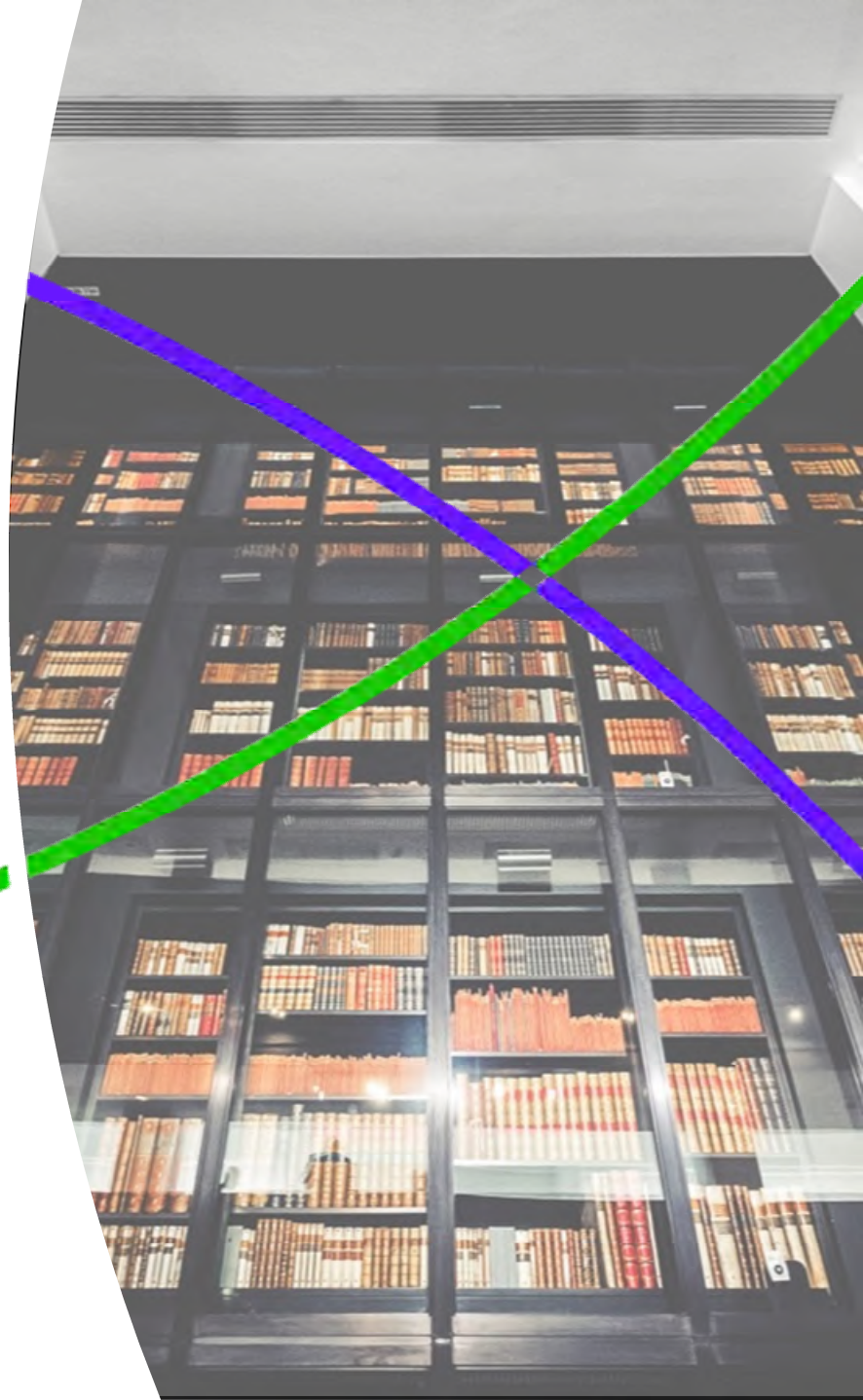
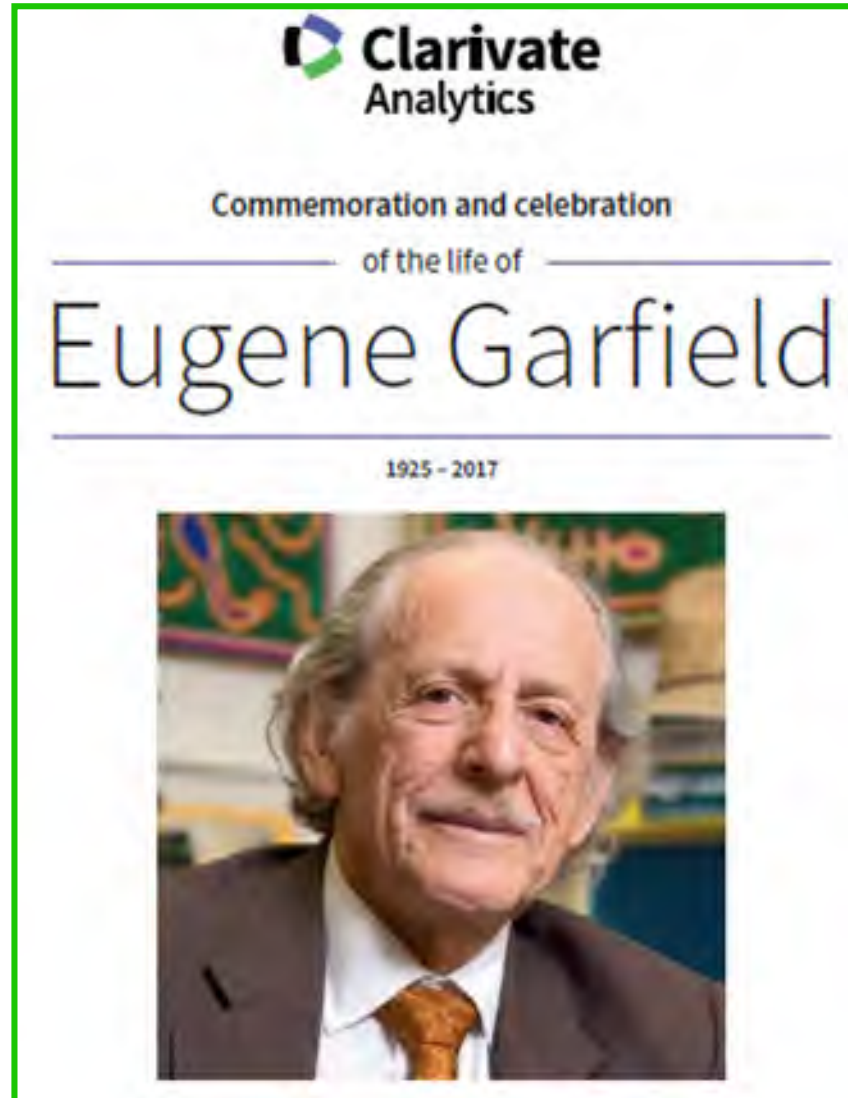


Memories and an Appreciation of Eugene Garfield (1925-2017)

*David A. Pendlebury
Institute for Scientific Information*



Information Pioneer, Entrepreneur, Visionary





**Eugene Garfinkle born in the Bronx,
New York City, September 16, 1925**

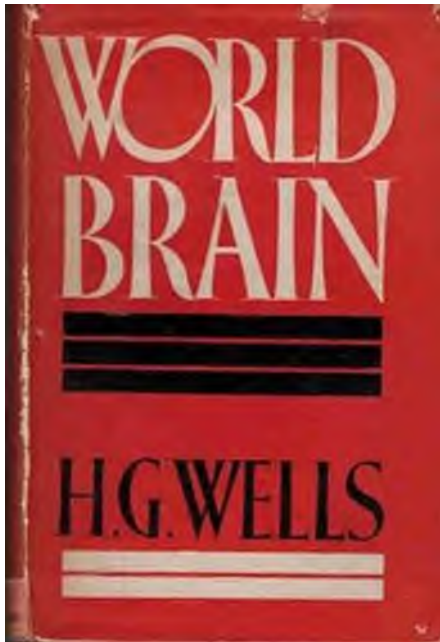


Graduation from
Public School # 11,
Bronx, 1938



What did Gene do before his career in information science?

- A. Drove a cab
- B. Worked in a shipyard as a welder
- C. Played the clarinet, later the saxophone
- D. Served as a clerk in the army



“Wells argued [in 1938] for sweeping reforms in the process by which we bring our accumulated knowledge to bear on social, economic, and political affairs. He envisioned a ‘World Encyclopedia,’ in which multidisciplinary research information of a global nature would be gathered together and made available for the immediate use of anyone in the world.”



World Brain – by Gabriel Lieberman

Eugene Garfield, “ISI’S ‘World Brain’ by Gabriel Lieberman: The World’s First Holographic Engraving,” *Current Contents*, December 28, 1981

Vannevar Bush, “As We May Think,” *The Atlantic*, July 1945:

"wholly new forms of encyclopedias will appear, ready made **with a mesh of associative trails running through them**, ready to be dropped into the memex and there amplified".



Consider a future device for individual use, which is a sort of mechanized private file and library. It needs a name, and to coin one at random, memex will do. A memex is a device in which an individual stores all his books, records, and communications, and which is mechanized so that it may be consulted with exceeding speed and flexibility. It is an enlarged intimate supplement to his memory.

“There is a world of difference between Memex and ‘World Brain’ – essentially the difference between hardware and software – between a communication carrier and the intellectual-message-carried problem. The ‘World Brain’ symbolizes the information stored – ‘Memex,’ the storage device.” – Eugene Garfield (1968)

U.S. Army Project in Medical Indexing at the William H. Welch Medical Library at Johns Hopkins University



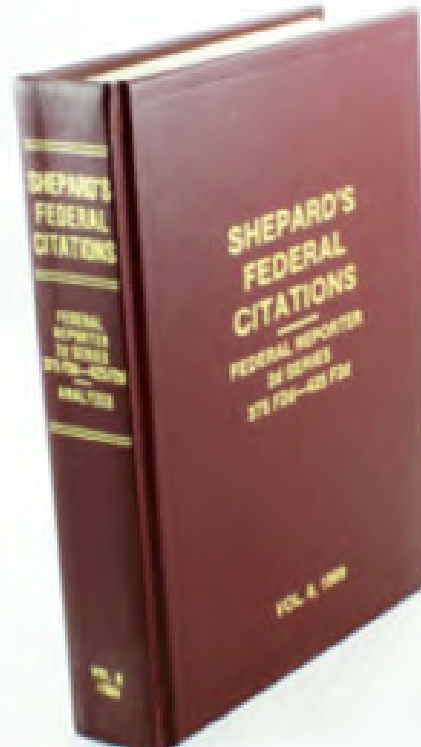
1951-1953 Staff member, Welch Machine Indexing Project

“A key objective was to improve the currency of the *Current List of Medical Literature*, through machine methods of compilation.”



“Eureka!”

“But the greatest thing by far is to be a master of metaphor. It is the one thing that cannot be learnt from others; and it is also a sign of genius, since a good metaphor implies an intuitive perception of the similarity in dissimilars.”
– Aristotle, *Poetics*, 22



“Chance (or fortune) favors the prepared mind.”
-- Louis Pasteur,
Lecture, University of
Lille, 7 December
1854

“...genius, whatever it be, is like fire in the flint, only to be produced by collision with a proper subject.”
– Samuel Johnson, *Rambler* 25, June 12, 1750

“It is best described as an association of ideas index.... By using authors' references in compiling the citation index, we are in reality utilizing an army of indexers...”

Also see : Adair WC. Citation Indexes for Scientific Literature. *American Documentation* 6:31-32, 1955
<http://garfield.library.upenn.edu/papers/adaircitationindexesforscientificliterature1955.html>

Citation Indexes for Science

A New Dimension in Documentation
 through Association of Ideas

Eugene Garfield

“The uncritical citation of disputed data by a writer, whether it be deliberate or not, is a serious matter. Of course, knowingly propagandizing unsubstantiated claims is particularly abhorrent, but just as many naive students may be swayed by unfounded assertions presented by a writer who is unaware of the criticisms. Buried in scholarly journals, critical notes are increasingly likely to be overlooked with the passage of time, while the studies to which they pertain, having been reported more widely, are

approach to subject control of the literature of science. By virtue of its different construction, it tends to bring together material that would never be collated by the usual subject indexing. It is best described as an association-of-ideas index, and it gives the reader as much leeway as he requires. Suggestiveness through association-of-ideas is offered by conventional subject indexes but only within the limits of a particular subject heading.

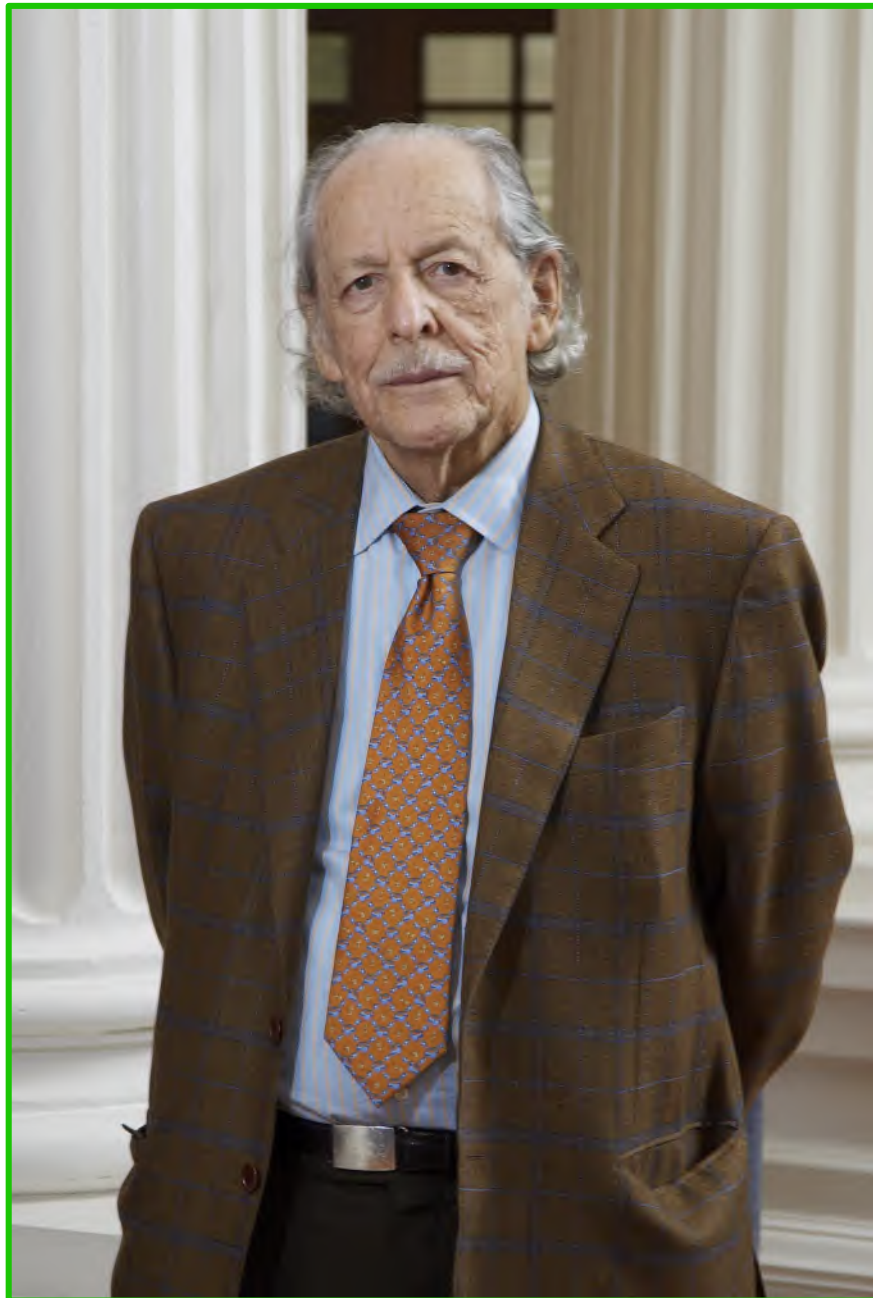
If one considers the book as the macro unit of thought and the periodical article

case. Classified indexes are also dependent upon a subject analysis of individual articles and, at best, offer us better consistency of indexing rather than greater specificity or multiplicity in the subject approach. Similarly, terminology is important, but even an ideal standardization of terminology and nomenclature will not solve the problem of subject analysis.

What seems to be needed, then, in addition to better and more comprehensive indexes, alphabetical and classified, are new types of bibliographic tools that can help to span the gap between the subject approach of those who create documents—that is, authors—and the subject approach of the scientist who seeks information.

Since 1873 the legal profession has been provided with an invaluable research tool known as *Shepard's Citations*, published by Shepard's Citations, Inc., Colorado Springs, Colo. (2). A citation index is published for court cases in the 48 states as well as for cases in Federal courts. Briefly, the Shepard citation system is a listing of individual American court cases, each case being followed by

Science, 122(3159), p.108-11, July 1955

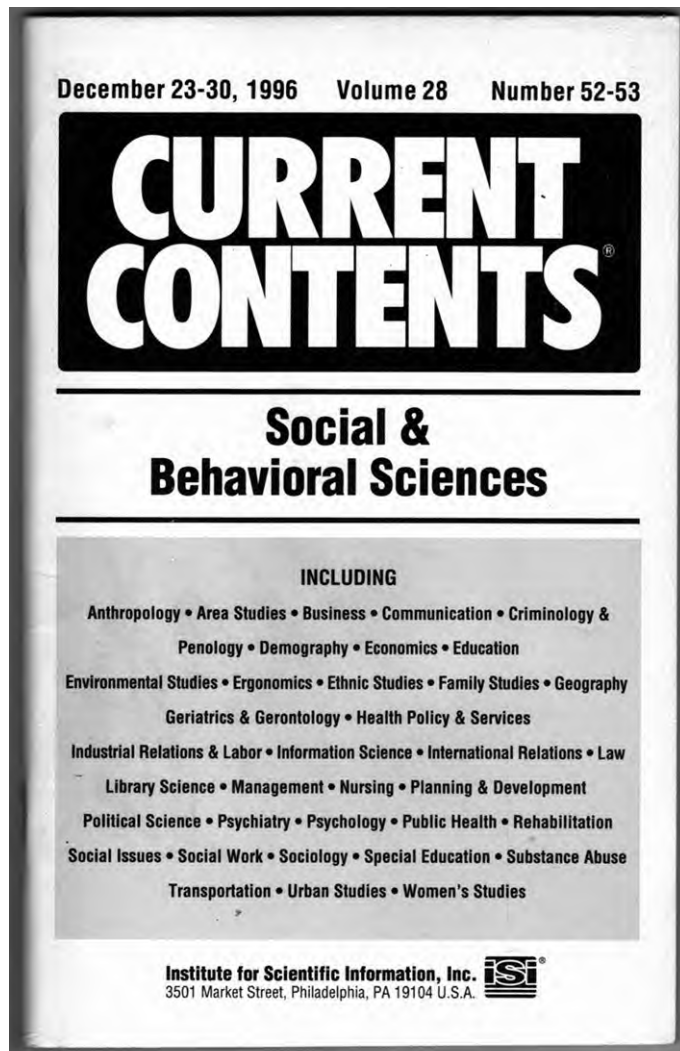


“It seems clear that, in some sense, Gene regarded the *Science Citation Index* as a representation of collective scientific knowledge and a step toward the realization of the world brain encyclopedia.” – Henry Small

“Garfield’s enthusiasm was not the bookkeeper’s but the visionary’s. He saw in his creations a better science for society and the ideal of a unified body of knowledge accessible to all.”
– Paul Wouters

“I have great faith that the citation index will one day be a spur to many new scientific discoveries in the service of mankind.” – Eugene Garfield in letter to Nobel laureate Joshua Lederberg, May 1959

“A ridiculously simple idea....”



Early versions of *Current Contents*, using various (inferior) names focused on library science and documentation, management, and pharmaceutical sciences

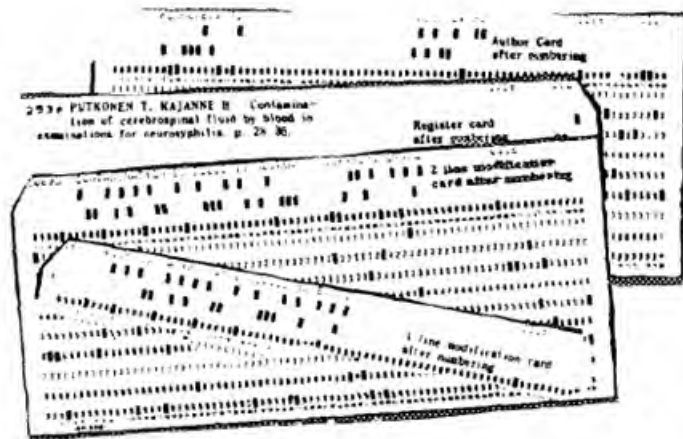
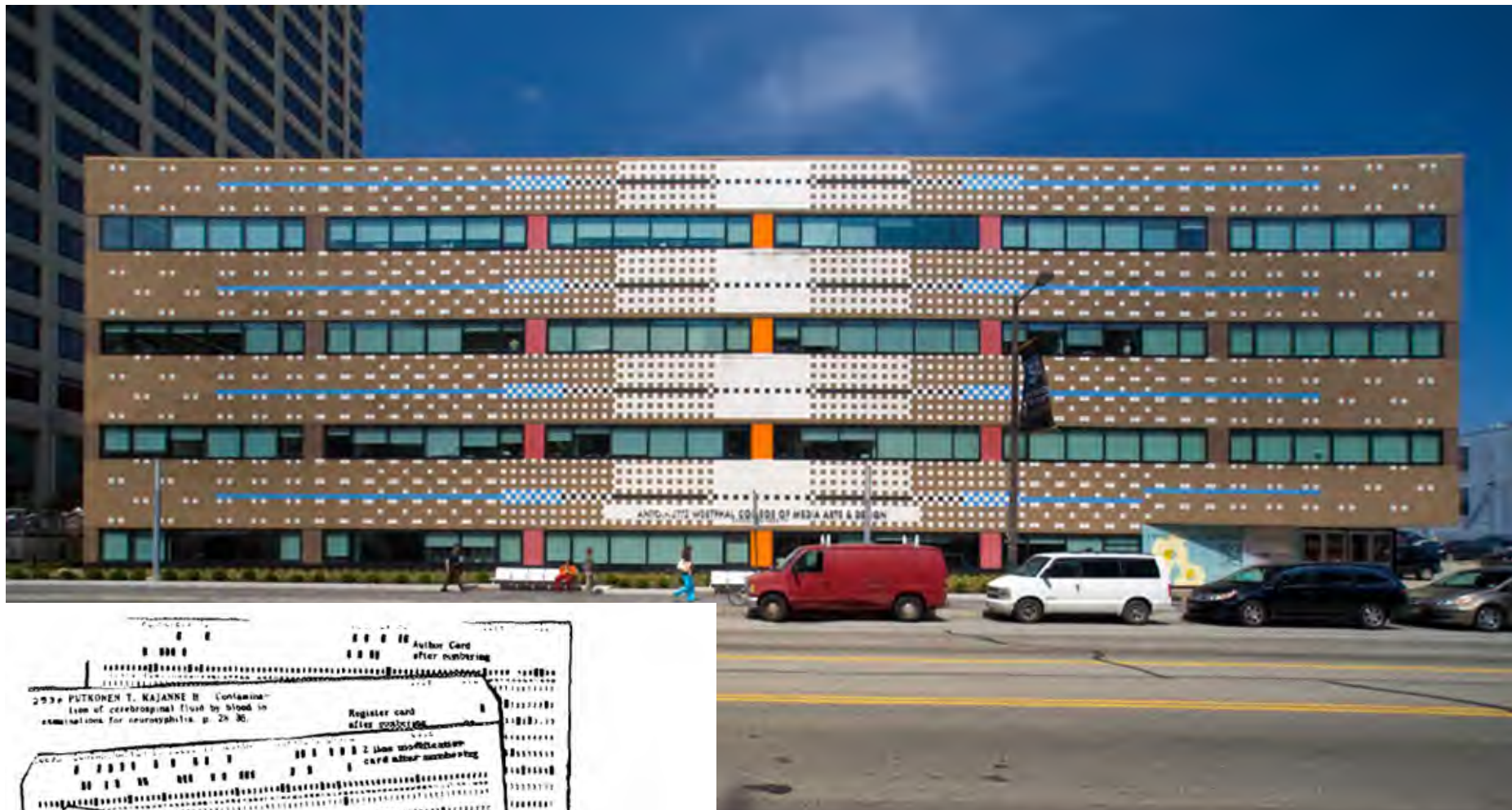


Fig. 11.

THE PREPARATION OF PRINTED INDEXES BY AUTOMATIC PUNCHED-CARD TECHNIQUES*

AMERICAN DOCUMENTATION 1955, Vol. VI, No. 2

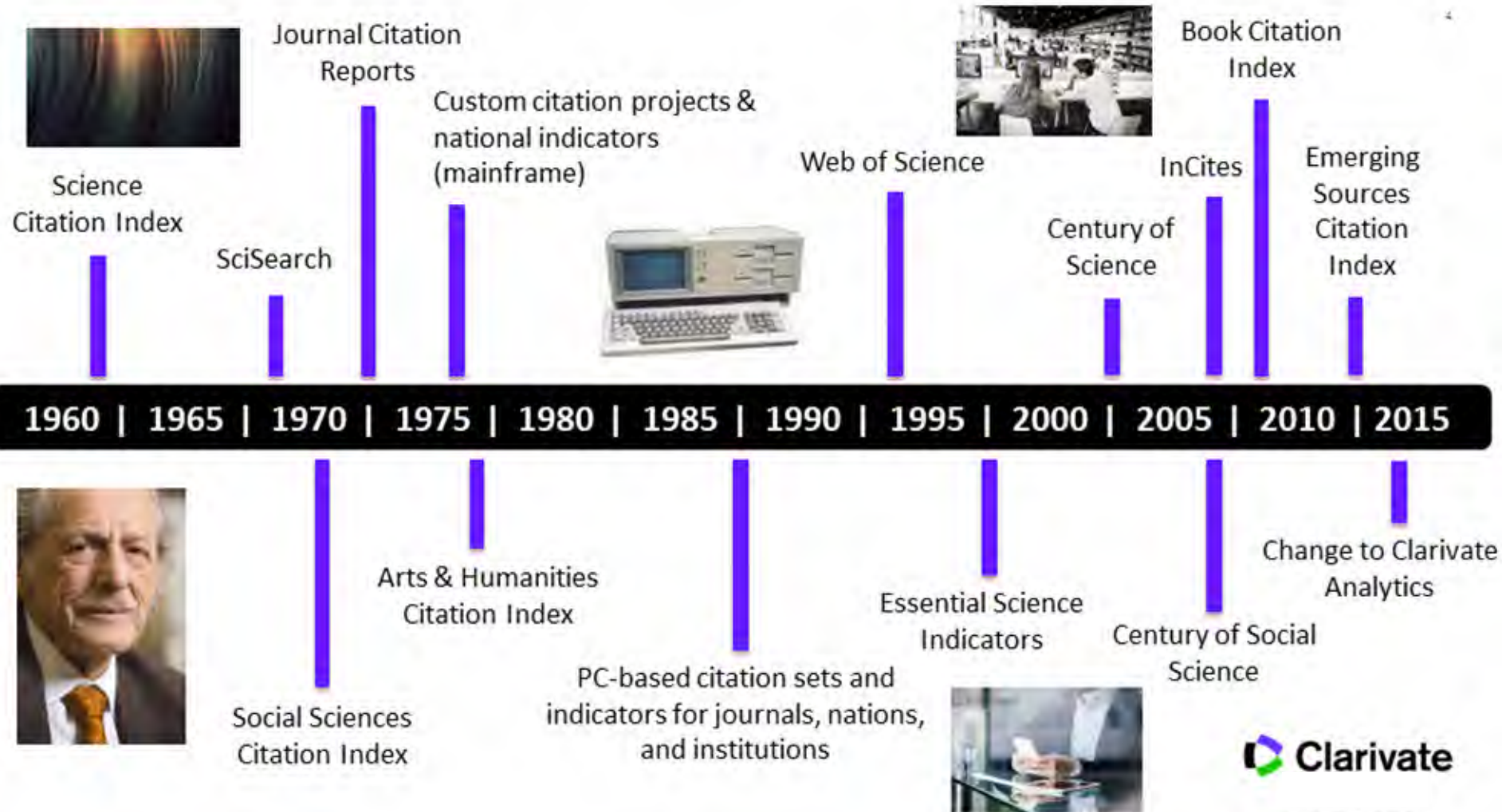
EUGENE GARFIELD**

Institute for Scientific Information (ISI) headquarters building,
constructed 1979, designed by Venturi and Rauch

What was the dress code at ISI?

- A. Anything orange
- B. Uniforms with ISI logos
- C. Shoes
- D. None

Many citation indexes were produced as separate (printed) products, until online and web versions allowed searching across all fields





An impression of Garfield's evolution of interests and focus, although throughout the years he constantly thought about and commented on all of these

Information retrieval:

Eugene Garfield, "Citation indexes for science: a new dimension in documentation through association of ideas," *Science*, 122 (3159): 108-11, 15 July **1955**

History and sociology of science:

Eugene Garfield, "Citation indexes in sociological and historical research," *American Documentation*, 14 (4): 289-291, **1963**

Eugene Garfield, "Citation indexing for studying science," *Nature*, 227 (5259): 669-671, **1970**

Structure and dynamics of science:

Eugene Garfield, M.V. Malin, and H. Small, "A system for automatic classification of scientific literature," *Journal of the Indian Institute of Science*, 57 (2): 61-74, **1975**

Evaluation of research:

Eugene Garfield, "Is citation analysis a legitimate evaluation tool," *Scientometrics*, 1 (4): 359-375, **1979**

A different approach to assessing the impact and importance of research findings: Citation measures



The Kelvin Dictum:

“If you can measure that of which you speak, and can express it by a number, you know something of your subject; but if you cannot measure it, your knowledge is meager and unsatisfactory.”

— William Thomson (Lord Kelvin)

The Viner Dictum: “When you can measure it, when you can express it in numbers, your knowledge is still of a meager and unsatisfactory kind.” — Jacob Viner



The Knight Dictum: “If you cannot measure a thing, go ahead and measure it anyway.” — Frank Knight

Robert K. Merton, David L. Sills, and Stephen M. Stigler, “The Kelvin Dictum and Social Science: An Excursion into the History of an Idea,” *Journal of the History of the Behavioral Sciences*, 20 (4): 319-331, 1984

What was Gene's most satisfying accomplishment?

- A. Seeing ISI's products used throughout the world to benefit researchers
- B. Contributing to the development of scientometrics as a discipline and to studies of the history and sociology of science
- C. Being a successful entrepreneur and earning respect in both the academic and business worlds
- D. Supporting his employees and helping them achieve good livelihoods for themselves and their families



Gene & Stefan



Gene & Stefan

STATE OF NEW YORK
DEPARTMENT OF TAXATION AND FINANCE
BUREAU OF MOTOR VEHICLES

CHAUFFEUR'S RENEWAL LICENSE STUB
TO BE PRESENTED WITH RENEWAL APPLICATION

ON OR BEFORE MAY 31, 1956

EUGENE E. GARFIELD
(Print or Type Full Name)

Street and No. **236 East 61st St.** City **NY** State **NY**

NEW YORK Date of Birth **May 16, 25** Sex **M** Color of Hair **BR**

SPACES ABOVE TO BE FILLED IN BY APPLICANT

RESTRICTIONS:

Eugene Garfield

IMPORTANT NOTICE: THIS RENEWAL LICENSE STUB MUST REMAIN ATTACHED UNTIL APPLICATION IS MADE FOR RENEWAL. ANY ALTERATION EXCEPT ADDRESS VOIDS THIS STUB.

CHAUFFEUR'S LICENSE

This is to Certify that the person named and described on the reverse side has been licensed as a chauffeur.

JAMES R. MACDUFF
Commissioner of Motor Vehicles

IF RENEWAL LICENSE STUB IS MISSING THE COURT OR CLERK SHALL RECORD CONVICTIONS BELOW

Date	Offense	Disposition and Fine	Court and Location

IF YOU CHANGE YOUR RESIDENCE, CROSS OUT OLD ADDRESS ON REVERSE SIDE AND FILL IN NEW ADDRESS BELOW. NOTIFY THIS BUREAU IN WRITING OF EACH SUCH CHANGE.

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GENE & SYLVIA



The ISI Caring Center for Children and Parents, 1982

21

Current Comments



Child Care: An Investment in the Future. Part 2: The ISI Caring Center for Children and Parents

Number 7

February 14, 1983

Last week, I discussed corporate day-care programs and the effects of day care on child development.¹ At that time, I reviewed various theories on the effects of separating children from their mothers for long periods. I also discussed some of the behavioral differences researchers have found between children enrolled in day care and those raised exclusively by their parents. Now, I'd like to describe the ISI® Caring Center for Children and Parents, and the rationale for establishing it.

I do not believe being a parent, single or otherwise, has to interfere with one's accomplishments at work or in school. My empathy for working parents, based on my own experience, has nothing to do with the notion that one can't do well professionally while shouldering parental responsibilities. Far from having difficulty concentrating on my work, responsibility as a parent forced me to exercise discipline in the use of my time. But there are limits to that if society places insurmountable obstacles in one's path.

six years. It also provides after-school care for older children. In addition to the children of ISI employees, we enroll the children of people who live or work anywhere in Philadelphia. Located behind ISI headquarters, the 14,000-square foot building, shown in Figure 1, was custom built for young children. All furniture and fixtures are scaled for comfortable use by small bodies, and lighting and colors have been chosen to avoid an "institutional" look. The center also features art that focuses on child-related themes, and a playground with enough space for a variety of outdoor activities. Most importantly, we've hired a highly qualified staff trained in early childhood development and education.

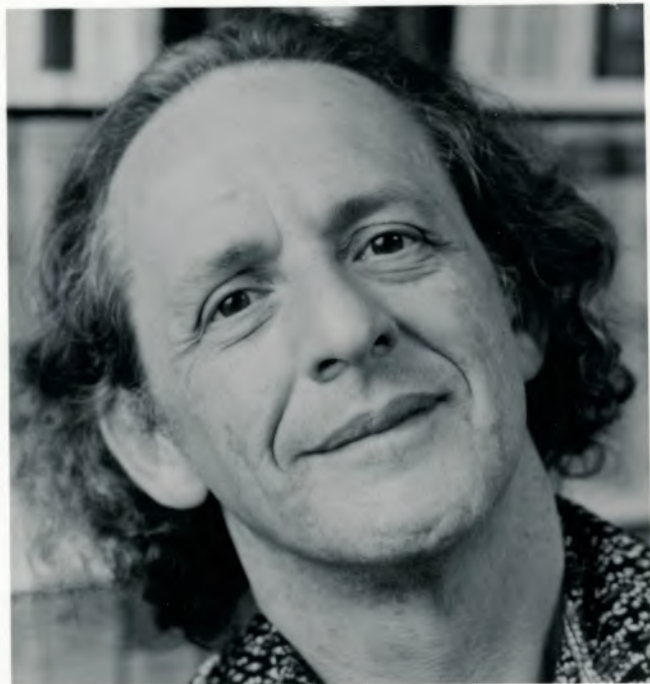
Peter Aborn, ISI's senior vice president, administration, was responsible for planning the center. He executed this assignment with an enthusiasm and energy even greater than he exhibited in planning ISI's headquarters.² He negotiated with City of Philadelphia authorities for the acquisition of the 1.6 acre site

"A Celebration of Working Parents and Their Children"

A bas-relief mural at
the ISI Caring Center.



Tail Things, a mural by Gantz, portrays the artist's fascination with height and his childhood discussions about things that are high or tall.



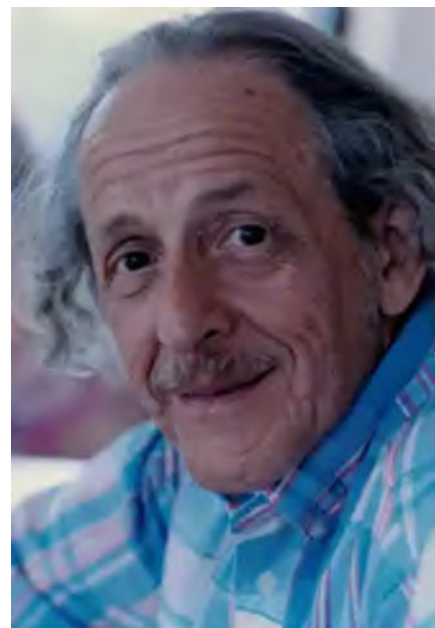
**“A fine life is a thought
conceived in youth and
realized in maturity”**

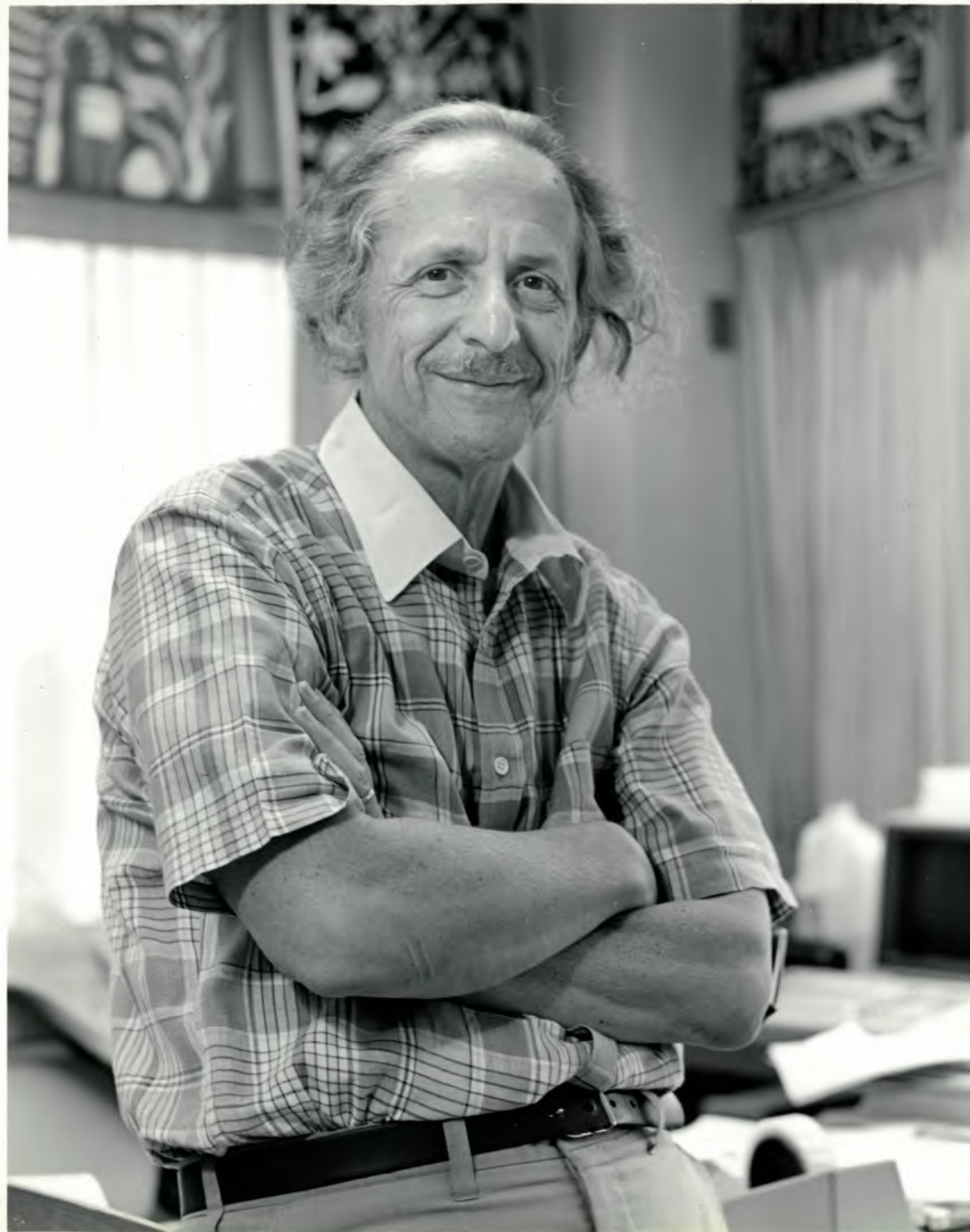
**– Alfred de Vigny
(1797 – 1863)**



GENE - GIVING ONE OF HIS WARM HUGS

Don't mourn for me when I am dead
Mourn for others living tortured lives instead
What we shared cannot be replaced
But having shared it The future can be faced.
We go from day to day, we laugh, we smile
We work at living, doing, yet all the while
We ~~know~~ ^{ask} ~~that~~ life's a short-lived ~~game~~ ^{game} ~~show~~ ^{show}
And ~~from time to time~~ ^{from time to time} comes the ~~name~~ ^{name}
That ~~isn't~~ ^{isn't} simply ~~as dead as~~ ^{as dead as}
Or is loving what life's all about?





Eugene Garfield

1925 – 2017

Information Pioneer

Entrepreneur

and

*“a giant of a human
being who gave so
much to so many.”*