarrytown), Citizen Register (Ossining), Herald Statesman (Yonkers), The Star (Peekskill).

State	Newspaper	Section Name	Days it runs	Year started	Section Writer or Editor	% Health and Medicine	Circulation
OR	Medford Mail Tribune	Health and Science	Monday	—	Bill Varble, Science	70	28,288
	Portland Oregonian	Science	Thursday	1983	Richard Hill, Science	25-50	317,711
PA	Allentown Morning Call	Health and Science	Tuesday	1987	Rosa Salter, Health and Science	25	136,254
	Beaver County Times	Health/Science	Thursday	1985	Marcia Keefer, Features	60	45,623
	Bucks County Courier-Times	Health/Fitness	Monday	1986	Features Department	100	64,327
	Easton Express	Living—Health	Thursday	1980	June Gladfelter, Living Editor	100	43,283
	Philadelphia Daily News	Health	Wednesday	2/88	Debbie Licklider, Health and Science	100	235,177
	Reading Eagle	Spectrum	Tuesday	1984	Christine Berger, Spectrum Editor	80	33,365
	Reading Times	Tempo	Monday	1985	Mary Jo Fox, Copy Editor	95	45,931
SC	Columbia State	Health & Fitness	Tuesday	4/88	Joe Farmer, Health & Fitness	100	135,933
TN	Knoxville News-Sentinel	Health & Science	Monday	1987	Larry Lee, Health/Science	75	98,561
	Memphis Commercial Appeal	Mid-South Medicine	Sunday	1982	Mary Powers, Medical	100	215,245
	The Oak Ridger	Science/Health	Sunday	9/88	Jennifer Andes, Science	20	10,952
TX	Corpus Christi Caller-Times	Your Health	Monday	2/88	Beth Copeland, Health	100	67,740
	Dallas Morning News	Discoveries	Monday	1983	Tom Siegfried, Discoveries	30	354,703
	El Paso Herald Post	Science/Technology	Friday	1984	Mario Montes, News Editor	0	29,852
	Houston Chronicle	Discovery	Monday	1986	Vicki Ellis, Asst. City Editor	40	420,320
	Plano Daily Star-Courier	Health	Monday	1986	Susan Kirkpatrick, Health	100	16,833
VA	Norfolk Virginian-Pilot & Star Ledger	Health & Fitness	Monday	1986	Ann Hoffman, Special Features	100	143,321
	Woodbridge Potomac News	Health	Tuesday	1985	Barry Loftus, Health	100	24,948
WA	Seattle Times	Discovery	Monday	1986	Hill Williams, Science	50	237,245
WI	La Crosse Tribune	Discovery	Wednesday	1986	Gary Radloff, Health/Science	60	34,430
	Milwaukee Journal	Health	Monday	1985	Beth Slocum, Medical	100	269,155

Source: Scientists' Institute for Public Information (SIPI). Spring 1990.

SIPI defines a science section as more than one page of science and/or health/medicine stories that run on the same day, in the same section of the paper, under a section banner such as "Science," each week.

tion, the unit is responsible for coverage of daily breaking science news. Of the 18 staff members, 14 are reporters (2 based in Washington, DC, and 1 each in Los Angeles and Boston), and 3 are desk editors besides Wade himself.

Trained as a biochemist, the British-born editor previously served as Washington cor-

respondent and deputy editor for *Nature*. He also served as a writer for *Science* magazine. Educated at Eton and King's College, Cambridge, he is the author of several books, most recently *A World Beyond Healing*.<sup>15</sup>

Wade admits there is probably some bias toward the life sciences in the *Times*. He

contends the average reader is interested in these subjects. He grants "chemistry stories put many readers to sleep."

The *Times* also tends to cover "big" science, such as the space program and genome project, more heavily than the "little" science of individual investigators. William J. Broad, with whom Wade coauthored *Betrayers of the Truth*,<sup>16</sup> often covers the space program. Broad started out at *Science* in 1978. In fact, one of his first assignments was a story about yours truly in that magazine.<sup>17</sup>

The number of letters to the editor a newspaper receives is one reflection of reader interest. At one point, a *Science Times* computer columnist was receiving upward of 300 letters each week. By comparison, the popular gardening section draws about 100. *Science* section staffers generally report being swamped with calls and letters.

Many newspapers subscribing to *The New York Times News Service* rely on stories from *Science Times* for their own science sections. As an incidental piece of information, the *ISI Press Digest* "Hot Topic" feature in *CC* covered 146 items in the first half of the year. Of these, 16 were from the *Times*.

When the *Science Times* section was contemplated, the advertising department argued against the idea. They believed there would not be an adequate ad base to support it. However, they failed to consider the impact of the personal computer market. Two full-time columnists, Peter H. Lewis and L.R. Shannon, devote their attention to this field, which helps to generate considerable reader interest in computer products.

### **Science Times Generates Controversy**

*Science Times* has produced its share of controversy over the years. Gina Kolata, a reporter formerly with *Science*, was criticized in the press in 1990 for her articles on AIDS. The controversy centered about her reports on experimental treatments for the disease.

The *Times* chose to give the initial AIDS treatment story by Kolata prominence by

playing it on page 1. The results described in the piece were based on inconclusive results.

Consider the article by Victor K. McElheny, director of the Knight Science Journalism Fellowships program at the Massachusetts Institute of Technology. McElheny is a former reporter for the *Times* and *Science*. In the newsletter *Science-Writers*,<sup>17</sup> published by the National Association of Science Writers, he observed that Kolata's reporting was accurate in detail, but there was a feeling among many scientists and journalists that she had drawn too much attention to what were still inconclusive results.<sup>13</sup>

McElheny notes, however, that "a newspaper is not engraved tablets on Sinai. It prints what it can determine to be the facts on a particular day. If other facts emerge, they can be printed on succeeding days." He adds, "Boffey [formerly *Science Times* editor] argues that science reporting is becoming more like political reporting—that is, it covers subjects that are in controversy, not just those where there is an ironclad consensus. It does not avoid covering an interesting finding on a disease afflicting many just because some readers may derive false hope or suffer false fear from the story."<sup>18</sup>

The other side of this coin has been addressed by Arnold S. Relman, editor-in-chief emeritus of *The New England Journal of Medicine (NEJM)*. He has been quoted as saying that when *Times* reporters summarize the results of findings published in the journal, they generally do "a pretty good job" of getting the essence of complicated stories across. But he adds that, in trying to select the most eye-catching articles, they sometimes slight research that is fundamentally more important. They also do not always appreciate that *NEJM* "has an obligation to publish interesting work which is in the preliminary stage."<sup>13</sup>

### **Environmental News on the Increase**

During the last three years, *The New York Times* and other American newspapers, particularly smaller ones, have dramatically in-

creased their coverage of environmental news. At a time when newspapers face stiff competition from TV networks for audience loyalty, many small newspapers across the country are joining the debate over waste disposal sites, strip-mining, water quality, and other environmental issues. They find their circulation and ad revenues increasing, while larger daily newspapers are generally struggling financially, according to a 1990 survey by SIPI, a nonprofit organization in New York City.<sup>19</sup> They also find they are filling an editorial need locally where they hold a competitive edge over TV and the larger city dailies.

Newspapers in America today are bought by approximately 63 million people daily. The number of newspapers in large cities has declined in recent decades, partly due to TV and radio coverage, but more so because fierce competition has eliminated rivals.

Nevertheless, the total circulation of all daily newspapers actually increased slightly between 1982 and 1987.<sup>20</sup> (p. 270)

As the realm of science and technology inevitably pervades our lives, its coverage in newspapers and the media will increase. Formal science sections, such as *Science Times*, will also become more important and influential. Undoubtedly, the collective impact of newspapers and their science sections throughout the country influence the scientific community. But their impact on research itself seems to be minimal in terms of explicit references in science journals.

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