

Alfred Baber Fonds

Correspondence

Chemical + Engineering  
Notes 1993-2001

QUEEN'S UNIVERSITY ARCHIVES	
LOCATOR	50958
BOX	4
FILE	32





Dr. Alfred Bader  
924 East Juneau, Suite 622  
Milwaukee, Wisconsin 53202  
Phone: 414/277-0730  
Fax: 414/277-0709  
E-mail: baderfa@execpc.com

*A Chemist Helping Chemists*

May 14, 2001

Ms. Madeleine Jacobs  
Editor in Chief, *C&E News*  
1155 Sixteenth Street, N.W.  
Washington, D.C. 20036

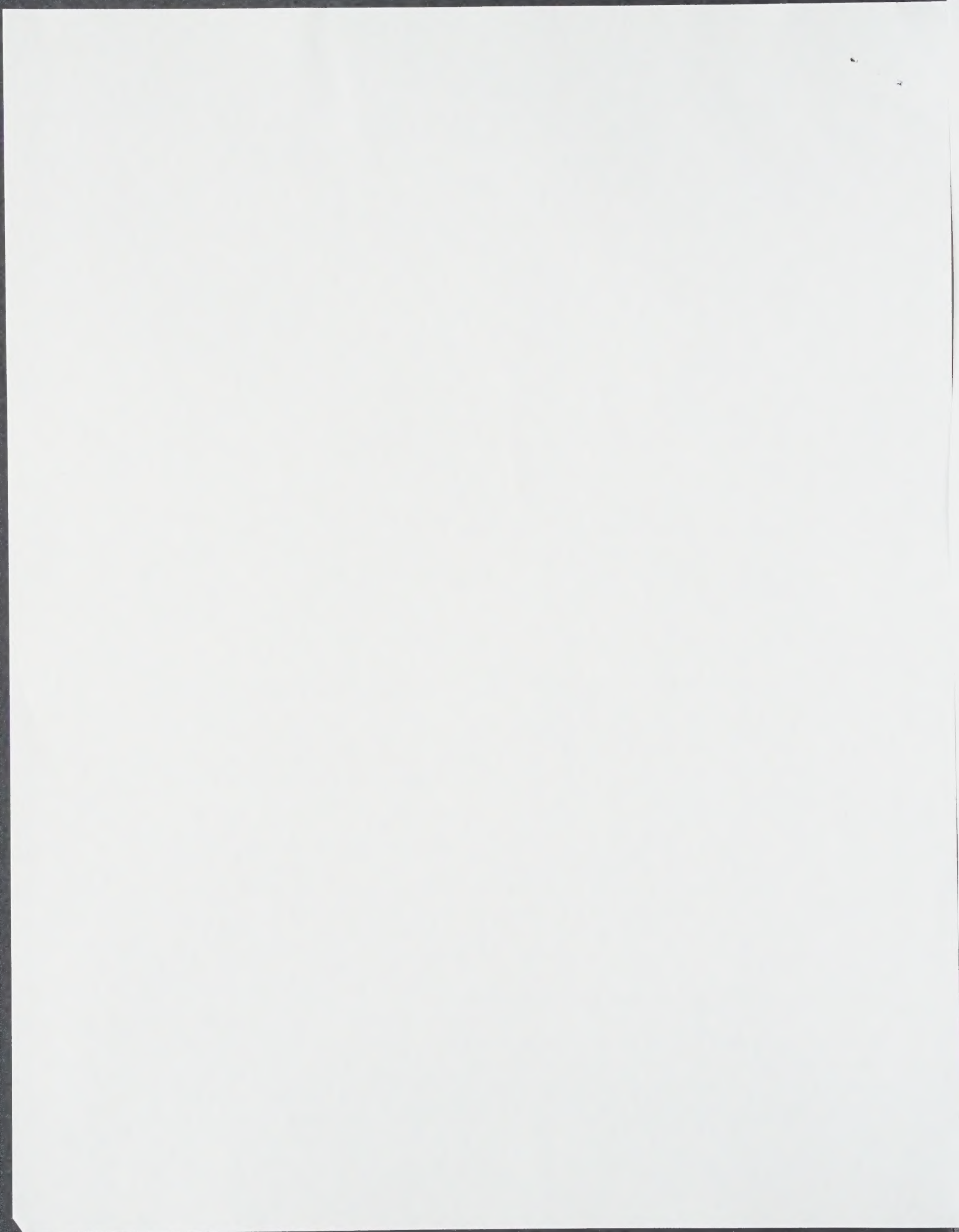
Dear Madeleine,

I would like to write to you about three matters, none for publication:

1. Global warming. The enclosed copy of a letter from John Emsley will interest you. Please do not misunderstand: I am not a supporter of President Bush. I am just not convinced that global warming is caused by man.
2. In your October 30<sup>th</sup> issue (which I read page by page, as I read every issue) I saw the advertisement for slogans to be submitted. In fact, I submitted three slogans, none very inspiring, which were acknowledged. However, I have not seen which slogan was picked, nor could anyone tell me at the convention in San Diego which we enjoyed a lot. And a query sent to Dr. Pavlath has not been answered.

Do you know which slogan was picked?

3. Your listing of the top 75 chemical producers in your May 7<sup>th</sup> issue. Of course I am happy that Sigma-Aldrich is listed, albeit in so strange a manner. With sales of chemicals exceeding \$1 Billion in 2000, Sigma-Aldrich should really be #57 or #58. Many other chemical companies do





Ms. Madeleine Jacobs  
May 14, 2001  
Page Two

not manufacture all of the products they sell, but handle and package them. The key with Sigma-Aldrich is that all of the products are analyzed and packaged for immediate shipment, but even if only half of the products are counted, why is there no comparison with the year before?

There is no need to reply, except perhaps to question #2.

Keep up your good work.

With all good wishes I remain

Yours sincerely,

A handwritten signature in cursive script, appearing to read 'Alfred Bader'.

Alfred Bader  
AB/az



# CHEMICAL & ENGINEERING NEWS

May 18, 2000

Dr. Alfred Bader  
924 East Juneau  
Suite 622  
Milwaukee, WI 53202

Dear Al:

I don't remember if I sent copies of pics from your investiture at the British Embassy, but if I didn't, I apologize and herewith enclose copies of them.

Also enclosed is a pic of you at the Boston ACS meeting in '98.

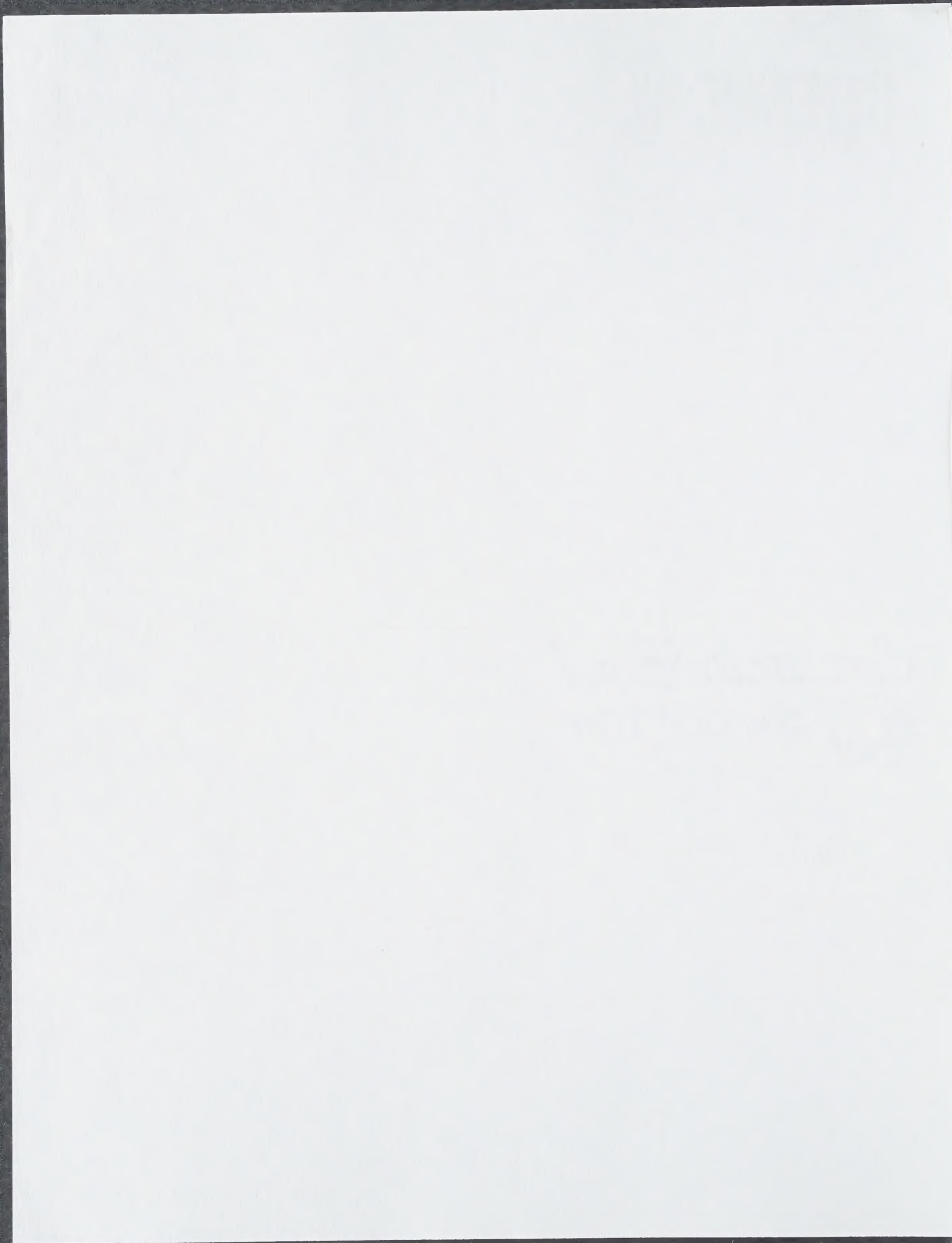
This may come as a surprise to you: I am retiring (early) from C&EN, and tomorrow is my last day of work (though officially I'm on the payroll until July 1). I've been looking forward to this time for some years. Other than living a more leisurely life, I plan to take up painting again (something I did often in my younger years) and try my hand at writing a couple of books. So this chapter of my life is coming to an end. I hope to begin many more.

I have immensely enjoyed knowing you and hope to see you from time to time. And as usual, I wish for you a bright and wonderful future. Thank you for being a part of my past.

Warm regards,



Ernie Carpenter  
6524 Jay Miller Drive  
Fall Church, VA 22041





# CHEMICAL & ENGINEERING NEWS

November 11, 1997

Dr. Alfred R. Bader  
2961 North Shepard Avenue  
Milwaukee, WI 53211-3435

Dear Dr. Bader:

It is my great pleasure to inform you that you have been selected as one of the Top 75 Distinguished Contributors to the Chemical Enterprise as nominated by C&EN's readers. C&EN plans to honor the Top 75 Contributors (list attached) in connection with the magazine's 75th anniversary at two special events in Boston at the ACS National Meeting. We hope you will be there to accept this honor.

The first event, to be hosted by 1998 ACS President Paul Walter, is a reception for all attendees to be held from 4 p.m. to 6 p.m. on Sunday, August 23, 1998, at a hotel in Boston. At this event, those attending the ACS meeting will have an opportunity to meet you and your distinguished colleagues.


The second event, now in the advanced planning stages and contingent on securing sponsorships to host the activity, is a black tie dinner at the John F. Kennedy Library. This gala will begin on Sunday evening at 7 p.m. with a VIP reception and will be followed by a dinner at 7:45 p.m. At this dinner, we plan to honor the Top 75 Contributors, as well as some of the major chemical companies that have made important contributions to the chemical enterprise. A special commemorative gift commissioned for C&EN's 75th anniversary will be presented to you at this time.

C&EN invites you to attend these events. The magazine will pay for your airfare (or train or other transportation) and hotel for two nights in Boston. You are also invited to bring a guest to the black tie gala dinner, although we are not able to pay transportation for your guest.

In addition, we will be featuring all 75 Top Distinguished Contributors in C&EN's Special Anniversary Issue, January 12, 1998. In order to assure that we have accurate information about you for this issue, and for a booklet to be given out at the black tie event, please fill out the attached form and return it to me with a recent color photograph by December 1.

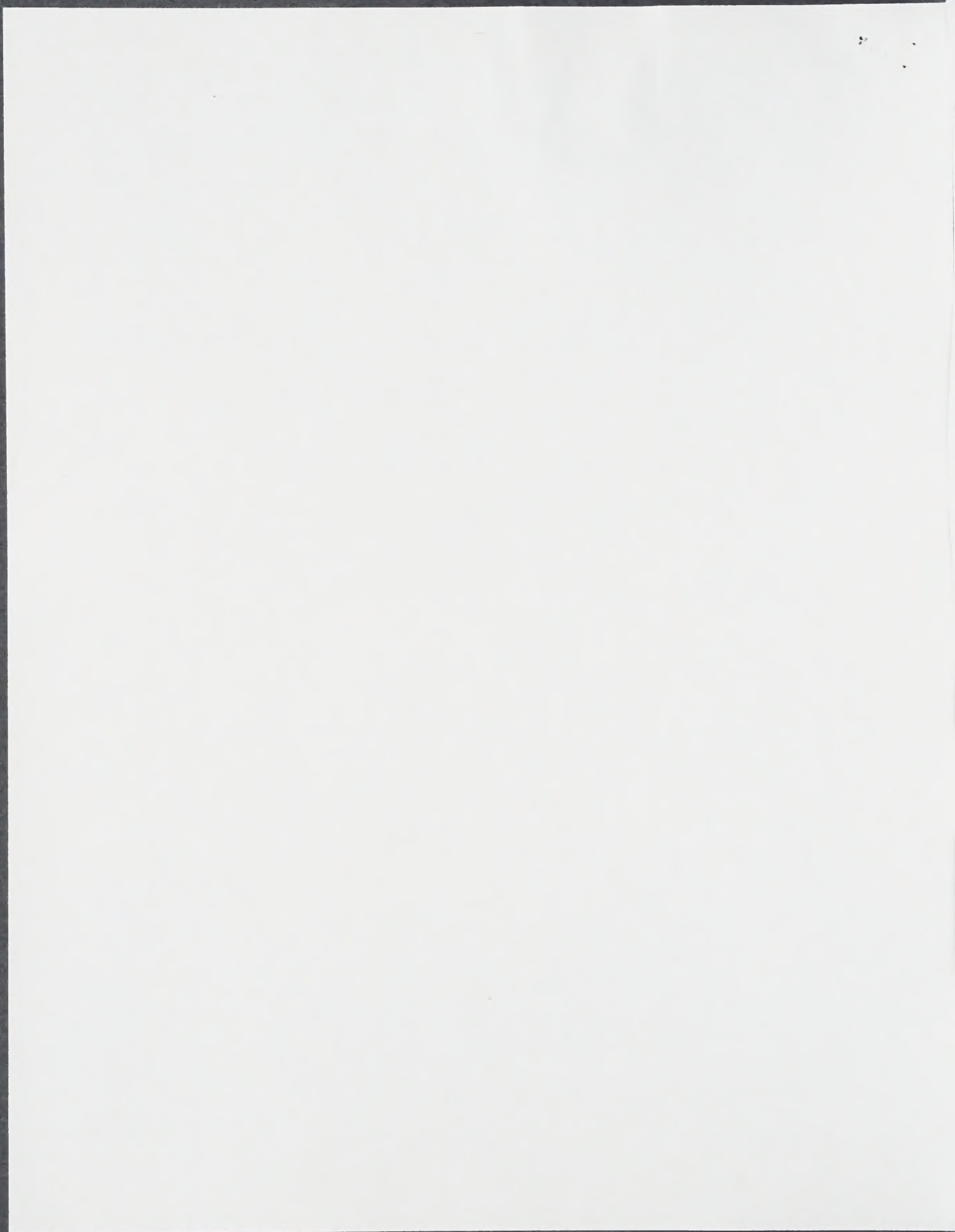
Again, congratulations! We look forward to seeing you in Boston. If you have any questions, please call me at (202) 872-6310.

Sincerely yours,



Madeleine Jacobs  
Editor  
Chemical & Engineering News

Enclosures



Full name: \_\_\_\_\_

Date and place of birth: \_\_\_\_\_

Current nationality: \_\_\_\_\_

Education: Please list degrees, years degrees were received, and discipline in which degrees were awarded.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Major places of employment: Please list the time span during which a position was held, as well as title and location.

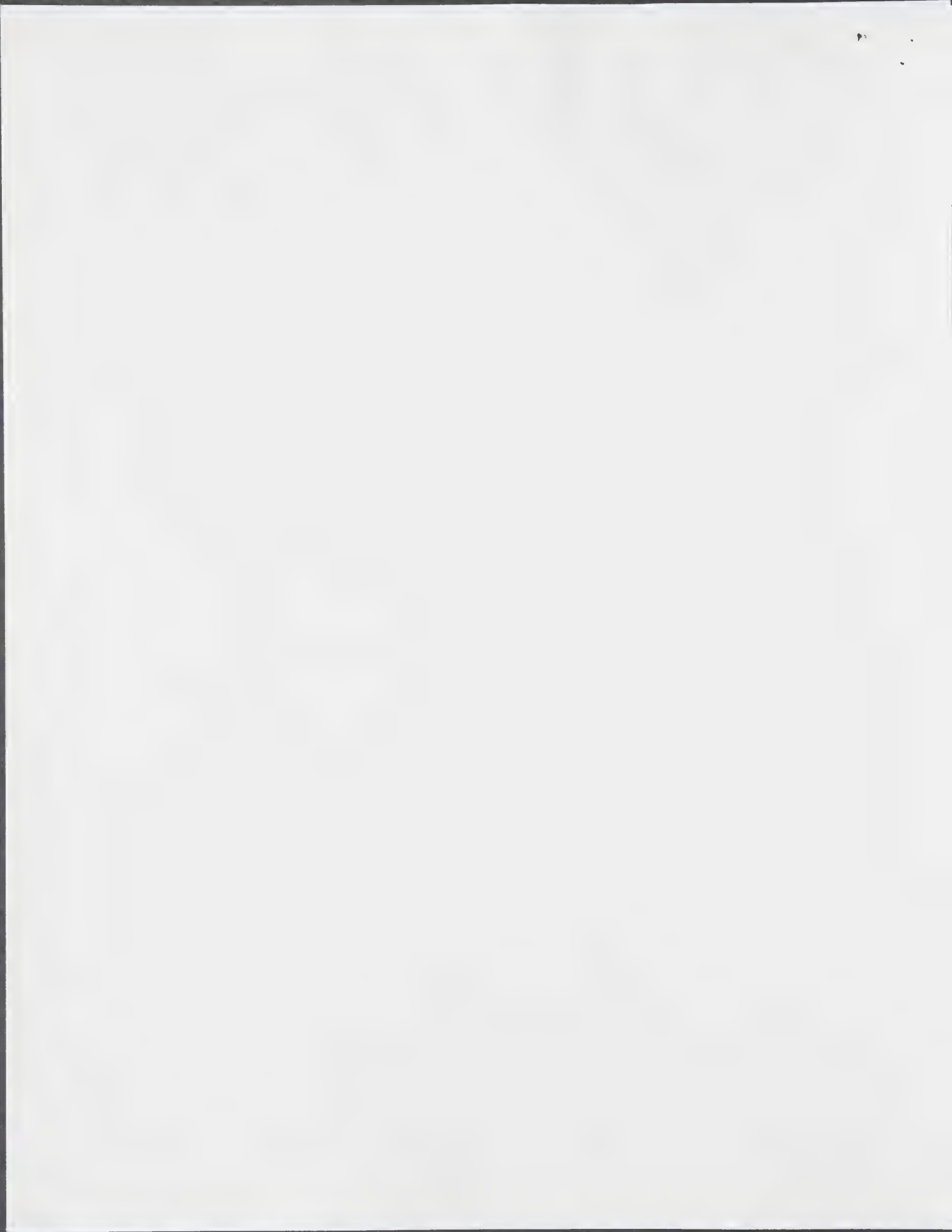
\_\_\_\_\_  
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Major scientific contributions (in 50 words or fewer):

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\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Major prizes: (i.e., Nobel Prize, Priestley Medal, National Medal of Science and/or Technology, election to National Academy of Sciences and/or Engineering). Please indicate year each award was received.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



## CONFIDENTIAL

### C&EN's Top 75 Contributors to the Chemical Enterprise during the past 75 years (in alphabetical order, listed with current or last affiliation)

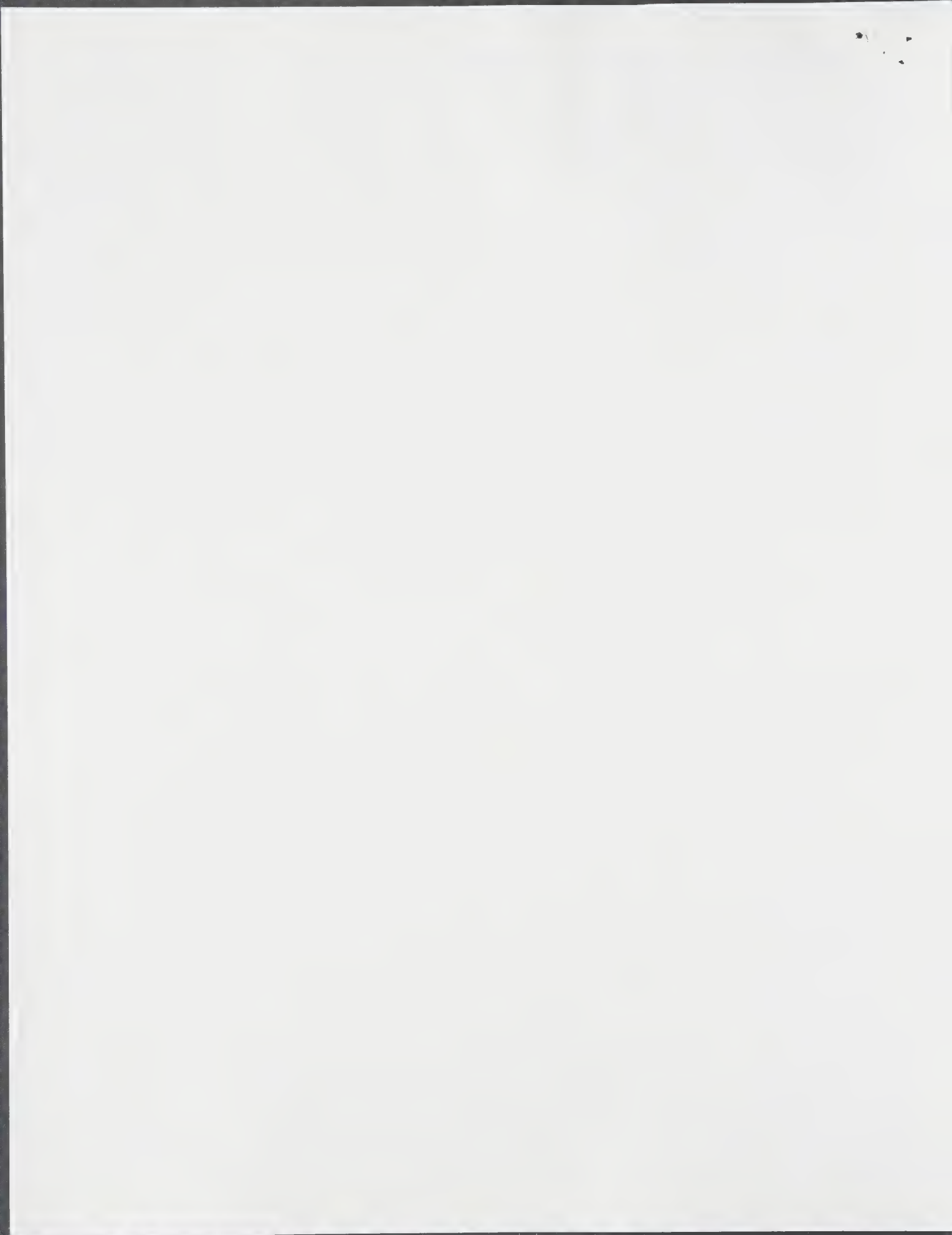
Roger Adams--University of Illinois\*  
Alfred Bader--Sigma-Aldrich  
D. H. R. Barton--Texas A&M University  
Arnold O. Beckman--Beckman Instruments  
Ronald Breslow--Columbia University  
Herbert C. Brown--Purdue University  
Melvin Calvin--University of California, Berkeley\*  
Wallace Carothers--DuPont\*  
George Washington Carver--Tuskegee Institute of Technology\*  
James Conant--Harvard University\*  
Elias J. Corey Jr.--Harvard University  
Arthur Cope--Massachusetts Institute of Technology\*  
F. Albert Cotton--Texas A&M University  
Donald Cram--University of California, Los Angeles  
Francis Crick--Salk Institute of Biological Studies  
Marie Curie--Curie Institute\*  
Peter Debye--Cornell University\*  
Carl Djerassi--Stanford University  
Henry H. Dow--Dow Chemical\*  
Pierre DuPont--DuPont\*  
George Eastman--Eastman-Kodak Co.\*  
Ernest Eliel--University of North Carolina, Chapel Hill  
Gertrude Elion--Burroughs Wellcome Co.  
Henry Eyring--University of Utah\*  
Louis Fieser--Harvard University\*  
Mary Fieser--Harvard University\*  
Paul Flory--Mellon Institute\*  
Mary L. Good--Venture Capital Investors  
Harry Gray--California Institute of Technology  
Louis Hammett--Columbia University\*  
Dudley Herschbach--Harvard University  
Joel Hildebrand--University of California, Berkeley\*  
Dorothy C. Hodgkin--Oxford University\*  
Roald Hoffmann--Cornell University  
Christopher Ingold--University College of London\*  
William S. Johnson--Stanford University\*  
Irene Joliot-Curie--Sorbonne\*

\*deceased



Percy Julian--Julian Laboratories\*  
Ralph Landau--Listowel Inc.  
Irving Langmuir--General Electric Research Laboratory\*  
Jean-Marie Lehn--College de France, Paris  
Gilbert N. Lewis--University of California, Berkeley\*  
Rudolph Marcus--California Institute of Technology  
Herman Mark--Polytechnic University\*  
Carl Marvel--University of Arizona, Tucson\*  
Samuel Massie Jr.--Bingwa Multicultural Software Co.  
Lise Meitner--Nobel Institute\*  
Robert B. Merrifield--Rockefeller University  
Robert S. Mulliken--University of Chicago\*  
Giulio Natta--Milan Institute of Industrial Chemistry\*  
George Olah--University of Southern California  
Donald Othmer--Polytechnic University\*  
Charles Parsons--U.S. Bureau of Mines\*  
Linus Pauling--Stanford University\*  
George Pimentel--University of California, Berkeley\*  
Vladimir Prelog--Swiss Federal Institute of Technology (ETH), Zurich  
John Queeny--Monsanto\*  
John Roberts--California Institute of Technology  
Robert Robinson--University of Oxford\*  
Glenn Seaborg--University of California, Berkeley  
K. Barry Sharpless--Scripps Research Institute  
Richard Smalley--Rice University  
Hermann Staudinger--University of Freiburg\*  
Gilbert Stork--Columbia University  
Henry Taube--Stanford University  
Max Tishler--Merck & Co./Wesleyan University\*  
Harold C. Urey--University of California, San Diego\*  
James Watson--Cold Spring Harbor Laboratory  
Frank Westheimer--Harvard University  
Geoffrey Wilkinson--Imperial College, London  
Saul Winstein--University of California, Los Angeles\*  
Georg Wittig--University of Heidelberg\*  
Robert B. Woodward--Harvard University\*  
Rosalyn Yalow--VA Hospital  
Karl Ziegler--Max Planck Institute for Coal Research\*

\*deceased







Dr. Alfred Bader  
924 East Juneau, Suite 622  
Milwaukee, Wisconsin 53202  
Phone: 414/277-0730  
Fax: 414/277-0709

*A Chemist Helping Chemists*

November 20, 1997

Ms. Madeleine Jacobs  
Editor, *C&E News*  
1155 Sixteenth Street, N.W.  
Washington, DC 20036

Dear Ms. Jacobs:

Pursuant to your letter of November 11th to Dr. Bader, he has asked me to relay his delight and gratitude at this honor and to forward to you the enclosed photograph.

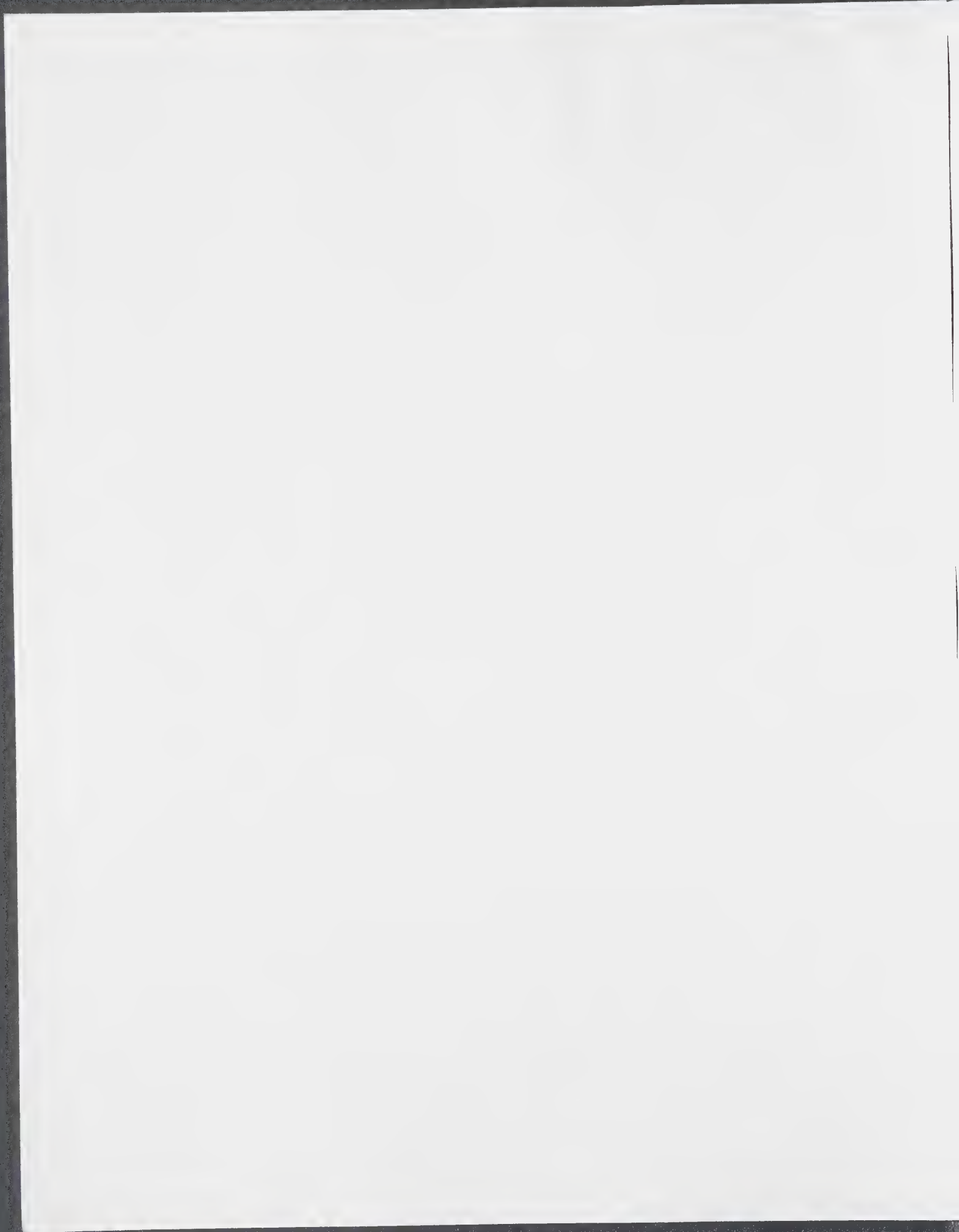
Dr. Bader, as you know, is in England through December 18th, and as we have faxed your letter and the enclosures to him, he will send the bio information to you by air mail from England at his earliest convenience.

Should you need any other information prior to his return to Milwaukee, please feel free to call on Niki or me at any time.

Best wishes,

Cheryl Weiss  
Office Manager

Enclosure





Dr. Alfred Bader  
924 East Juneau, Suite 622  
Milwaukee, Wisconsin 53202  
Phone: 414/277-0730  
Fax: 414/277-0709

*A Chemist Helping Chemists*

November 17, 1997

**Ms. Madeleine Jacobs**  
Editor  
*Chemical & Engineering News*  
1155 Sixteenth Street, N.W.  
Washington, D.C. 20036

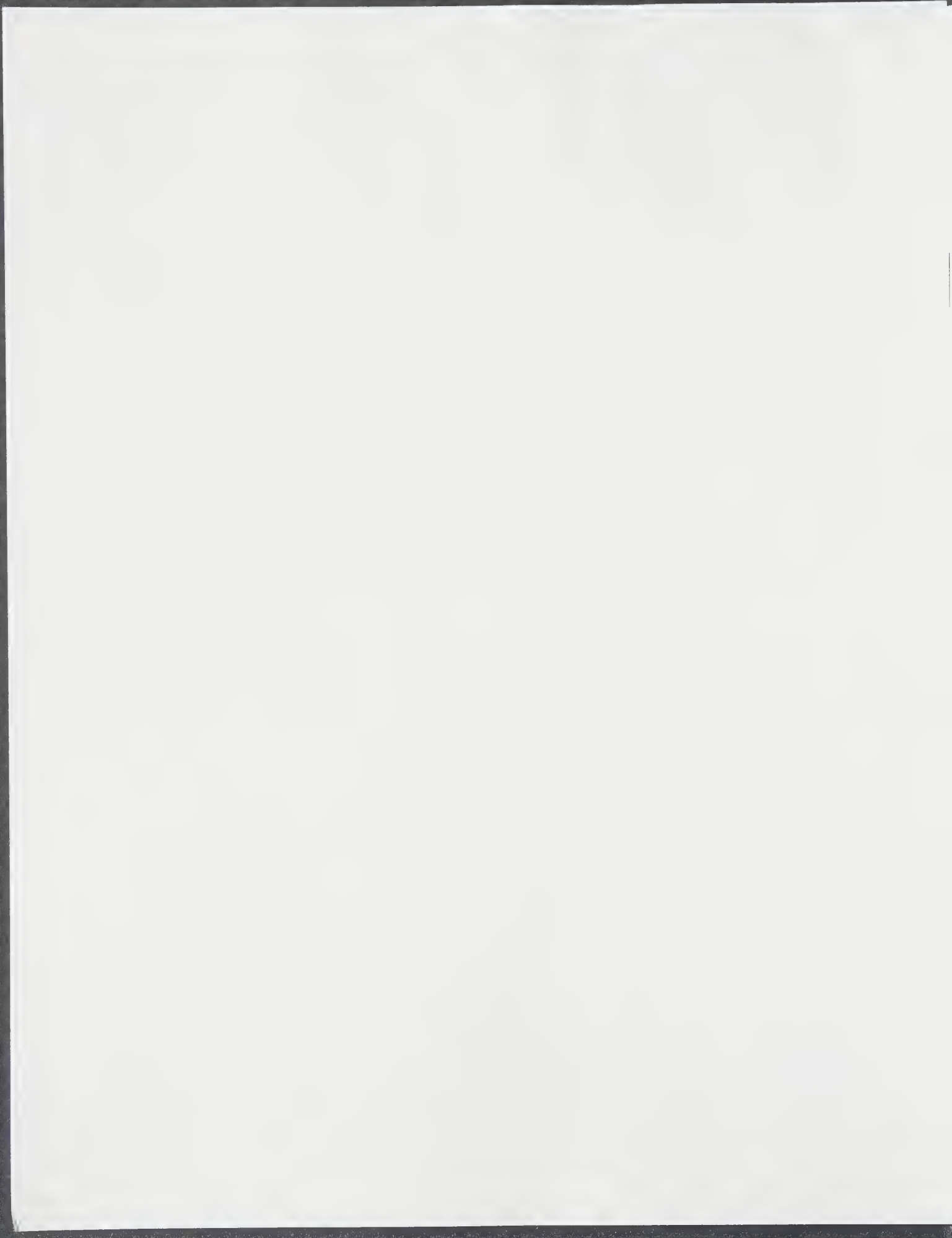
Dear Ms. Jacobs:

Thank you very much for your letter informing Dr. Bader of his selection as one of the Top 75 Distinguished Contributors to the Chemical Enterprise.

Dr. Bader is in England until December 18, however, I have spoken with him and forwarded your letter and enclosures. Dr. Bader is happy to send you the requested information along with a colour photograph of himself and is confident that he will be able to make the requested December 1 deadline. However, international mail being what it is, Dr. Bader knows that you will be understanding if a very slight delay might occur.

Yours sincerely,

Niki Karp



FAX FROM



*DR. ALFRED BADER*  
Suite 622  
924 East Juneau Avenue  
Milwaukee, Wisconsin 53202  
Telephone: 414/277-0730  
Fax: 414/277-0709

*A Chemist Helping Chemists*

March 31, 1998

Page 1 of     

To: Mr. Ernest L. Carpenter  
Assistant Managing Editor, *C&E News*  
Fax: 202/872-8727

Dear Ernie:

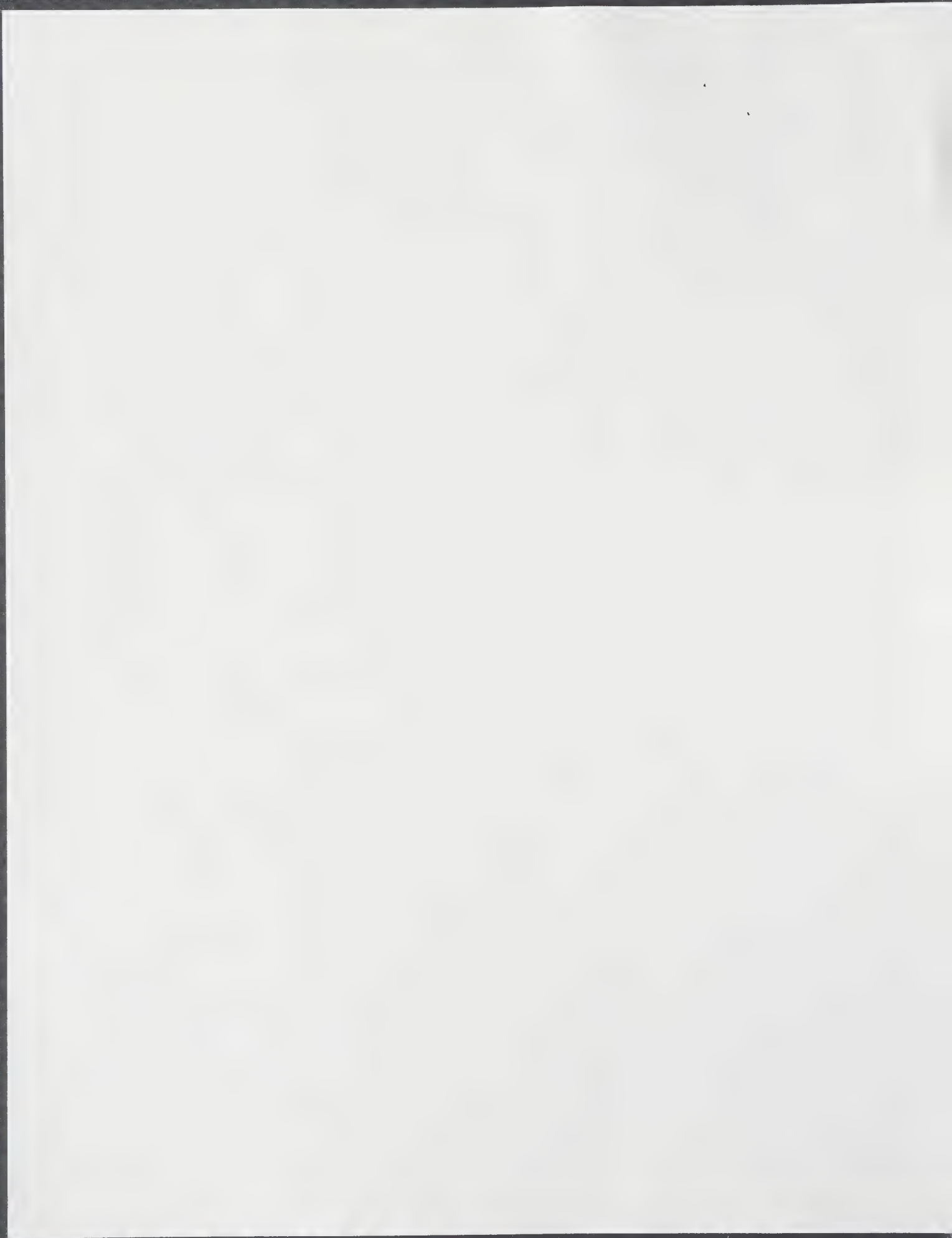
Should you be free on Friday noon, May 1st, then I would like to invite you to the champagne reception described on the enclosed.

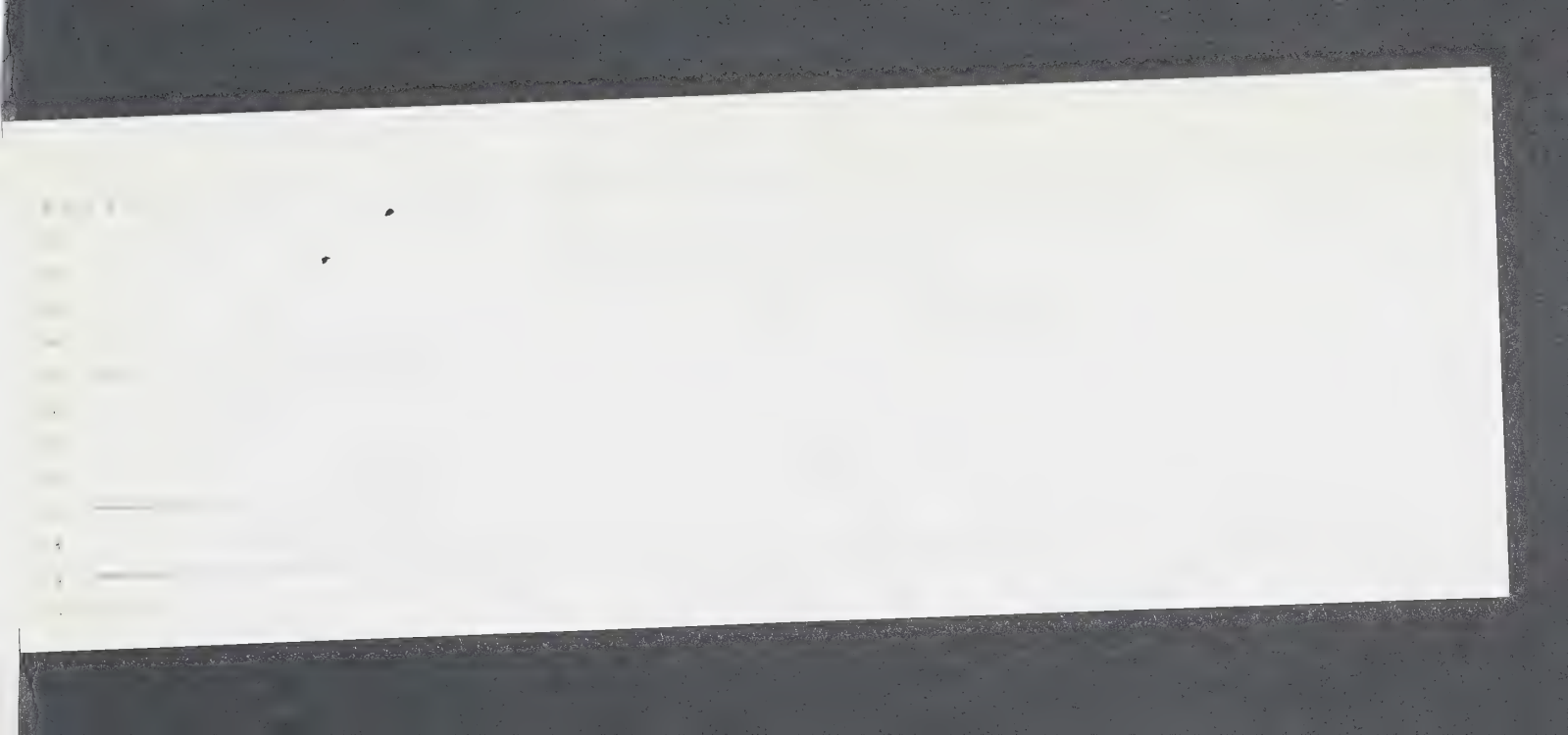
I have also asked Madeleine Jacobs whether she might like to attend, and I've also inquired of her whether anyone else from the ACS office would enjoy attending.

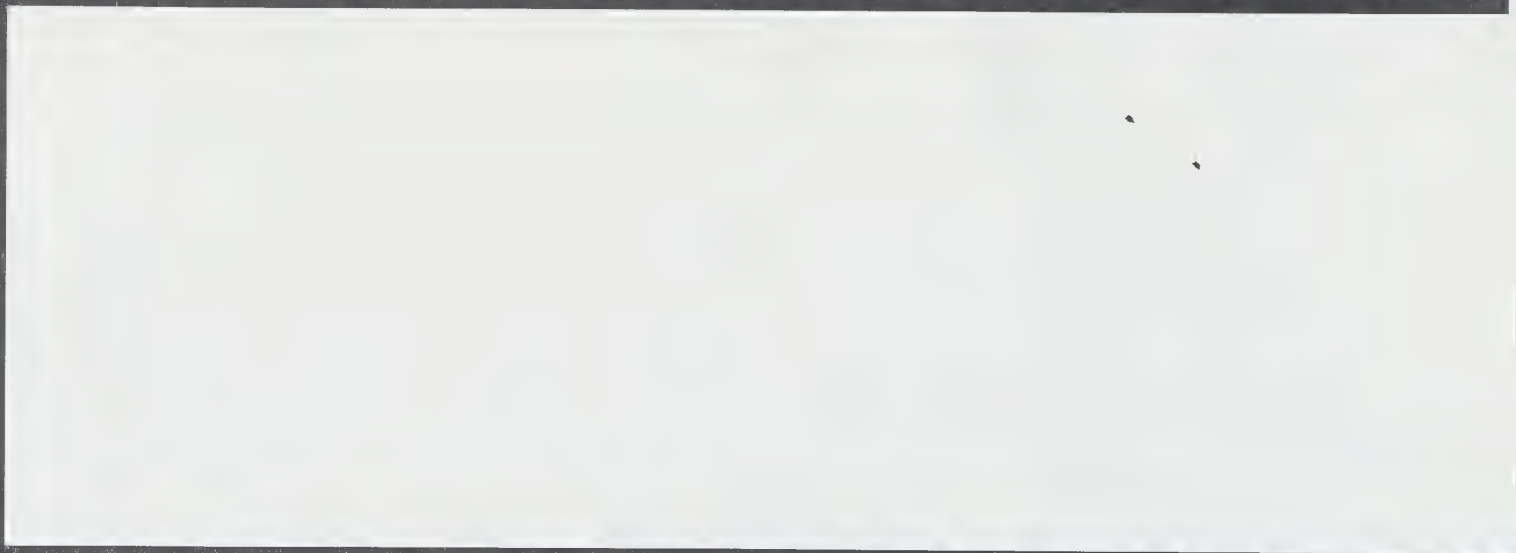
With all good wishes and best personal regards, I remain,

Yours sincerely,

AB/cw









NOMINATE • NOMINATE • NOMINATE • NOMINATE  
NOMINATE • NOMINATE • NOMINATE • NOMINATE

# Chemical & Engineering News To Name Top 75 Distinguished Contributors to the Chemical Enterprise

*Nominate your choices and help Chemical & Engineering News celebrate its 75th anniversary*

Chemical & Engineering News has been reporting on the chemical enterprise for 75 years. As part of our anniversary celebration in 1998, we want to honor 75 people—selected by our readers—who have made the most influential contributions to that enterprise during these past 75 years (since 1923). We invite you to nominate on this ballot up to 20 people, living or dead, for C&EN's Top 75. Think broadly and globally in making your nominations. The list may include candidates from industry, academia, government, and society at large. Your list could include Nobel Prize winners and other great researchers, giants in industry

who have helped transform processes and products or revitalized the way things are done, truly influential teachers and professors, popularizers of chemistry, politicians, diplomats, and others. Fill in the blanks identifying the individual's last place of employment, if known, and return the ballot to the address or fax number below by June 30. The names of C&EN's Top 75 will be published in C&EN's special 75th anniversary edition, Jan. 12, 1998. They will also be honored at special public events later in the year. Don't miss your chance to help C&EN make history!

Roger Adams

Robert B. Merrifield

Arnold Beckman

Linus Pauling

Herbert C. Brown

Tadeus Reichstein

Wallace Carothers

Sir Robert Robinson

Carl Djerassi

Glenn Seaborg

Henry Gilman

K. Barry Sharpless

Herbert Gutowsky

Gilbert Stork

Roald Hoffmann

Alfred Werner

Sir Christopher Ingold

Richard Willstätter

G. N. Lewis

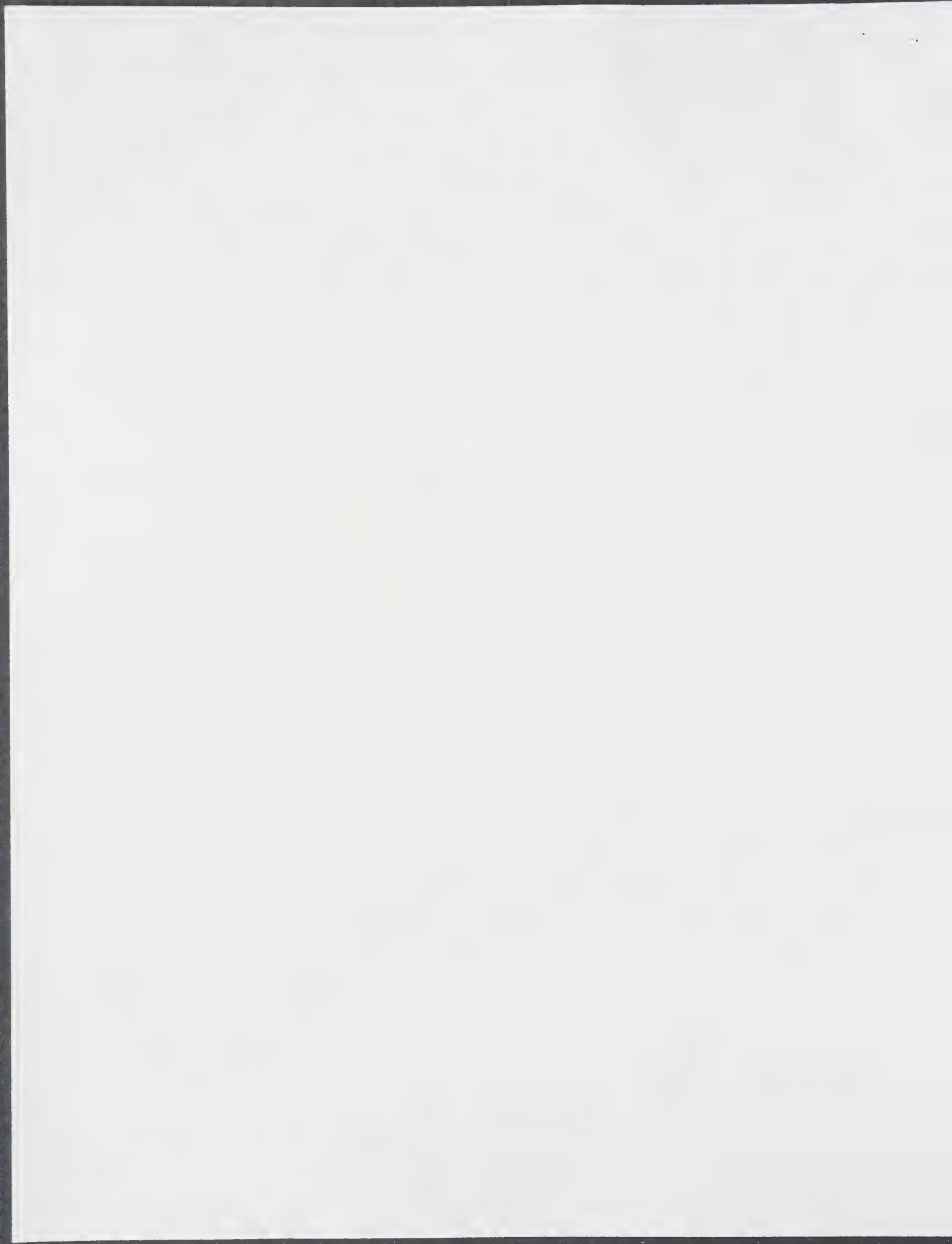
Robert B. Woodward

**Return by June 30, 1997, to:**

The Editor, Chemical & Engineering News, 1155-16th St., N.W., Washington, D.C. 20036, or send by fax to (202) 872-8727

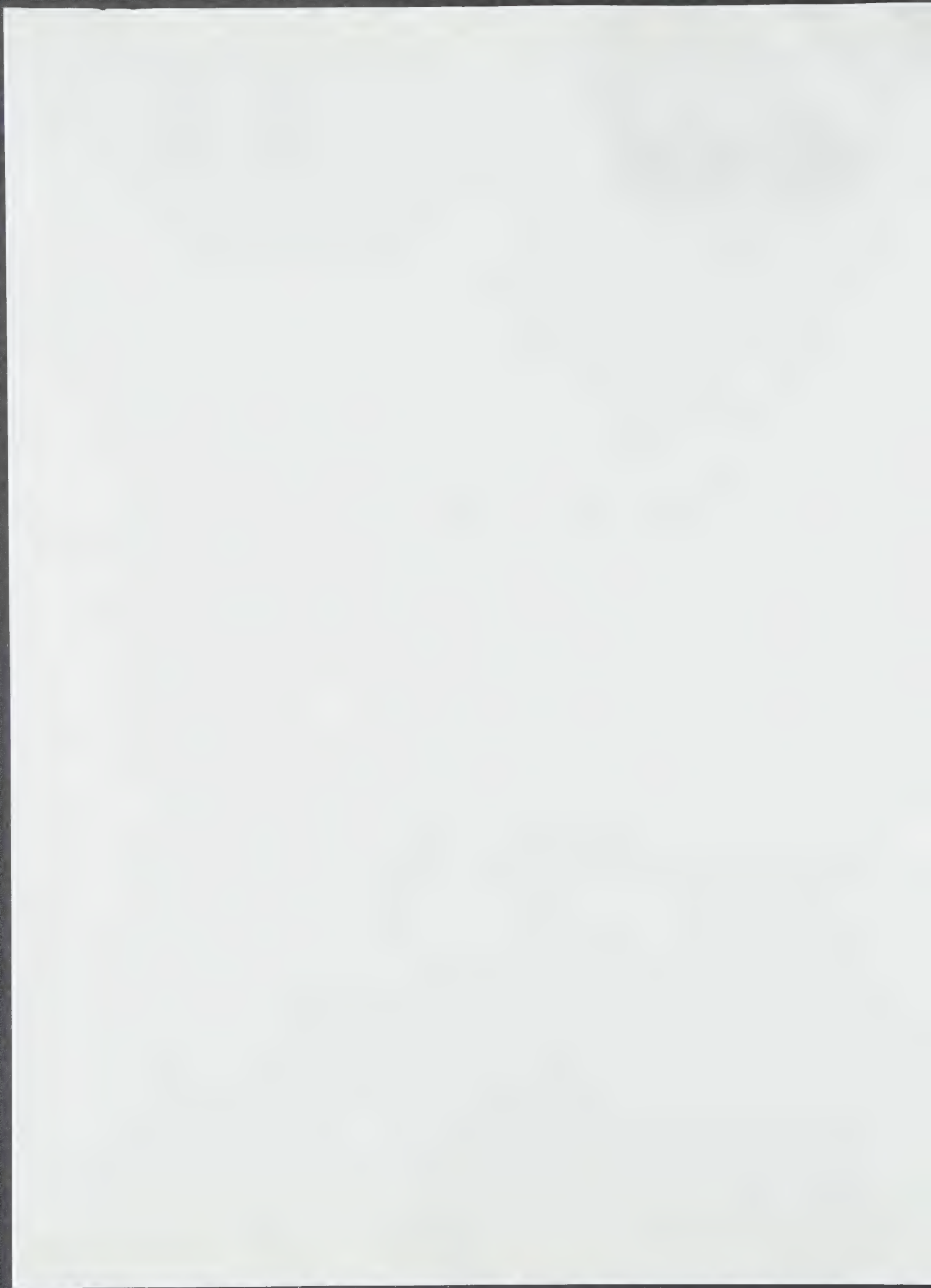
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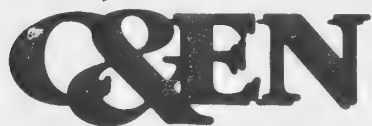
APRIL 7, 1997 C&EN 13



# CHEMICAL

& ENGINEERING NEWS





1155 SIXTEENTH STREET, N.W.  
WASHINGTON, D.C. 20036  
(202) 872-4600  
FAX (202) 872-8727

September 16, 1996

*Cu  
M...  
Jacobs*

Dr. Alfred Bader  
924 East Juneau, Suite 622  
Milwaukee, WI 53202

Dear Dr. Bader:

Thank you for your letter of August 30, received here on September 5. I apologize for the delay in getting back to you on this important topic; we've been inundated with letters during the past six weeks and quite a few came in on this subject. I will be publishing a few of these soon. In addition, we are publishing an interview in the September 16 issue of C&EN with Timothy Wirth, and I think his response is the right one. That issue is enclosed for you with the interview noted.

We have covered this subject many, many times in C&EN giving "both sides" of the picture. Bette's column was an opinion column, so labeled, but based on facts. If "the other side" is going to give out misinformation, which it has, I believe C&EN does have the responsibility to correct the record.

I respect your opinions tremendously, Dr. Bader, and I assure you that we are very careful in letting unfounded opinions into the magazine. We seek to be worthy of your trust in us.

Sincerely yours,

*Madeleine Jacobs*

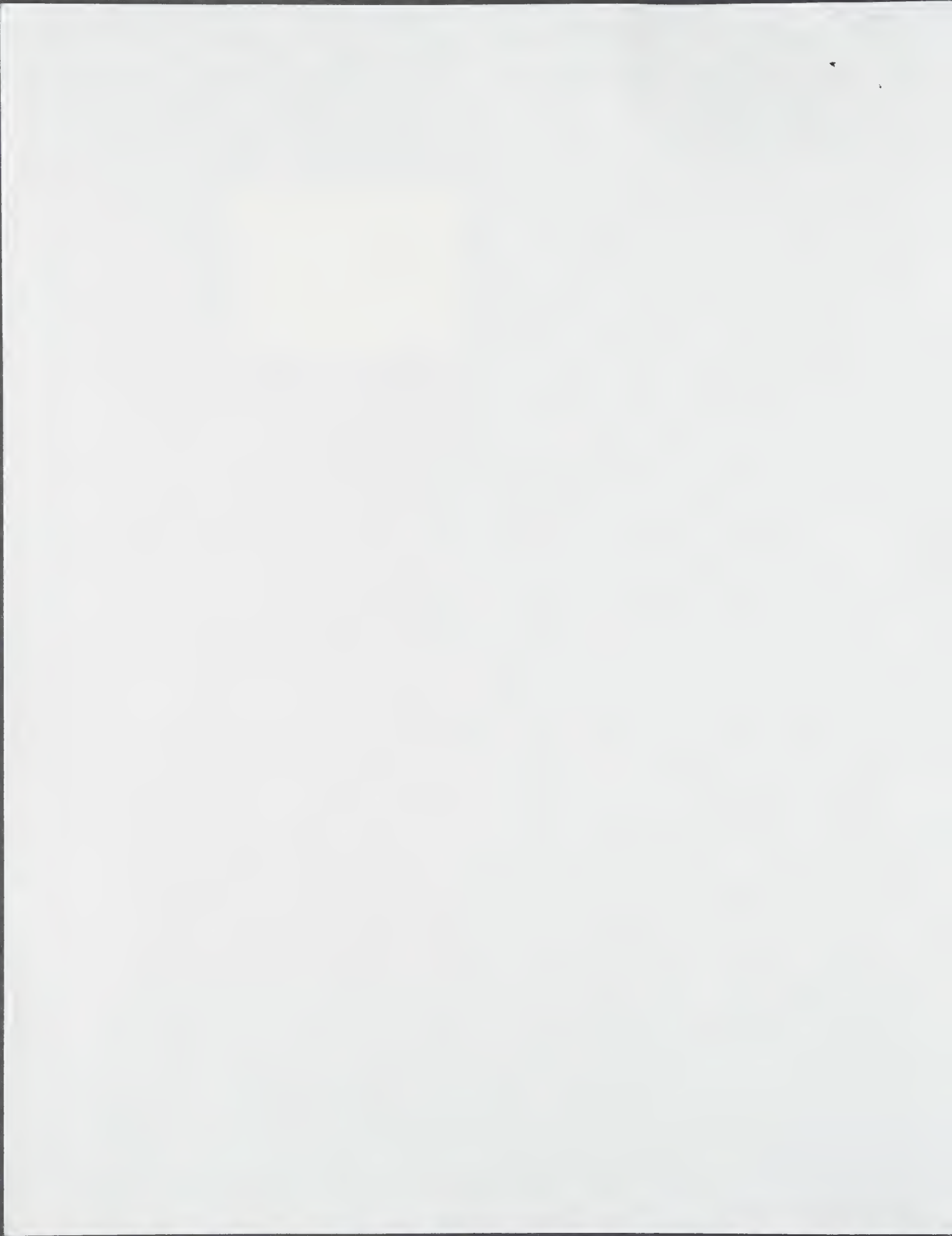
Madeleine Jacobs  
Editor

MSJ/dlh  
Attachment

*5 pages*

*To John  
my reply ok  
fond regards*

*\* She should be careful  
not to let unfounded  
opinions into the  
magazine*





1155 SIXTEENTH STREET, N.W.  
WASHINGTON, D.C. 20036  
(202) 872-4600  
→ FAX (202) 872-8727

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Dr. Alfred Bader  
924 East Juneau, Suite 622  
Milwaukee, WI 53202

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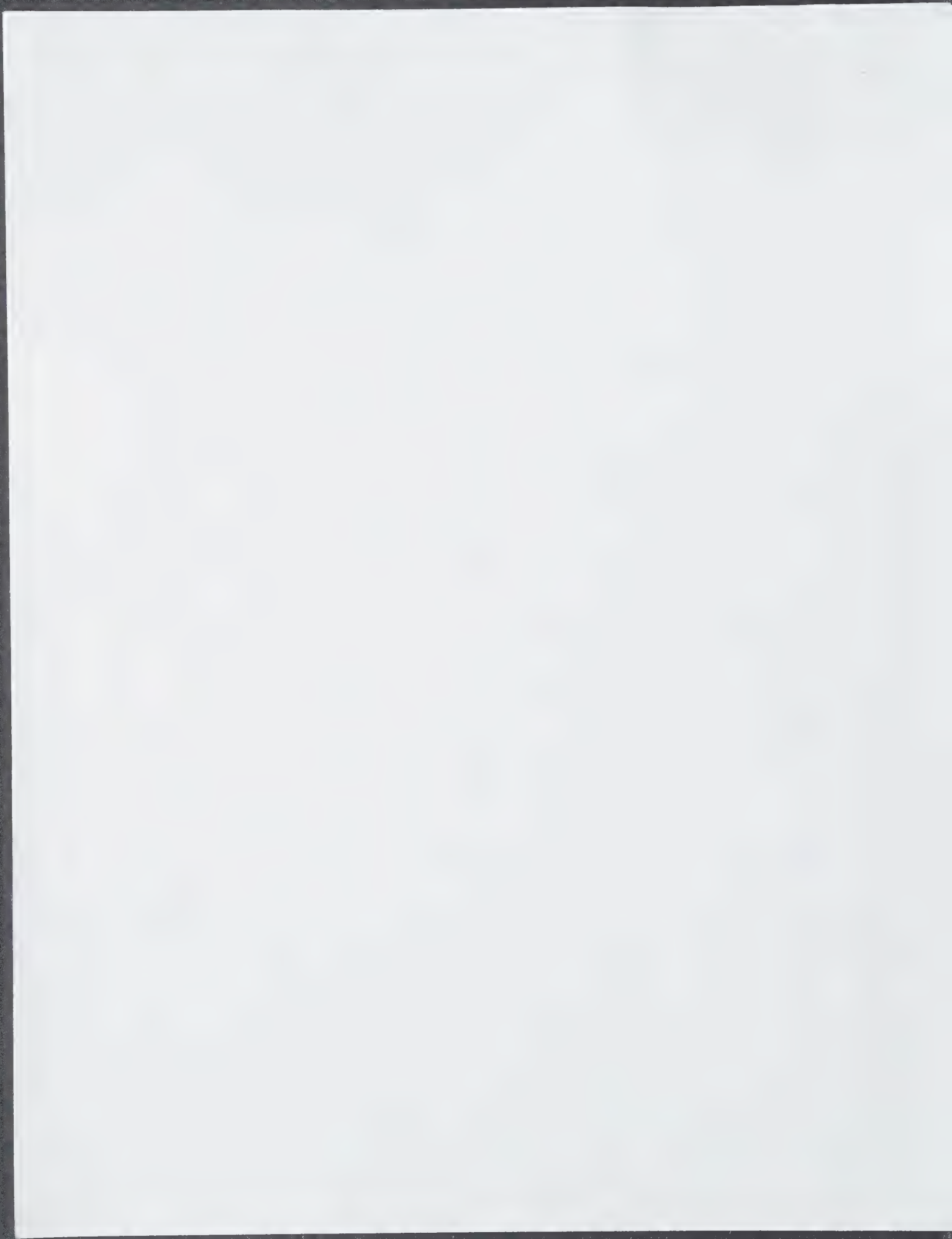
I respect your opinions tremendously, Dr. Bader, and I assure you that we are very careful in letting unfounded opinions into the magazine. We seek to be worthy of your trust in us.

Sincerely yours,

A handwritten signature in cursive script that reads "Madeleine Jacobs".

Madeleine Jacobs  
Editor

MSJ/dlh  
Attachment





# LETTERS

## Book differences?

Discussions about scientific notebooks and differences between industrial and academic research standards for recording scientific or experimental data (C&EN, Aug. 26, page 4) exhibit an amazing level of ignorance and outright prejudice. I have worked in a variety of both industrial and academic laboratories. Myriad types of notebooks were furnished or recommended standards for honesty in recording were and are identical. There have been changes over the years in recording tools, not in honesty. Wherever the time the main requirement was for

indelible ink that could not be bleached out by ink eradicator, more recent times have seen the introduction of bans on liquid paper and erasable ballpoint pens.

There are significant differences in attesting to the veracity and date of the data in a notebook. Academic laboratories that I am familiar with usually require the signature of a single responsible individual on each page, or on the last page of an experiment.

Industrial and government labs where I have worked require that at least each page be signed and the signature dated by the experimenter. If data from more than one day are present on a page, each day's records must be separately signed and dated.

In addition, each page must be signed by a witness who attests to either having seen and understood the tests described or to having read and clearly understood the recorded data. Simply witnessing an experimenter's signature is not acceptable.

Laboratory notebooks are regularly and frequently reviewed by supervisors. I recall being severely castigated by a boss for writing "BANG" in large capital letters in the center of a page recording an experiment that exploded.

Dave English  
Orange, Calif.

## Disinformation campaign

The article "Global warming is target of disinformation campaign" by Bette Hileman is very disturbing (C&EN, Aug. 19, page 35). My understanding of the scientific process is that competent and respected scientists, such as Patrick Michaels, Benjamin Santer and Frederick Seitz, should freely generate new data and publish their interpretations of all pertinent data that are broadly within their areas of expertise. This is the essence of freedom of scientific inquiry.

Conformity and unanimity are not required because such a requirement would be stifling to the progress of science. Yet Hileman uses C&EN as a forum to blast the work of two of these scientists as a "disinformation campaign." Her article clearly implies that these scientists are, at best, misinformed and, at worst, biased to the point of dishonesty. I shudder to imagine what her response might have been to some of the initial publications on quantum theory.

Space restrictions preclude a complete response to the points Hileman raises. But surely she is credulous if she believes the bottom line of Chapter 8 of the Intergovernmental Panel on Climate Change (IPCC) report "remained the same." If that were true, then some highly competent people are very concerned about changes that are insignificant. Furthermore, as befits her post in Washington, D.C., she focuses on whether such changes are permitted by the IPCC process rather than on whether in fact they represent a distortion of the process of peer review.

Finally, we should remember that meteorologists have difficulty determining whether or not it will rain tomorrow. Long-range climate prediction is even more uncertain. A degree of humility regarding predictions of the extent and direction of future climatic changes is certainly called for. Hileman seems certain of whose predictions are correct. But despite her assertions to the contrary, a substantial body of scientific evidence supports the contention that anthropogenic contributions will be responsible for, at most, a very minor portion of future global climate changes.

Elliott P. Doane  
Oklahoma City

Handwritten notes on the right margin:

- ESF Doane's
- Aug 19 1993
- Best written answer

**It's more than chemistry.**

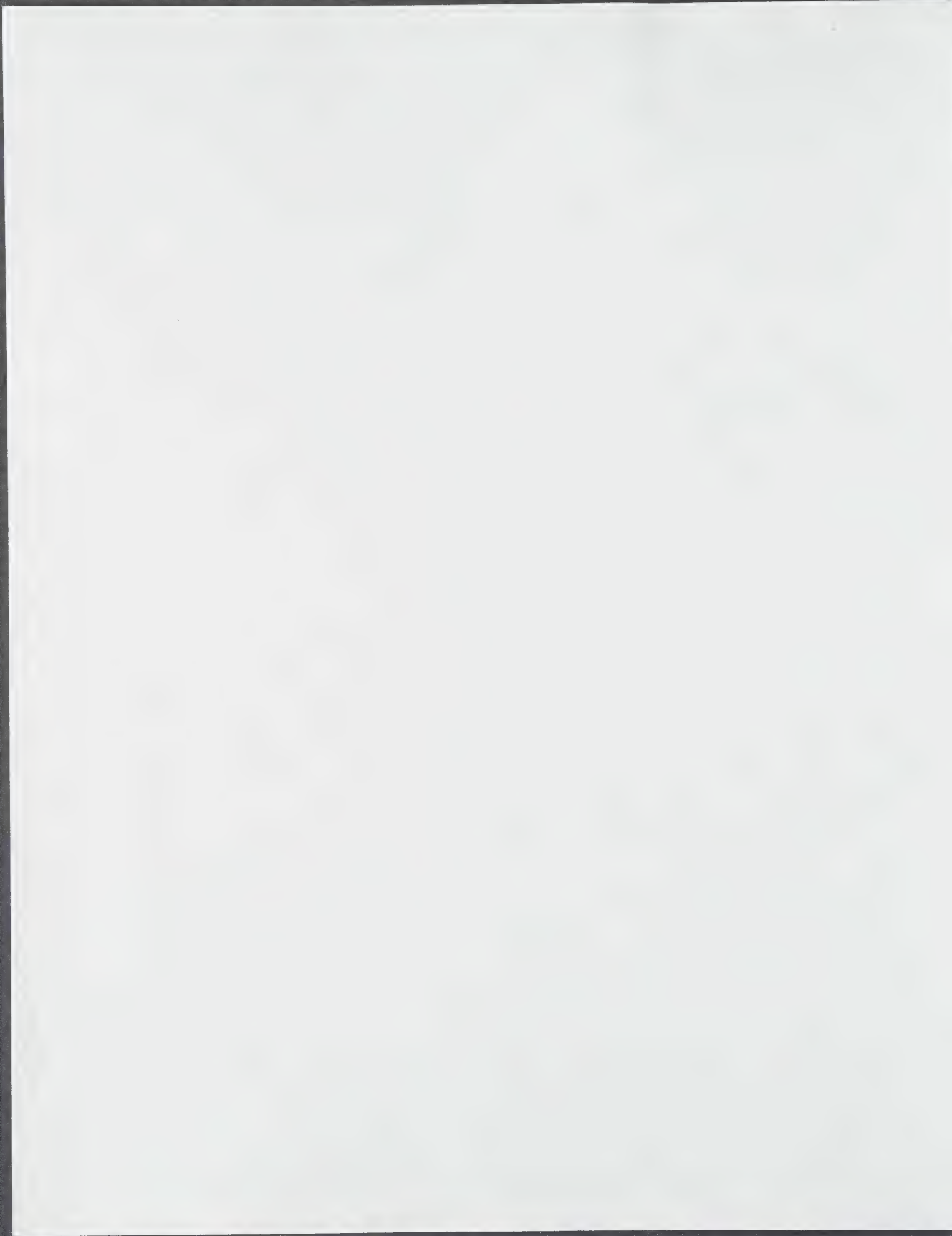
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You always know what you're getting from Bayer, because we know... It's more than chemistry.

**Bayer**

Chemical structures shown include:  
 - Nc1ccccc1 (Aniline)  
 - NC(=O)c1ccccc1 (Benzamide)  
 - NC(=O)Cl (Chloroacetyl chloride)  
 - Nc1ccc2c(c1)ncn2 (2-Aminobenzothiazole)

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## Global warming is target of disinformation campaign

A systematic campaign of disinformation now surrounds the issue of global warming. It has three main fronts. One is attacking the scientific integrity of the process by which the United Nations Intergovernmental Panel on Climate Change (IPCC) approved its latest report, which concludes that the "balance of scientific evidence suggests a discernible human influence on global climate."

Another is attacking the most recent scientific article of the lead author of a crucial chapter in that IPCC report, Chapter 8, which establishes evidence for a human impact on global climate.

The third front is pointing to satellite measurements, claiming they demonstrate no global warming whatsoever.

The attacks are being mounted primarily by the Global Climate Coalition (GCC), a group supported by coal, oil, utility, automobile, and chemical companies; by Frederick R. Seitz, chairman of the Washington, D.C.-based George C. Marshall Institute and president emeritus of Rockefeller University; and by Patrick Michaels, state climatologist at the University of Virginia.

The accusations are appearing in letters in the *Wall Street Journal* and *Nature* and in articles and letters in the *New York Times*. They are being repeated in letters from members of Congress to the White House and to Energy Secretary Hazel R. O'Leary. Because there is little scientific or other evidence to back up these charges, they might be easily dismissed if a fairly detailed knowledge of the IPCC process and of global warming science were not required to refute them.

What are the facts behind the IPCC flap? Seitz and GCC have claimed in many venues that, after Chapter 8 of a working group report had been accepted at the UN climate change meeting in Madrid last November, the lead author deleted the concluding summary from the chap-

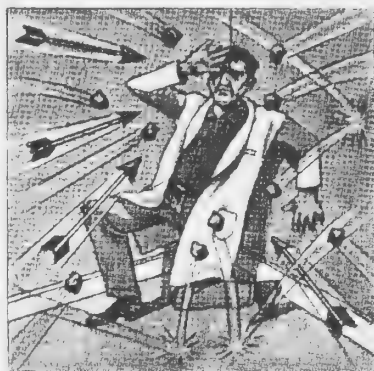


Illustration by John L. Henry

ter and altered a paragraph to play down the uncertainty of establishing human-induced climate change. Chapter 8 is important because it serves as the scientific underpinning for the Madrid group's official finding that there is a discernible human influence on global climate.

The lead author of Chapter 8, Benjamin D. Santer of Lawrence Livermore National Laboratory in California, explains that the changes were made in response to comments he had received at the Madrid meeting. The scientists at the meeting accepted the chapter only on the condition that Santer make these changes. The IPCC process allows authors to make late modifications to the text of working group chapters to reflect comments. Such chapters are not even considered on a line-by-line basis during a UN meeting.

And in any event, the chapter's scientific content and bottom line remained the same. The changes did reduce redundancy in the discussion of uncertainties, which remains more than four pages long.

Michaels, whose work in climate change is funded by the coal industry, is leading the second charge against Santer. He claims that in a July 4 article in *Nature* [382, 39 (1996)] Santer used data selectively. Santer's article concludes that the vertical patterns of temperatures in the atmosphere show a human fingerprint on climate caused by a

combination of sulfate aerosols, greenhouse gases, and ozone depletion. Michaels charges that Santer, by focusing only on a generally warming period from 1963 to 1987, ignored a longer data set that would give a different result.

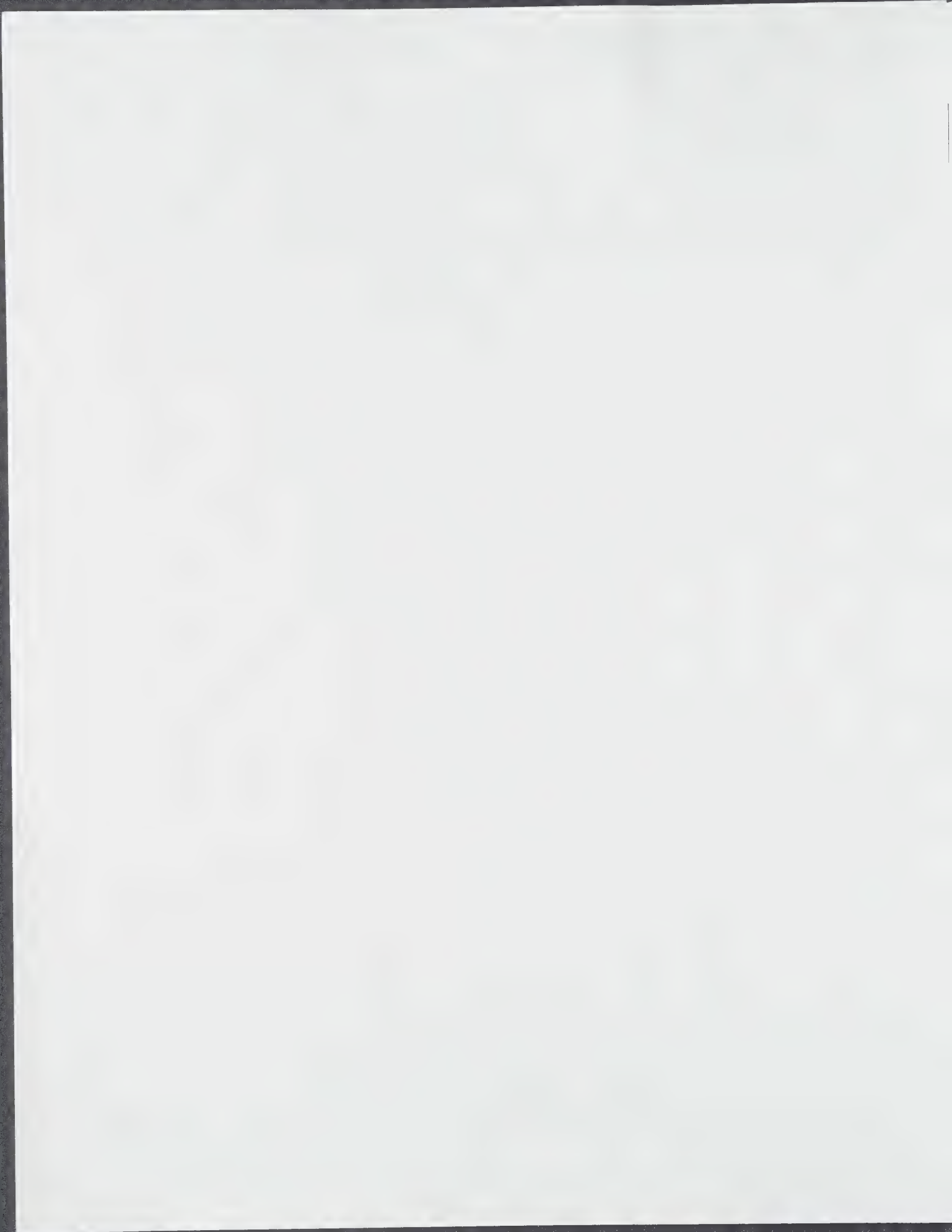
However, either Michaels does not understand Santer's work or he is deliberately distorting it. The data Michaels claims Santer should have used consist of readings that give average temperatures over thick layers of the atmosphere. Santer's research is focused on how the vertical distribution of temperatures in one region of the atmosphere is changing with respect to another region over time, so he needs information about temperatures at different thin layers of the atmosphere.

Whatever their merits, the campaigns are having an effect. Rep. Dana Rohrabacher (R-Calif.), chairman of a Science subcommittee, for example, has written to O'Leary, saying that he is "concerned about DOE's funding of [Santer's] participation in the IPCC."

As to the satellite measurements, they do not, as claimed or implied, represent temperatures at the Earth's surface. Rather, they reflect an average of temperatures between 5,000 and 30,000 feet and are therefore influenced both by the increasing cooling in the stratosphere from increasing ozone depletion and by temperatures at the surface. In fact, John R. Christy of the University of Alabama, Huntsville, has shown that the satellite measurements—rather than conflicting with surface warming—are entirely consistent with it.

This campaign of disinformation brings up an important question. How can scientists defend the integrity of their work when it is difficult for those outside the field to understand the details? If more and more evidence of global warming accumulates, it will become evident that the current attacks are baseless. But in the meantime, only a strong will and support from other scientists will allow those who are embroiled in these controversies to carry on their work.

Bette Hileman



## The politics of global warming

THE GLOBAL WARMING DEBATE

by the *European Science & Environment Forum*

Packard Publishing, 286 pages, £15 ISBN 0952773406

Today, public perception of science suffers from popularisation by the media and the influences of special interest groups. Professor John Carey (*Prospect* Nov.1995) expressed the following view:

'... ignorance of science has acquired a degree of political correctness. The Green movement, blaming science for global pollution, has contributed to this. Even supposing that these attacks were justified, they would not constitute reasons for relinquishing science, rather the reverse.'

The European Science & Environment Forum (ESEF) is an alliance of scientists concerned to ensure that environmental issues and decisions are based on sound scientific principles. In particular, they address issues where the public are being given misleading or one-sided advice

This, their first book, contains papers by 28 eminent scientists from the US, Europe, Poland, Sweden, Norway and Russia, presenting scientific reasons why the current views on climate change are seriously flawed. The papers cover a range of scientific knowledge pertinent to the subject of global climate and while they are essentially technical, they are presented in such a way as to be readily appreciated and understood. Some 320 references are given

Fred Singer, Director, Science & Environmental Policy Project USA, expresses criticism of the way activists, governments and some scientists have acquired a vested interest in promoting the idea of climate catastrophe scenarios, concluding: 'Global warming is rapidly becoming a non-problem.'

Sonja Boehmer-Christensen gives a devastating analysis of the 'hidden agendas' which have diverted so much funding into the global warming 'industry'. Government funding in this area has reached \$2.1 billion in the US, with similar largesse in Europe – more than other more pressing human problems. Many scientists are concerned about political pressures seeking 'consensus'. In science there cannot be consensus – the scientific process of proposition, test and validation is basic to achieving the truth.

Sir Fred Hoyle makes the important point that while

computers are good with arithmetic, one should not trust them with physics – and yet that is what has been done when it is freely admitted that there are many unknown relationships.

Tom Segalstad refers to the geochemical equilibrium of the ocean system and concludes that if all fossil reserves were burned, the atmospheric carbon dioxide would stabilise at a value 20 per cent above that of today; so much for doubling.

A major concern is that the Inter-governmental Panel on Climate Change has ignored scientific data, in particular the role of the principle greenhouse gas, water vapour – because it is not anthropogenic?

Zbigniew Jaworoski reports on the unreliable data from the study of ice cores. He also gives an example of the arbitrary selection of data: the 'observed' age of air in the Siple core was reduced by 83 years to produce a smooth curve acceptable to the IPCC theme. Gerd-Rainer Weber analyses European temperature records over the past 450 years and concludes that the range over the last few decades is similar to that over the last few centuries.

Wibjorn Karlen and Johan Kuyenstierna demonstrate from a study of Scandinavian tree records that warm and cold periods of the past correlate with solar activity rather than carbon dioxide levels. John Butler, Friis-Christensen and K. Lassen, and Genrik Nikolsky also give compelling evidence of a strong correlation between solar activity and global climate. This is an area of study rejected by the IPCC.

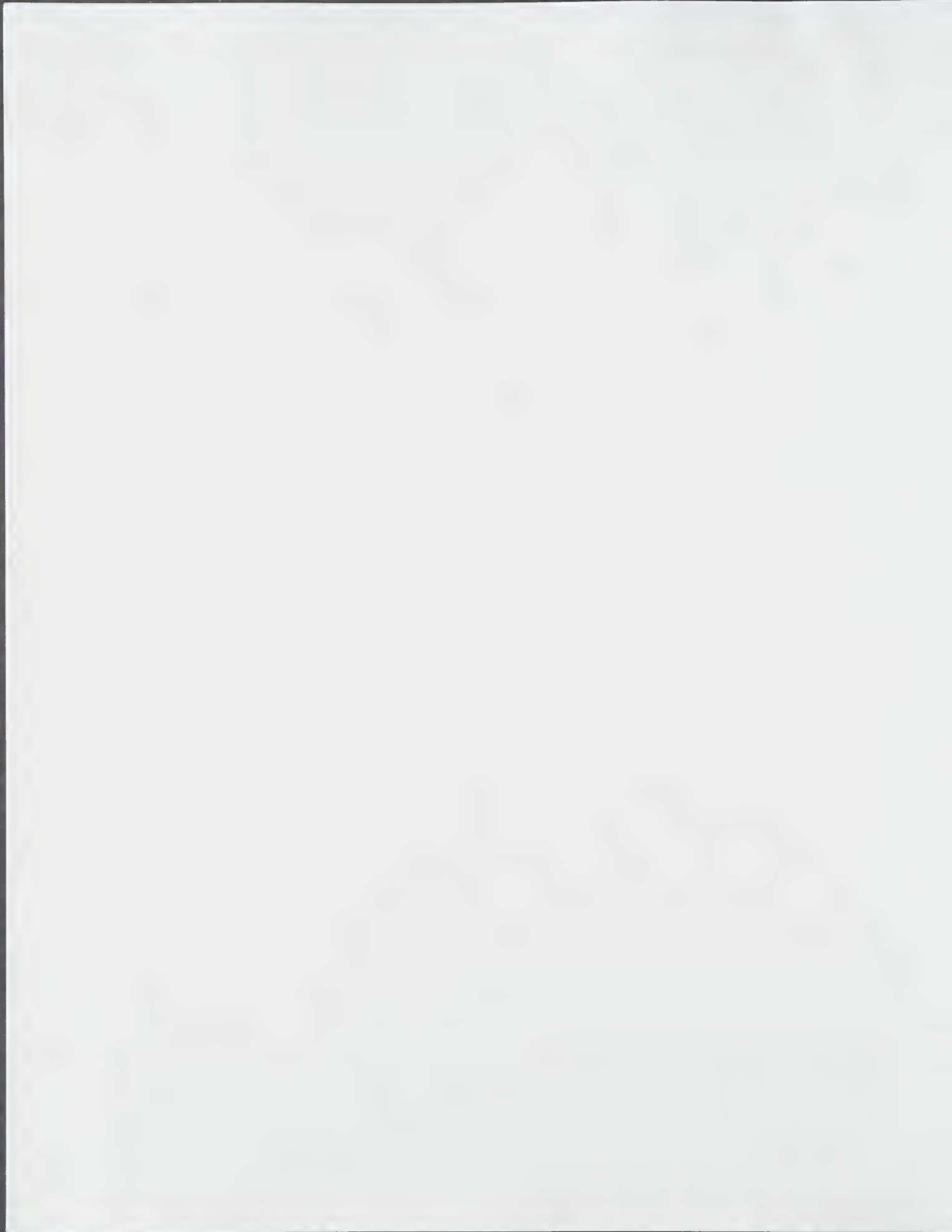
Harry Priem points out that atmospheric carbon dioxide levels lag the changes of temperature (Kuo *et al* give five months). Moreover, the Little Ice Age of A.D. 1400 – 1900 and the Medieval Warm Period of A.D. 900 – 1200 are not associated with significant changes in carbon dioxide levels.

This is an important book. It should be read after a study of the IPCC reports, in particular those produced at Madrid (Nov.1995) and Geneva (Feb.1996), from which I quote,

'Our ability to quantify the human influence is still limited – there are still uncertainties in key factors.'

However, they still claim global warming is happening. Unfortunately, politicians find the IPCC reports acceptable. Would that they would take the trouble to study papers such as those presented in this book and then undertake a serious review of their funding policies.

CHARLES H. BOTTOMS  
*Formerly a Director of Lucas*





Dr. Alfred Bader  
924 East Juneau, Suite 622  
Milwaukee, Wisconsin 53202  
Phone: 414/277-0730  
Fax: 414/277-0709

*A Chemist Helping Chemists*

April 18, 1997

Ms. Madeleine Jacobs  
Editor, *C&E News*  
1155 Sixteenth Street, N.W.  
Washington, DC 20036

**Via fax 202 / 872-8727 (six pages) and  
certified mail (with book)**

Dear Ms. Jacobs:

It was kind of Dr. Bowen to introduce us at the ACS dinner.

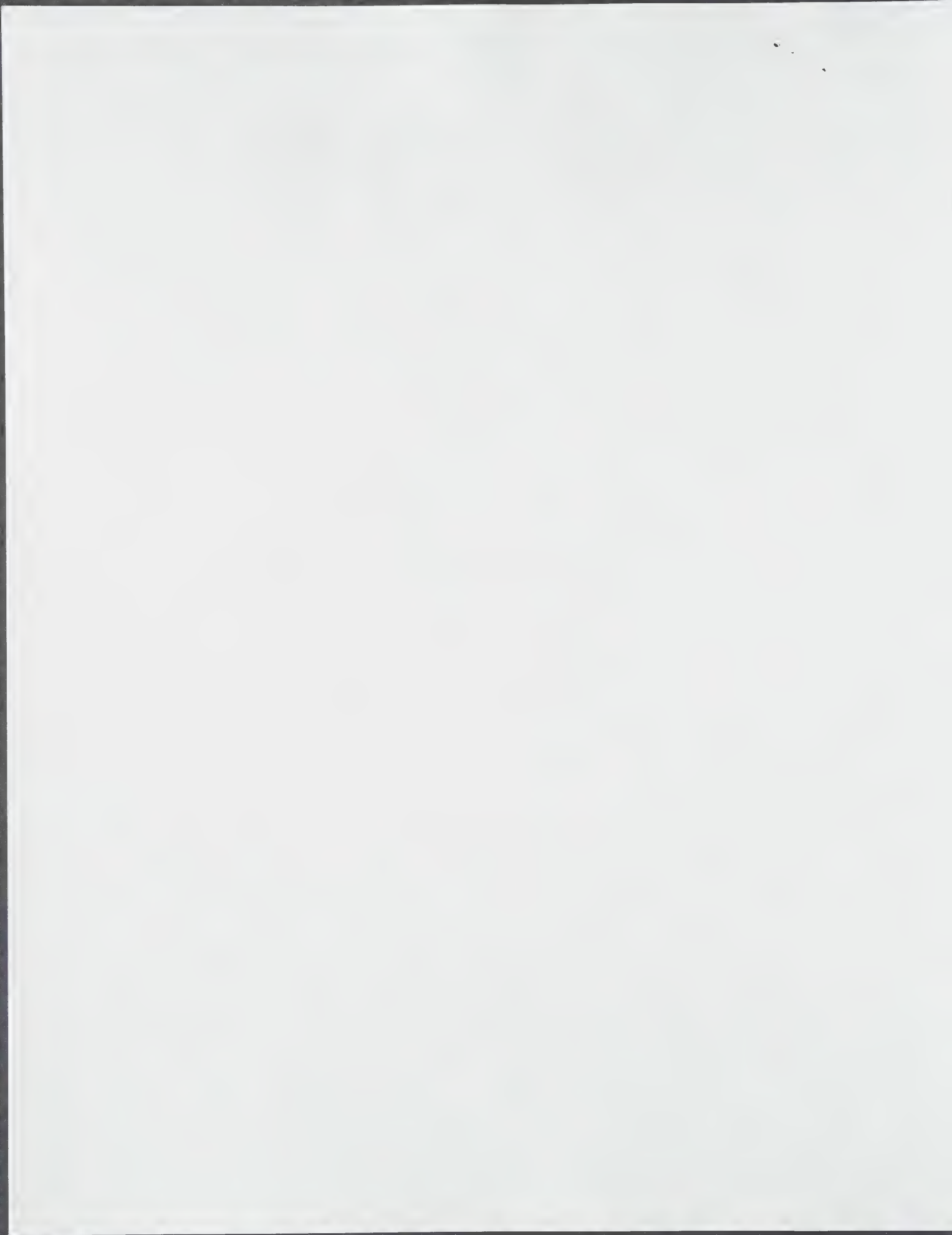
Probably not many people have ever told you that they were shocked on meeting you, but I was. And you knew why. Of course I was disappointed that you did not publish my letter of August 30 (copy enclosed) questioning your editor's, Bette Hileman's judgment. But it never occurred to me that you would not even look at the book I suggested for review.

Let me make a few points.

I am not affiliated with any industry interest group, and I am convinced that the evidence linking stratospheric ozone depletion with CFC's is solid.

Until I read "The Global Warming Debate" I was reasonably certain that global warming due to pollution is taking place.

I am not really knowledgeable about environmental matters, just an interested chemist. That book shook me up, particularly because I know two of the scientists, both from Imperial College, and neither is affiliated with industry. Sadly, one of them, the Nobel Laureate, Sir Geoffrey Wilkinson, died just recently. The other, John Emsley, is a competent chemist and science writer.





Ms. Madeleine Jacobs  
April 18, 1997  
Page two

Perhaps I was naive to suggest to you that you ask Bette Hileman to review the book, but I hoped that you would think "this is worth considering. We should have a look at the book."

In your April 7 issue you had an interesting review by Professor Ralph Cicerone of Anne and Paul Ehrlich's book "Betrayal of Science and Reason." "The Ehrlichs urge more - indeed all - scientists to enter the public fray."

That is exactly what I am doing, and I enclose the book, as you suggested. Enclosed also are three reviews, written - I believe - calmly and by competent experts. Please note particularly the review in the *International Journal of Climatology*.

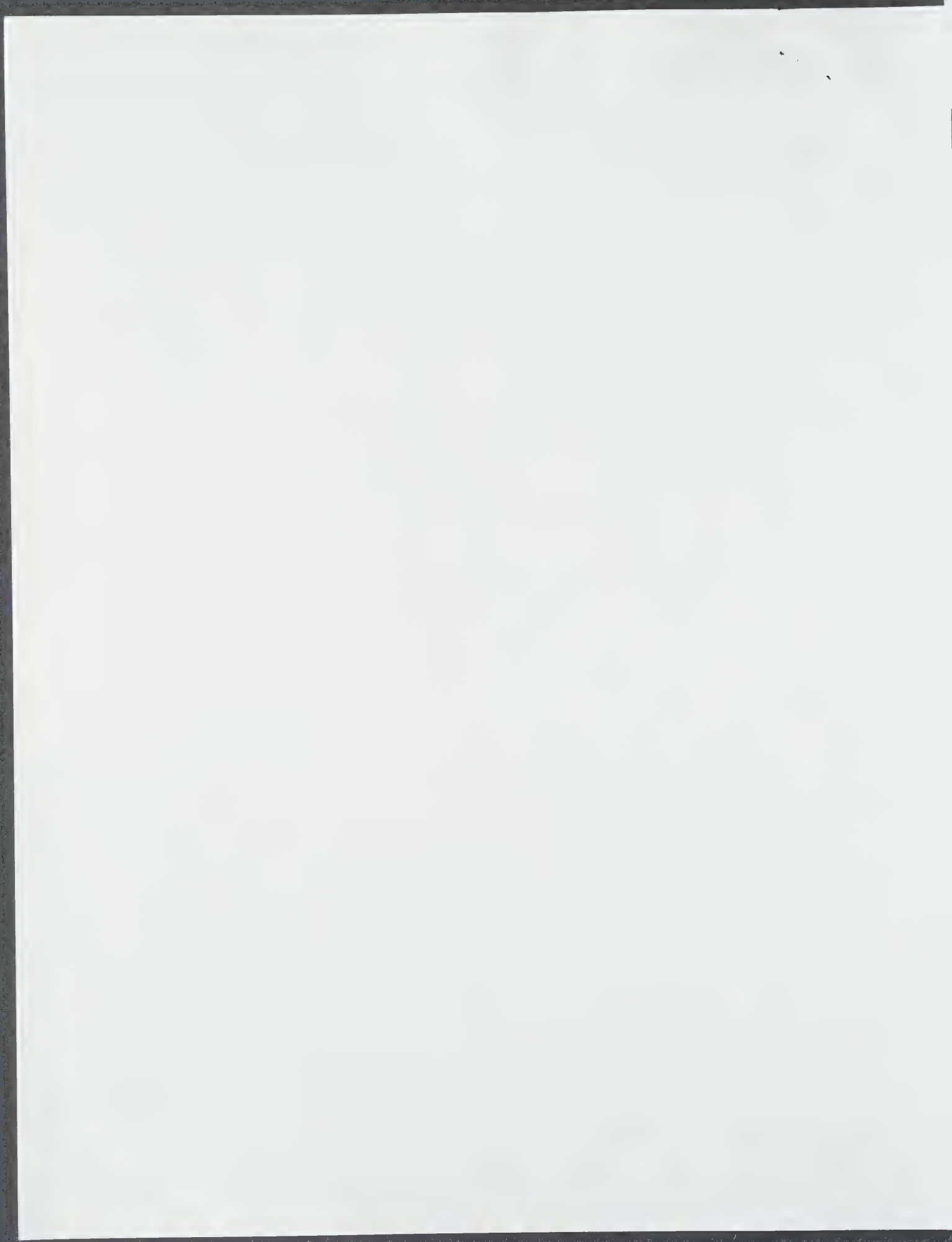
Billions are spent around the world, to combat global warming. Is global warming a reality or are the billions wasted? Your review of that book will not give all the answers, but will surely help chemists who are perplexed by this controversy.

Best regards,

Enclosures

cc: Dr. John Emsley  
Imperial College

Dr. D. H. Michael Bowen  
ACS



THE SUNDAY TELEGRAPH  
MARCH 17, 1996

# The cold truth about global warming

Matt Ridley on a trenchant reply to the scaremongers

THE EARTH'S climate is getting hotter. Man-made carbon dioxide is the main cause. The rate of warming is predicted to be faster than at any time in history. Computer models accurately mimic world climate. The effect of climate change on the ecology of the planet will be disastrous. Virtually all reputable scientists agree with all these sentences.

All of the sentences in the preceding paragraph are false. This book — a series of essays (some brilliant, some terrible) by scientists dissenting from the alarmist consensus on global warming — proves as much in painstaking and convincing detail.

There is no current warming trend at all, according to reliable balloon and satellite data. Man-made carbon dioxide is not the main cause of atmospheric warming; at most it amounts to four per cent of natural effects. Even the official models now predict as little as half a degree of warming in the next century — which will be all but undetectable. The computer models of the

## The Global Warming Debate ed by John Emsley

The European Science and Environment Forum, £15

.....  
world's climate are hopelessly poor predictive tools, made to fit past data only by heroic feats of fudging.

The official predictions about the effects of global warming produce mixed results — just as many positive as negative ones. But the positive ones are suppressed. And the great "consensus" among scientists on this matter is a piece of circular argument: only those scientists who agree with the conventional wisdom are allowed to influence the papers put out by the United Nations.

The truth is, catastrophic man-made global warming is no longer likely. It was a hypothesis, based on plausible but flawed physics, that has not stood up to scrutiny. Global warming is, in fact, either going to be mild or non-detectable against the normal fluctuations of climate. Yet too many

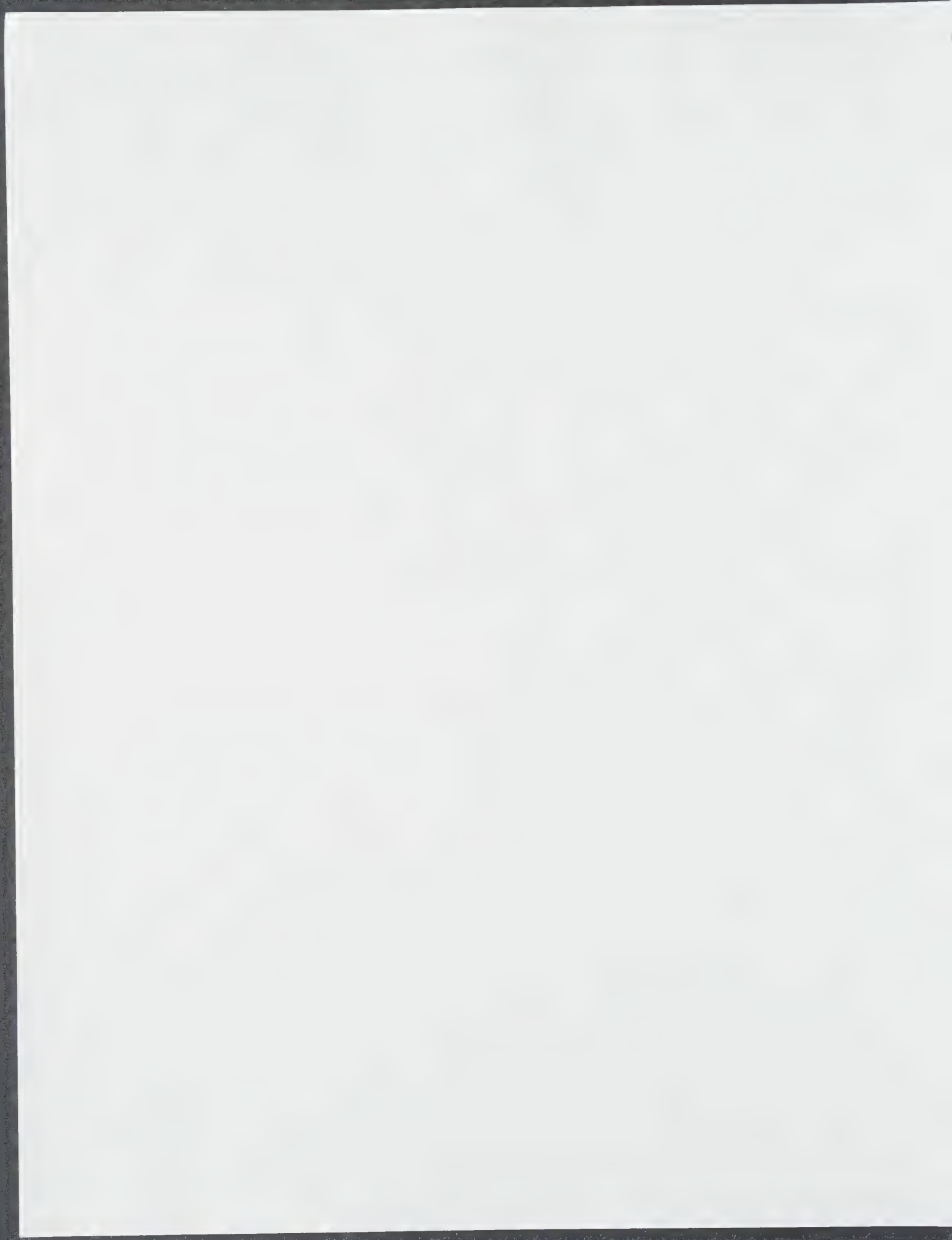
people now have a vested interest in it to admit as much.

The "Greenhouse" industry is a splendid gravy train providing luxurious jobs for bureaucrats (the three-year "Global Environment Facility" set up at the Rio summit in 1992 has just quietly made itself permanent), lavish grants for scientists, lashings of publicity for Green pressure groups, and a steady supply of alarmist stories for journalists with which to catch editors' attention.

So all these groups are defending alarmism for all they are worth, and using some questionable tactics to boot, as this book reveals: one scientist refused to release details of his data to a scientist appointed by the United Nations to review it.

**The Global Warming Debate** is a devastating exercise in imperial strip-tease. The many scientists who contributed to it are not prepared to go on telling the emperor he is fully clothed.

*The European Science and Environment Forum, tel/fax 0171-924 2307.*



## BOOK REVIEWS

THE GLOBAL WARMING DEBATE — THE REPORT OF THE EUROPEAN SCIENCE AND ENVIRONMENT FORUM. ED. J. EMSLEY, ESEF, LONDON, 1996. No. of pages: 288, Price: £15.00. ISBN 0952773406. Available from ESEF, 73 McCarthy Court, Banbury Street, London, SW11 3ET.

In a previous issue of the *International Journal of Remote Sensing* (1995, p. 168) I reported on a publication from the European Science and Environment Forum called *Global Warming—Apocalypse or Hot Air?* which attempted to alert the public to the fact that there was another side to the argument about global warming. This present report takes the argument one step further by bringing together articles that attempt to analyse the evidence and conclusions that have been used to influence political decisions. The tenor of the articles is emotive and stresses one side of the argument—but so has the establishment lobby up till now.

The case put forward is that politicians behaved irresponsibly by promulgating scare scenarios based on hearsay, that the scientific evidence collected to back up this stance was one-sided, and that scientists have been insufficiently questioning in their scramble for research funding. These are contentious accusations, and certainly will not go down well with the establishment. However this book certainly makes a good attempt to provide chapter and verse to uphold its thesis and should provide fuel for future debate.

The butt of the argument is the Intergovernmental Panel for Climate Change (IPCC), an 'influential body of science policy makers which presents itself as the consensus of science opinions which it achieves by excluding those scientists which question its findings'. This book offers some of these excluded scientists an alternative platform for their view in a modest attempt (*sic*) to open up the global warming issue to proper scientific debate and, as in the quotation above, it pulls no punches in this respect.

The first section contains papers on the role of carbon dioxide in the global greenhouse. One paper points out that rising levels of CO<sub>2</sub> actually promote plant growth and at the same time reduce their demand for water, which combined effect should lead to a greening of the earth—signs of which are already evident. Other papers question the basis of predictions of both rising levels of CO<sub>2</sub> and its effect on climate. Are the input figures correct and are the prediction models valid? Will not the atmosphere reach saturation before the apocalypse occurs and where is the evidence of sea-level rise?

The next section highlights some measurement problems. How compatible are historical records? Have we always been measuring the same thing? What is global temperature? How significant are natural fluctuations in

temperature, etc.? Most of the temperature rise over the last 100 years took place in the first half of the century. Hardly any rise has been detected by satellite observations in the last 30 years. This then leads on to a critique of the use of models, particularly by the IPCC, whose predictions have become less apocalyptic over the years as they have 'adjusted' their predictions by considering other factors such as the presence of sulphate aerosols in the atmosphere. The contention is that poor models and poor input data can be used to predict what you like. There is here an interjection by Fred Hoyle whose back-of-envelope calculations suggest that most changes in temperature, CO<sub>2</sub> concentrations, etc., should be self-cancelling anyway.

There are also papers on the political issues. One traces the global warming campaign from its inception in the 1980s to the Berlin conference of 1995. Another attempts to show how scientific consensus may have been arrived at and yet another tries to analyse the complex interrelation between science, politics and the green lobby and how it got us to where we now are. This author states 'it is most unlikely that the debate will be resolved in the short run by science. Science will remain the servant of politics, and should therefore take great care in what it offers and how it responds to opportunities. Short-termism may not only be the fate of politicians'.

Certainly global warming seems to be slipping down the political agenda as gloomy predictions fail to materialize and the cost of implementing the social and technological changes suggested to 'stem the tide' are seen to be unpalatable. I do encourage people to read this book. You may not agree with the conclusions but I deny anyone not to have a nagging doubt about the arguments after doing so. Perhaps some of you may even wish to contribute to the second volume which is now on the stocks. No-one should be afraid of healthy debate in science.

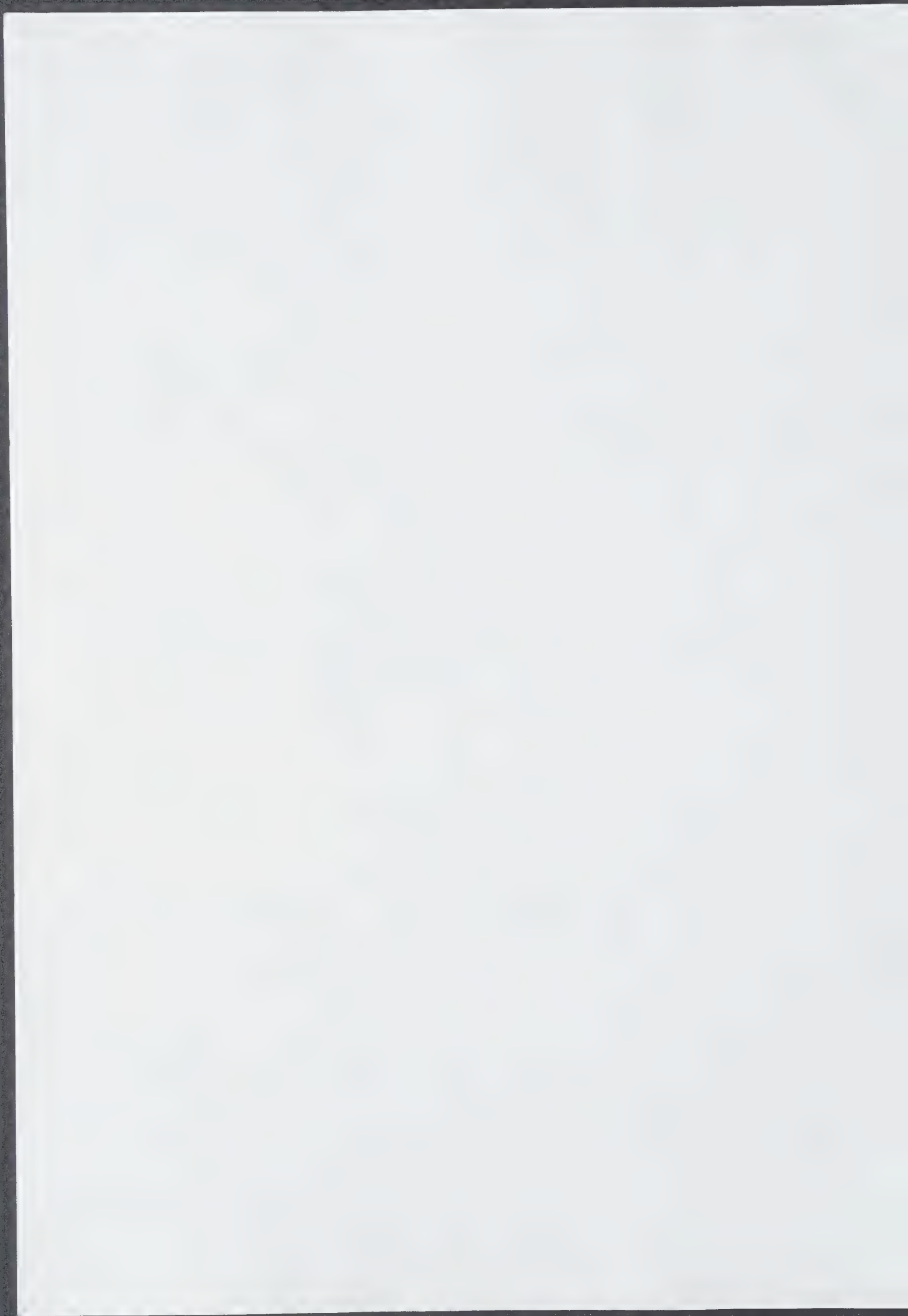
ROBIN A. VAUGHAN  
*University of Dundee*

SCIENTIFIC RESULTS OF THE GERMAN ATLANTIC EXPEDITION OF THE RESEARCH VESSEL *METEOR*. 1925-1927, English translation by N.P. Date, A.A. Balkema (Rotterdam)

Volume 5, TEMPERATURE, SALINITY AND DENSITY OF THE SURFACE WATERS OF THE ATLANTIC OCEAN, translation of *Temperatur, Salzgehalt und Dichte an der Oberfläche des Atlantischen Ozeans*, 1992, G. Böhnecke, Verlag von Walter de Gruyter Co. (Berlin and Leipzig), 1936. XXIV Plates ISBN 90-5410-238-1.

CCC 0899-8418/97/040455-03 \$17.50

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# THE GLOBAL WARMING DEBATE

## The European Science and Environment Forum

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"The ESEF report on global warming is essential reading for anyone who, like me, has been concerned that the science behind global warming theory lacks a firm foundation, and that the debate on this key issue has been so one-sided."

Professor Sir Geoffrey Wilkinson,  
Nobel Laureate for Chemistry, 1973.  
Imperial College, London

"The Intergovernmental Panel on Climate Change (IPCC) was set up to provide the consensus view of science on Global Warming. In this important book almost every link in the IPCC chain of arguments is challenged by respectable scientists. The question is not whether the dissenters are right or not. The point is that they have proven, beyond doubt, that there is no such thing as a "consensus view" on Global Warming. These questions have to be solved by the traditional means of empirical science. The IPCC approach has proven to be a failure."

Tor Ragnar Gerholm  
Professor of Physics, University of Stockholm  
Member of the Royal Swedish Academy of Sciences

"Everybody who wants to obtain unprejudiced statements on the available evidence pro or contra anthropogenic climate change should read the contributions of this book. He will gain a clear impression on the validity of the asserted evidence for an impending climate catastrophe".

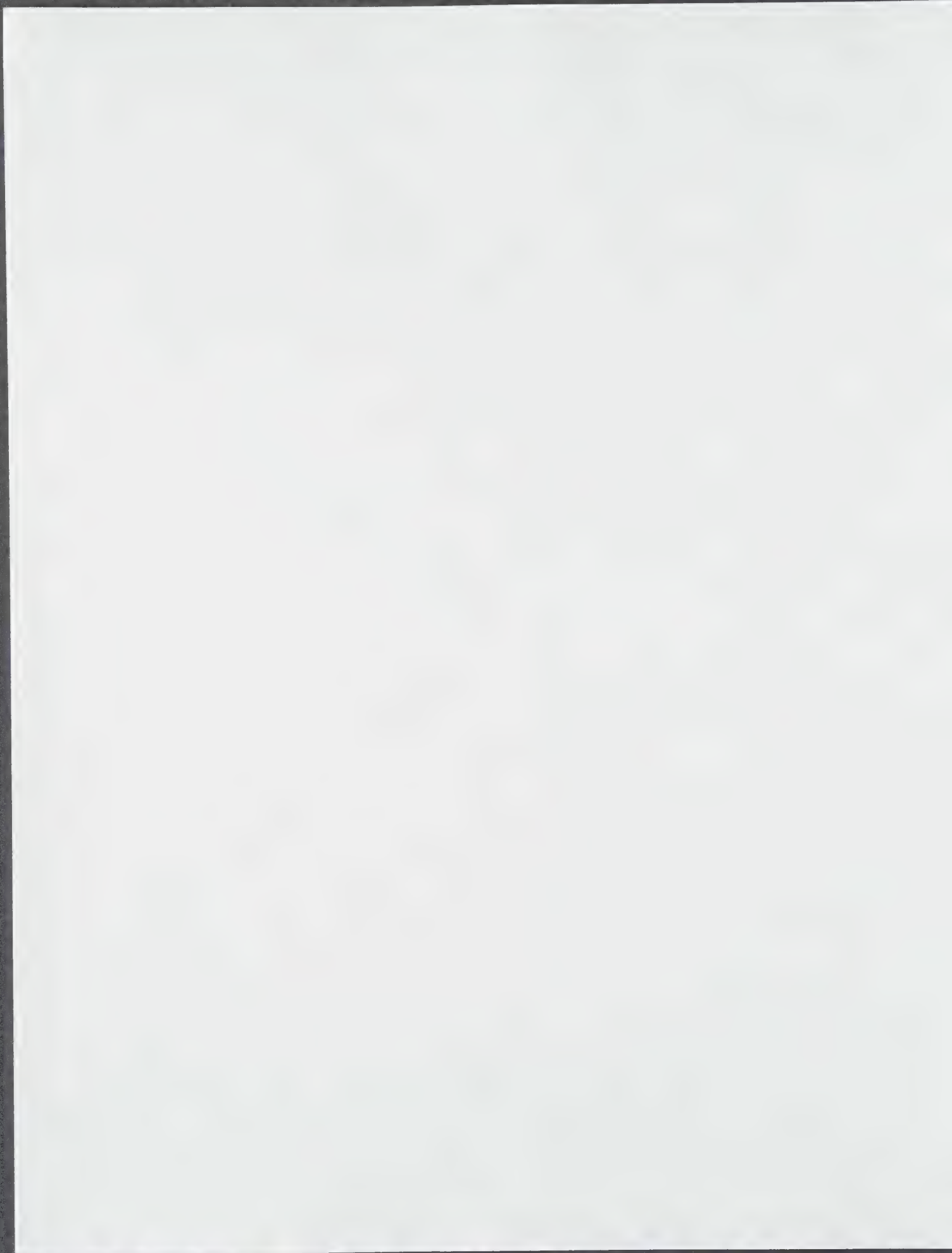
Helmut Metzner  
President of the European Academy for Environmental Affairs  
Tübingen, Germany

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The European Science and  
Environment Forum  
73 M'Carthy Court, Banbury Street  
London SW11 3ET

Tel. & Fax  
0171-924-2307

£15.00: \$25.00: DM35.00:





August 30, 1996

Ms. Madeleine Jacobs  
Editor  
*C&E News*  
1155 Sixteenth Street, N.W.  
Washington, DC 20036

Dear Ms. Jacobs:

I read Bette Hileman's article, "*Global warming is target of disinformation campaign*" (*C&E News*, August 19) with deep concern. She states that "a systematic campaign of disinformation" is funded by industries with a vested interest.

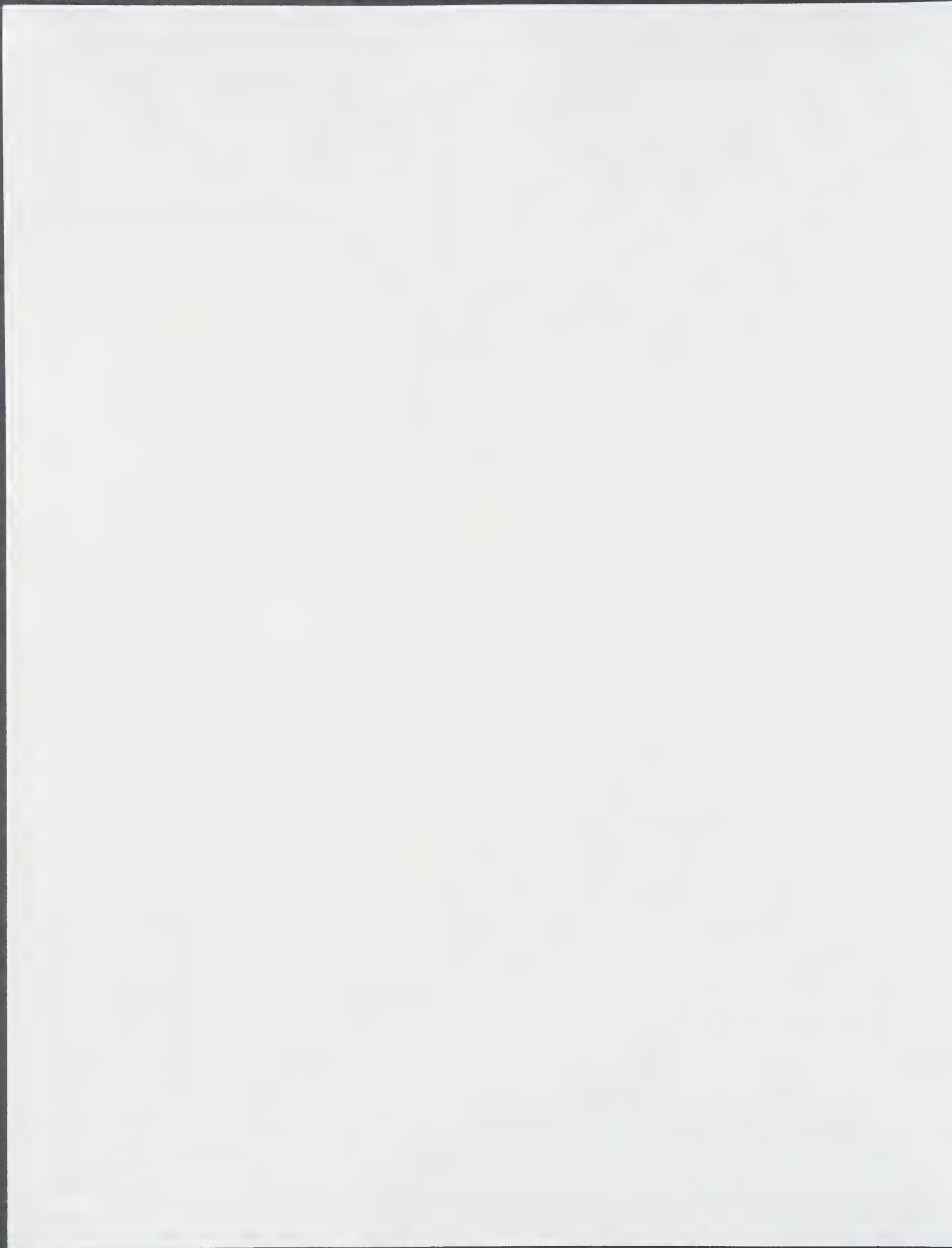
Please review "*The Global Warming Debate*" (The Report of the European Science and Environment Forum [ESEF]; details enclosed) edited by John Emsley, an eminent science writer and chemist at Imperial College in London. The back cover quotes the Nobel Laureate, Sir Geoffrey Wilkinson: "The ESEF report on global warming is essential reading for anyone who, like me, has been concerned that the science behind global warming theory lacks a firm foundation, and that the debate on this key issue has been so one-sided."

Clearly there are scientists without vested interests who believe there is little threat of global warming. "How can scientists defend the integrity of their work when it is difficult for those outside the field to understand the details?", Ms. Hileman asks. There are scientists inside the field who disagree.

I do not know who is right, but it is so important for us to hear both sides fairly presented.

Sincerely yours,

AB/cw  
Enclosures





Dr. Alfred Bader  
924 East Juneau, Suite 622  
Milwaukee, Wisconsin 53202  
Phone: 414/277-0730  
Fax: 414/277-0709

*A Chemist Helping Chemists*

August 18, 1997

**Ms. Madeleine Jacobs**  
Editor, *C&E News*  
1155 Sixteenth Street, N.W.  
Washington, DC 20036

Dear Madeleine:

Thank you so much for your long and thought provoking letter of August 11.

I do hope that you have recovered completely from the major surgery.

You may recall that when I first wrote to you about "The Global Warming Debate," I explained that I was unfamiliar with all the pros and cons of the subject but rather surprised about the contents of this book.

The very first name I saw recommending the book highly was that of Professor Sir Geoffrey Wilkinson, whom I have known for many years as a highly respected scientist and, of course, a Nobel Laureate.

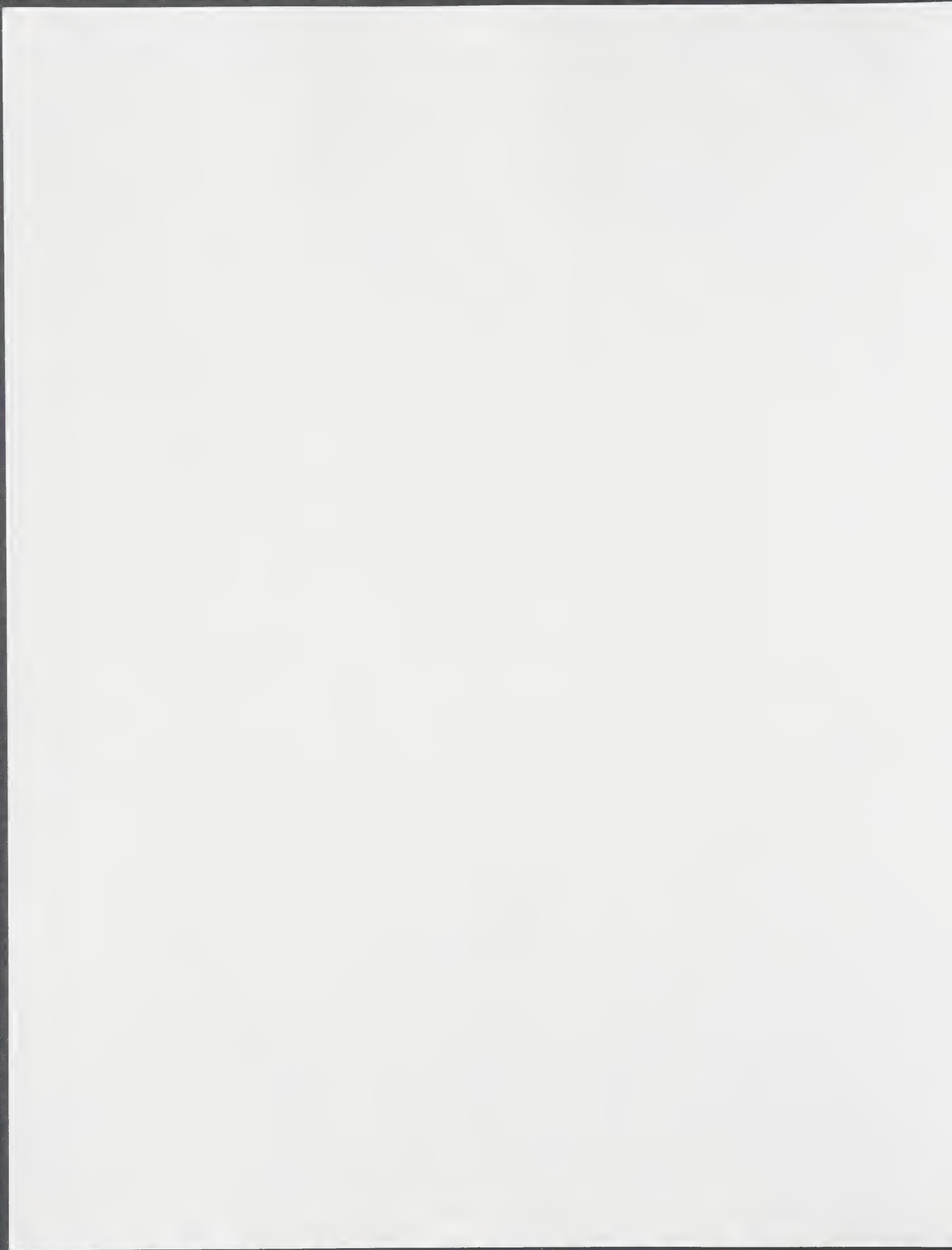
Hopefully we will live long enough to see how this debate is resolved.

With many thanks for your thoughtfulness, I remain,

Yours sincerely,

AB/nik

bc: John Emsley



August 11, 1997

Dr. Alfred Bader  
924 East Juneau, Suite 622  
Milwaukee, WI 53202

Dear Alfred:

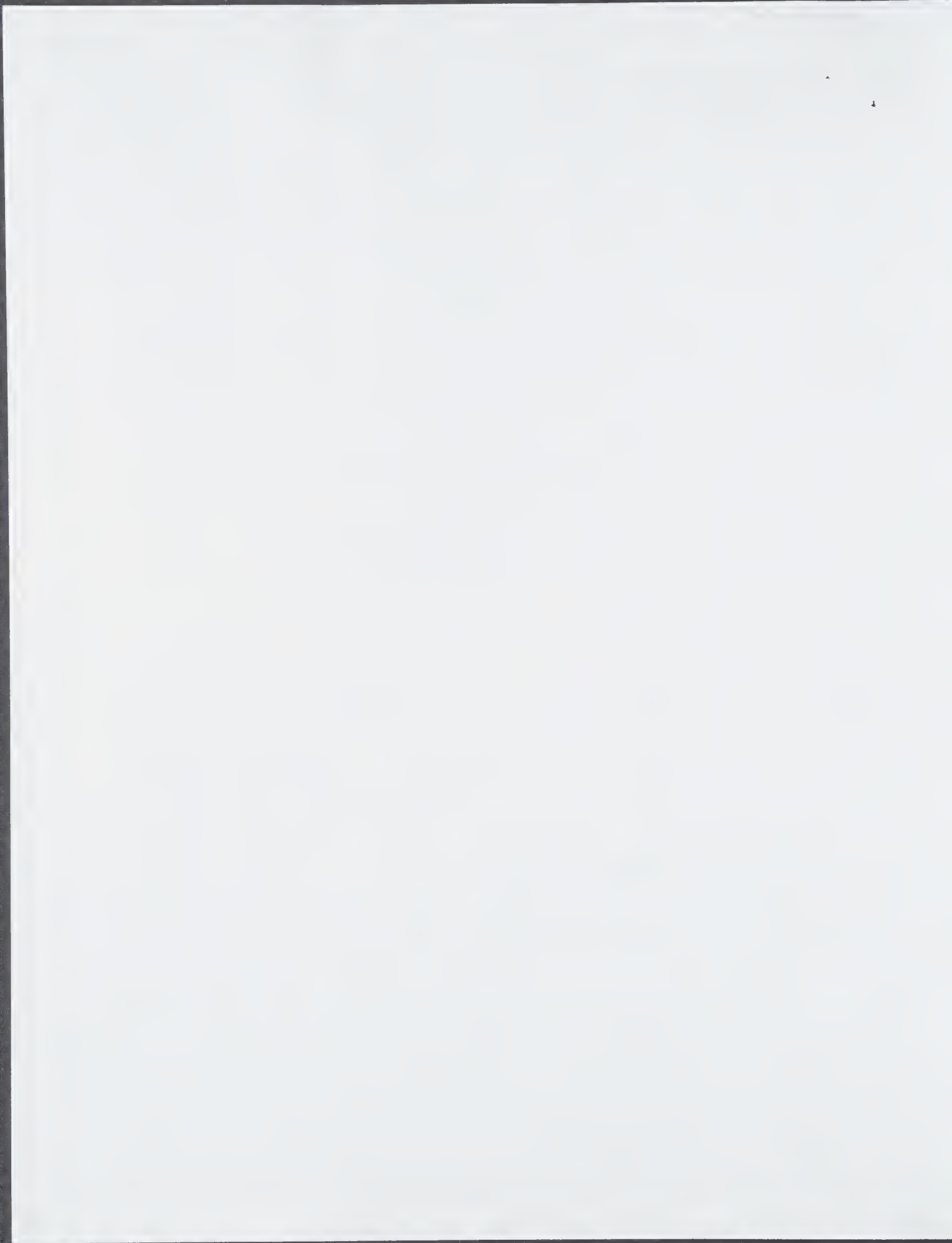
This is a long-overdue apology and response to you about the book you so kindly sent me in the spring, "The Global Warming Debate: The Report of the European Science and Environment Forum." I am, by the way, returning it to you with this letter. Before I go into detail, I want to explain why it took me so long to respond to you. I had a very heavy travel schedule this spring and although I turned my attention promptly to this, I got behind on responding to letters. Your letter fell victim to a backlog. I'm now home recuperating from major surgery and am able to give you the proper response which you deserve.

As you know, the book was published more than a year ago, which would ordinarily automatically eliminate it from consideration for review in C&EN. However, after seeing the book, I remembered it; our book review editor looked at it and decided not to review it a long time ago, when it was still a recently published book. She talked to various reporters on our staff at that time, and she's talked to them again about it.

The book is a compilation of papers written by different authors designed specifically to present only one side of an important policy issue. Neither being a series of papers nor being one-sided would absolutely rule out reviewing the book, but they're strikes against it. If we were going to review such a deliberately one-sided book, I would probably want to pair it with another book that presented the other side.

Bette Hileman, our reporter who covers global warming, took a look at the book when we first thought about reviewing it, and she discussed it with a couple of people who work in the field. The people that she talked to are ones that we considered "neutral" in their own position about whether global warming is a matter of concern. They told her that this is an awful book, and she agreed with them. She tells me it's internally inconsistent, and many of the contributors are from the radical fringe of the debate, not even the more respected spokesmen for their own point of view. I looked at it as well and I agree with her assessment.

As you know, some 2000 scientists signed a document supporting the Intergovernmental Panel on Climate Change report, and they include all the prominent scientists working in the



Bette tells me. The best she could do in looking for a sympathetic person to comment on this book was to talk to folks who aren't sure whether it's appropriate to try to do something about the impact of global warming now. There are people who think we have time to wait a decade or two before taking action and that by then we'll know more, so waiting is the way to go. But even the folks she talked to don't like this book.

By all indications, if we had sent this book out for review, the reviewer would have trashed it, even if we had deliberately chosen someone inclined to be sympathetic with the book's thesis.

What the book has going for it, of course, is its subject, which is an important one, particularly to our readers. But even that doesn't necessarily recommend it as a book to review because we already cover the subject in depth in C&EN and with a balance that's not in this book.

I'm sorry that you got the impression that we didn't consider reviewing this book because we did--quite thoroughly--and decided against it. I think that was the right decision.

One more point I might make. I receive a few letters a year from ACS members who do not believe that global warming is happening and that it is junk science, or worse. They usually accuse C&EN of being one-sided and of not presenting both sides of the picture. This is not true. When an article is published in a scientific journal that disputes aspects of global warming, when a group that is respected makes a statement about global warming that is contrary to the "popular" view, we report on them. I've compiled a set of articles from 1993 to the present on this and I'm enclosing that as well. I believe our coverage has been fair, balanced, and accurate.

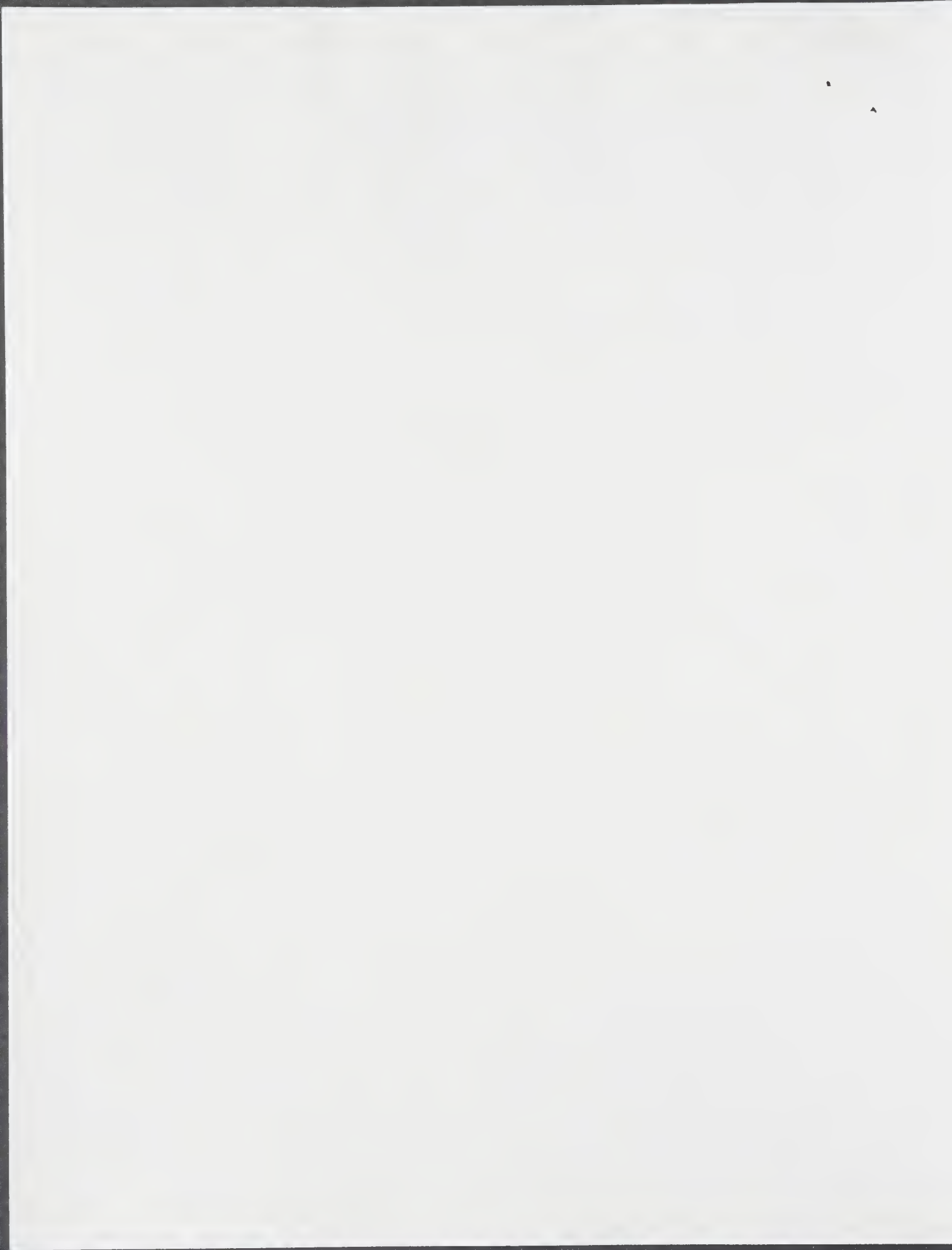
Again, my apologies to you for the tardiness of this response. I hope this finds you well.

Sincerely yours,



Madeleine Jacobs  
Editor

Enclosures (2)







Dr. Alfred Bader  
924 East Juneau, Suite 622  
Milwaukee, Wisconsin 53202  
Phone: 414/277-0730  
Fax: 414/277-0709

*A Chemist Helping Chemists*

April 28, 1997

Ms. Madeleine Jacobs  
Editor, *C&E News*  
1155 Sixteenth Street, N.W.  
Washington, DC 20036

Dear Madeleine:

Thank you for your thoughtful letter of April 21, st and particularly for signing your letter 'Madeleine'.

When next I write a letter to you which I hope you will publish, I will just add a P.S. mentioning that.

In the meantime, you will have received the book I sent you, and I am very curious to receive an outside opinion. There are many chemists who are likely to be as confused about this vital subject as I am, and here is a book written by some eminent scientists expressing views quite contrary to the accepted position.

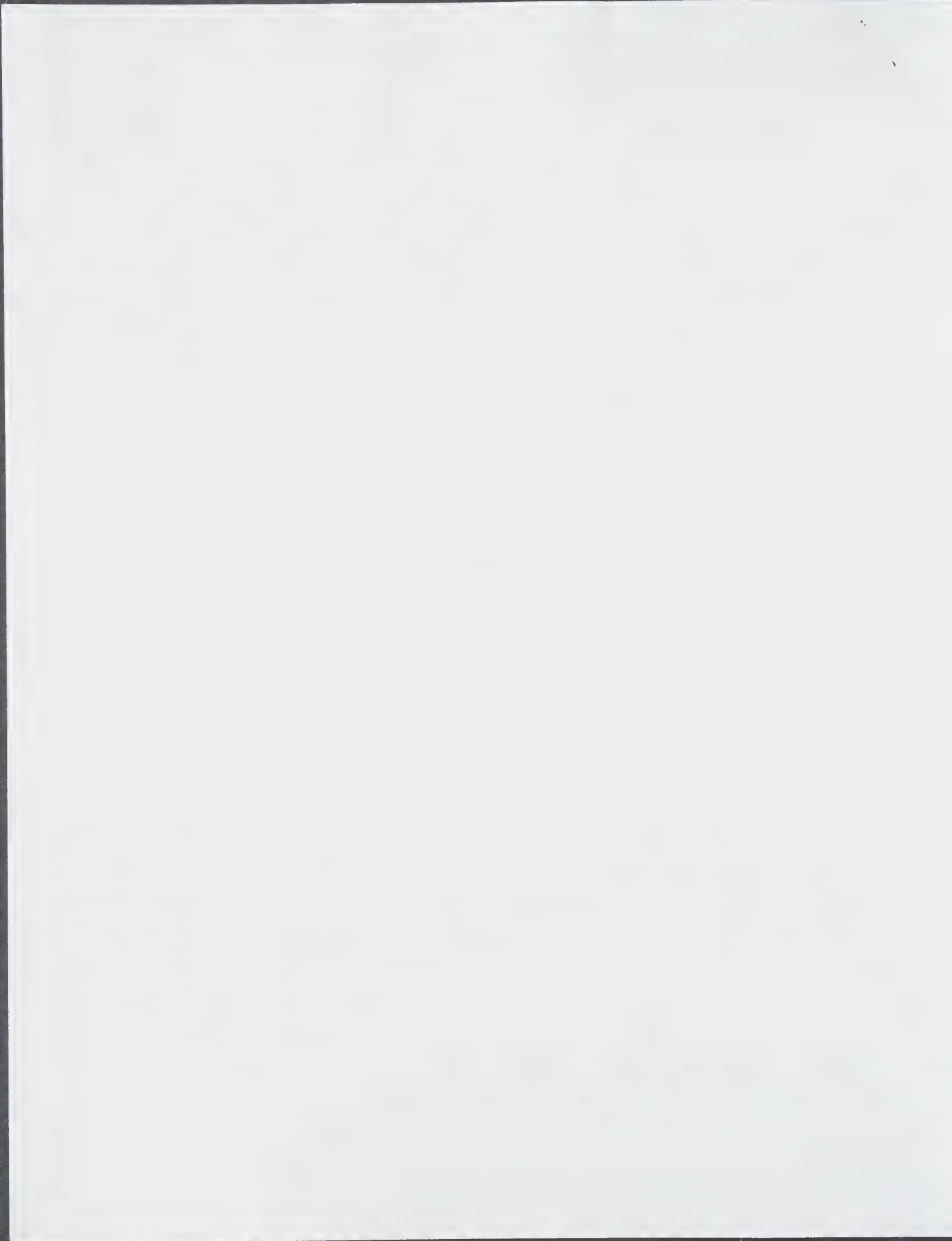
With all good wishes, I remain,

Yours sincerely,

AB/cw

Enclosures

bc: John Emsley



April 21, 1997

Dr. Alfred Bader  
924 East Juneau, Suite 622  
Milwaukee, Wisconsin 53202

Dear Dr. Bader:

I received your fax of April 18 but have not yet received the hard copy and the book. I also enjoyed seeing you again at the ACS Heroes of Chemistry dinner. (We have met before, several times in fact. I am a great admirer of yours!)

On the subject of the book, I would like to make several points. The fact that I had not personally looked at the book does not mean that I was not aware of it or that I dismissed your earlier letter to me. In fact, I was not aware that your letter of August 30 was intended as a letter to the editor to be published. That is perhaps my fault, but as I look this letter over today, it does not seem to me that you intended it for publication. I receive 100 letters a month and each one does get my personal attention. I don't know how I could have misunderstood the intent of your letter. For this, I apologize.

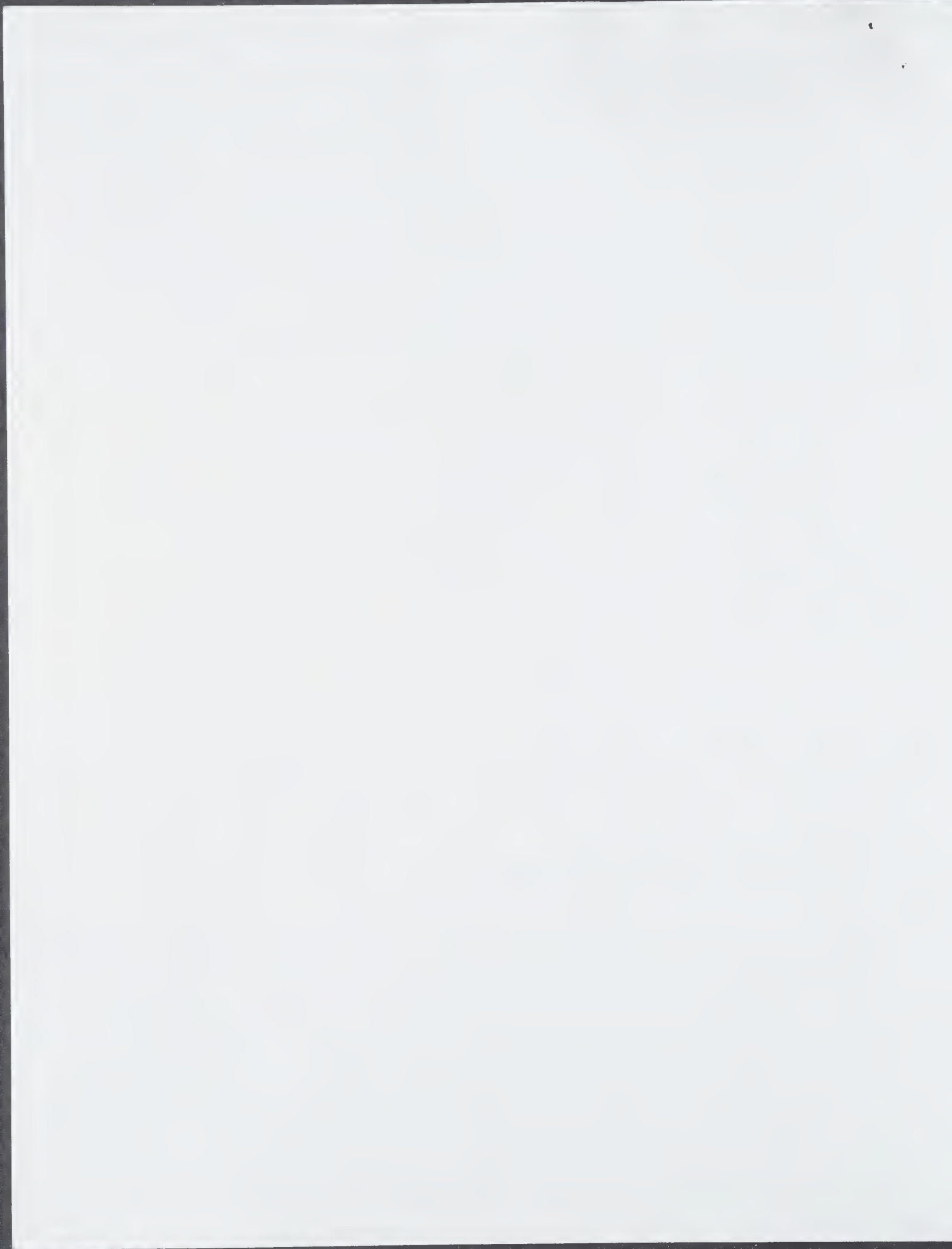
I did, however, discuss the book with my staff. I also believe that we have devoted a great deal of time and space in C&EN to both sides of this controversy. But I have an open mind. When I receive the book in the mail, I promise that I will have someone look it over with an eye toward reviewing it. I do not promise that we will review it, but it will get full consideration.

We are running a photograph of you in the April 28 issue of you at your book signing. I understand a lot of people were lined up to buy your book, which, by the way, I enjoyed reading very much.

Sincerely yours,



Madeleine Jacobs  
Editor, C&EN





Dr. Alfred Bader  
924 East Juneau, Suite 622  
Milwaukee, Wisconsin 53202  
Phone: 414/277-0730  
Fax: 414/277-0709

*A Chemist Helping Chemists*

April 18, 1997

Ms. Madeleine Jacobs  
Editor, *C&E News*  
1155 Sixteenth Street, N.W.  
Washington, DC 20036

**Via fax 202 / 872-8727 (six pages) and  
certified mail (with book)**

Dear Ms. Jacobs:

It was kind of Dr. Bowen to introduce us at the ACS dinner.

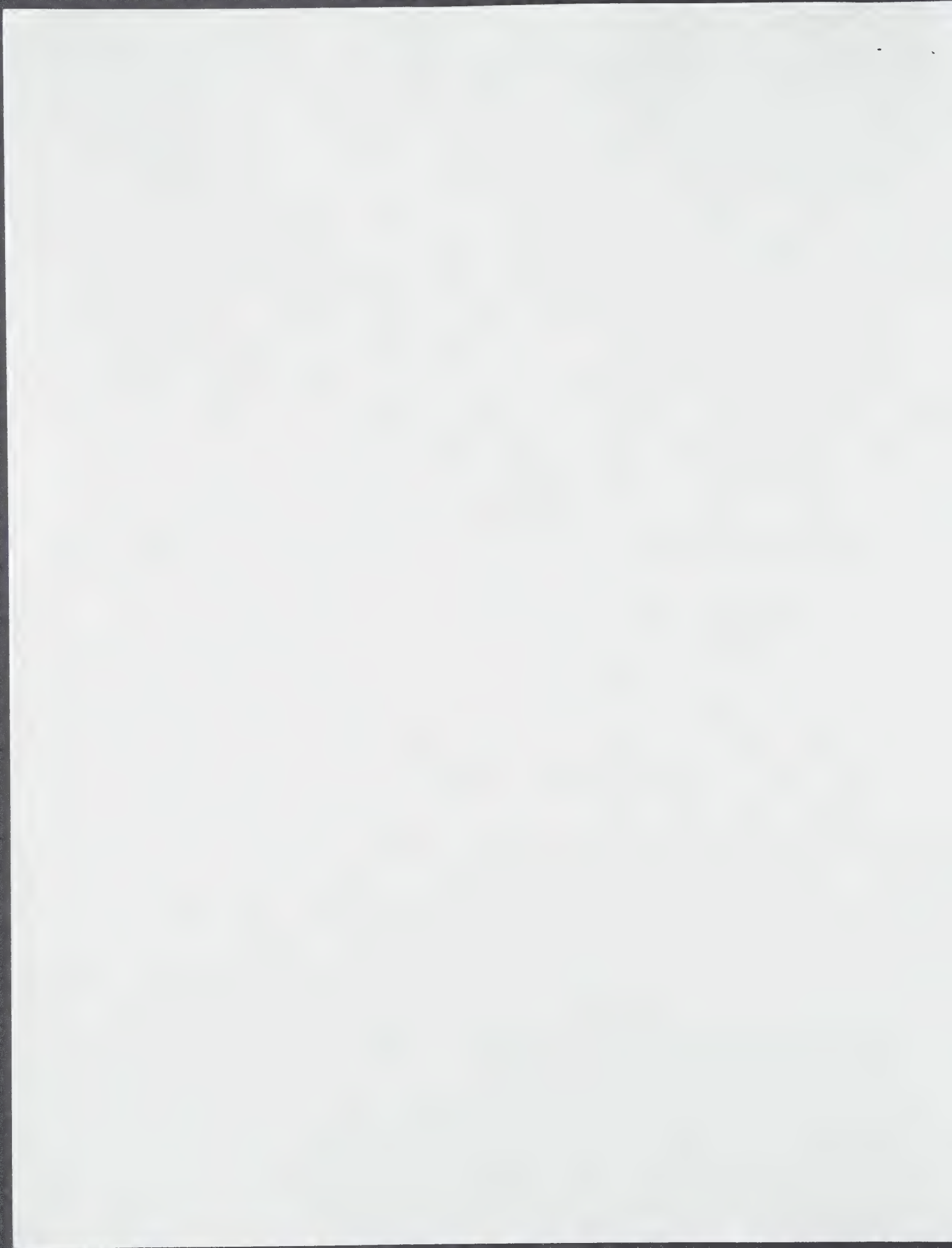
Probably not many people have ever told you that they were shocked on meeting you, but I was. And you knew why. Of course I was disappointed that you did not publish my letter of August 30 (copy enclosed) questioning your editor's, Bette Hileman's judgment. But it never occurred to me that you would not even look at the book I suggested for review.

Let me make a few points.

I am not affiliated with any industry interest group, and I am convinced that the evidence linking stratospheric ozone depletion with CFC's is solid.

Until I read "The Global Warming Debate" I was reasonably certain that global warming due to pollution is taking place.

I am not really knowledgeable about environmental matters, just an interested chemist. That book shook me up, particularly because I know two of the scientists, both from Imperial College, and neither is affiliated with industry. Sadly, one of them, the Nobel Laureate, Sir Geoffrey Wilkinson, died just recently. The other, John Emsley, is a competent chemist and science writer.



Ms. Madeleine Jacobs  
April 18, 1997  
Page two

Perhaps I was naive to suggest to you that you ask Bette Hileman to review the book, but I hoped that you would think "this is worth considering. We should have a look at the book."

In your April 7 issue you had an interesting review by Professor Ralph Cicerone of Anne and Paul Ehrlich's book "Betrayal of Science and Reason." "The Ehrlichs urge more - indeed all - scientists to enter the public fray."

That is exactly what I am doing, and I enclose the book, as you suggested. Enclosed also are three reviews, written - I believe - calmly and by competent experts. Please note particularly the review in the *International Journal of Climatology*.

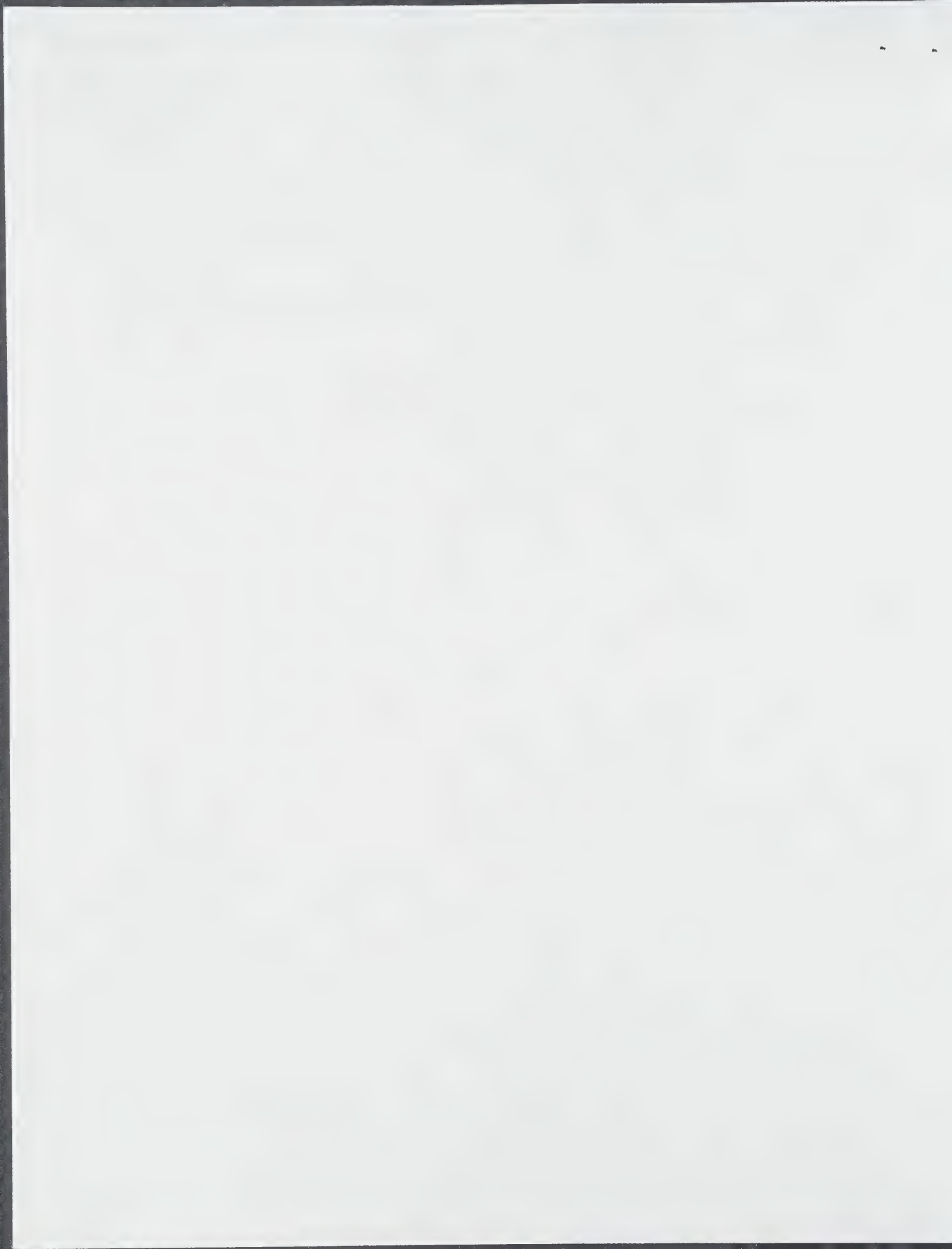
Billions are spent around the world, to combat global warming. Is global warming a reality or are the billions wasted? Your review of that book will not give all the answers, but will surely help chemists who are perplexed by this controversy.

Best regards,

Enclosures

cc: Dr. John Emstey  
Imperial College

Dr. D. H. Michael Bowen  
ACS





September 27, 1996

*Via Mail and Fax: 202/872-8727 - Page 1 of \_\_\_\_\_*

Ms. Madeleine Jacobs  
Editor, *C&E News*  
1155 Sixteenth Street, N.W.  
Washington, DC 20036

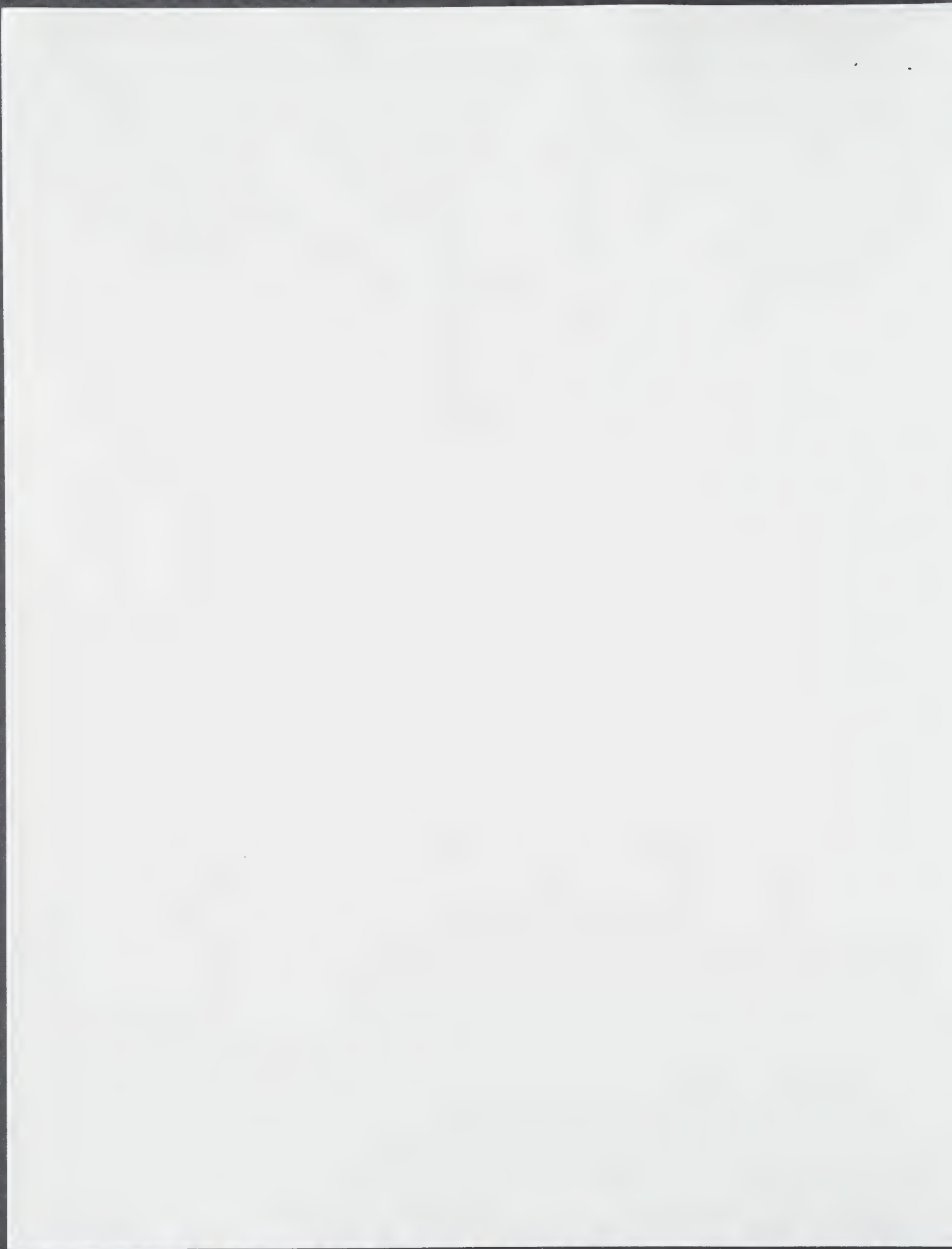
Dear Ms. Jacobs:

Thank you for your thoughtful letter of September 16th.

*C&E News* is one of three publications that I read cover to cover, and I read Dr. Wirth's interview and the pertinent question and answer on page 24 before your letter arrived. I said to myself, "Wirth's answer is what mine would have been, before I read the ESEF report."

Please don't think for a moment that I consider myself an expert on global warming. I am not. But I am very impressed by the arguments in *The Global Warming Debate*. When I wrote to you, I had seen only one review, in *The Sunday Telegraph*, not known for its scientific excellence. But since then, I have read the review in the *Royal Society of Arts Journal*, copy enclosed. Please note particularly the review's third paragraph.

Please do have that book reviewed. Perhaps the best reviewer would be Bette Hileman, who is so familiar with the subject. If the book is flawed, she will point that out in detail. And if it is not, I am confident that she, a senior editor, will have the strength to say, "This deserves a second look."



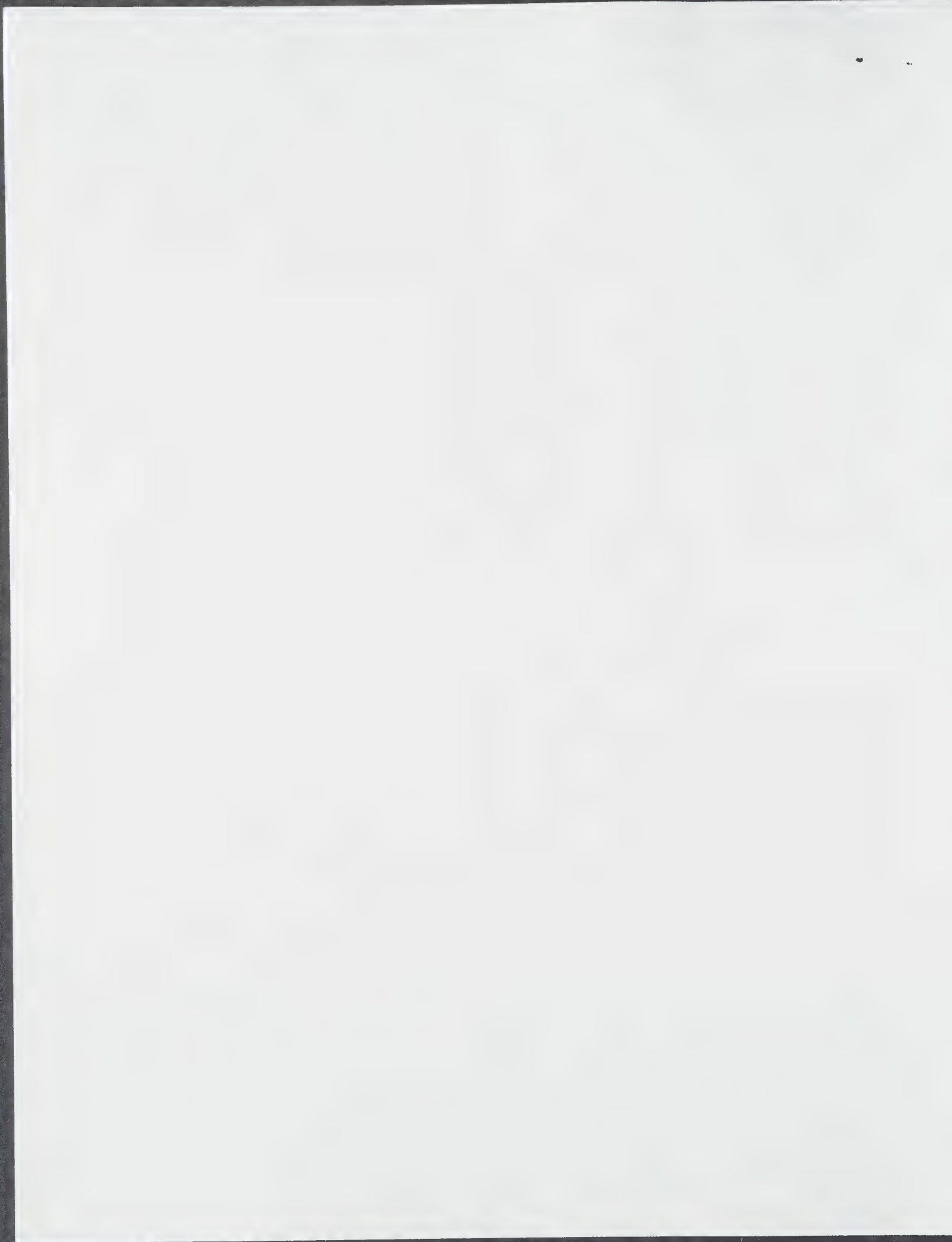
Ms. Madeleine Jacobs  
September 27, 1996  
Page 2

I had to smile at your writing "we've been inundated with letters during the past six weeks..."  
I am not surprised; the better you make *C&E News*, the more letters you will receive

With best wishes,

AB/cw

Enclosures



## Chemical & Engineering News

1155—16th St., N.W., Washington, D.C. 20036

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## LETTERS

### Regulation strangling business

Albert S. Matlack (C&EN, Aug. 29, page 2) goes to great length to defend the regulatory environment that is strangling U.S. business. He castigates the Business Roundtable for calling the current system costly and inefficient, yet offers no evidence that it is not. He says that "regulation at the federal level has the advantage of providing a level playing field," yet doesn't mention that the level is now so high that anyone without a helicopter can't play the game.

Matlack touts the many jobs and businesses created by the cleanup and one sentence later states, "The main loss in innovation has been the curtailment of exploratory research as a result of corporate downsizing." It apparently doesn't occur to him to question where those jobs were created and why downsizing occurred.

The Fortune 500 company that employs me has had no change in the size of its R&D staff for the last 14 years, but our employment of regulatory compliance staff has exploded. The U.S., with 5% of the world's population, has more lawyers than the rest of the world combined. If we could say the same for our scientists and engineers, we would not be struggling with our balance of trade and could easily focus on solving the problems rather than litigating them.

Robert M. Holdar  
Irving, Tex.

### U.S. jobs, immigration

I take issue with Kenneth Cohrs' letter (C&EN, Aug. 22, page 5) that strongly implies that there is a direct link between the increase in immigration of highly skilled scientists and engineers and the unemployment rate of U.S. chemists.

Science and technology are highly competitive fields of endeavor that recognize no borders or national or ethnic origins of their practitioners. Highly trained foreign chemists who join our scientific pool tend to stimulate and expand scientific activities. There are countless immigrant chemists, who in the past have made, and many who still are making, significant contributions to U.S. science and technology.

I want to mention just a few contemporary, distinguished immigrant chemists who have been honored by ACS: Sir Derek Barton (Nobel Laureate), Carl Djerassi,

si, Gilbert Stork, Bernhard Witkop, and Alfred Bader (former chairman and founder of Aldrich Chemical Co., known to all organic chemists).

Anyone who reads research articles in scientific journals will notice the numerous exotic, foreign names that represent foreign coworkers and postdocs who are the hands-on workers of so much of this country's academic research. My own experience has been that few U.S. graduates apply for these positions because of poor pay, long hours, and little prospects for advancement. I believe the level of unemployment of chemists in the U.S. during the past couple of years has more to do with the recession, downsizing of defense industries, and insecurity in the pharmaceutical industry than with immigration.

Josef E. Herz  
Houston

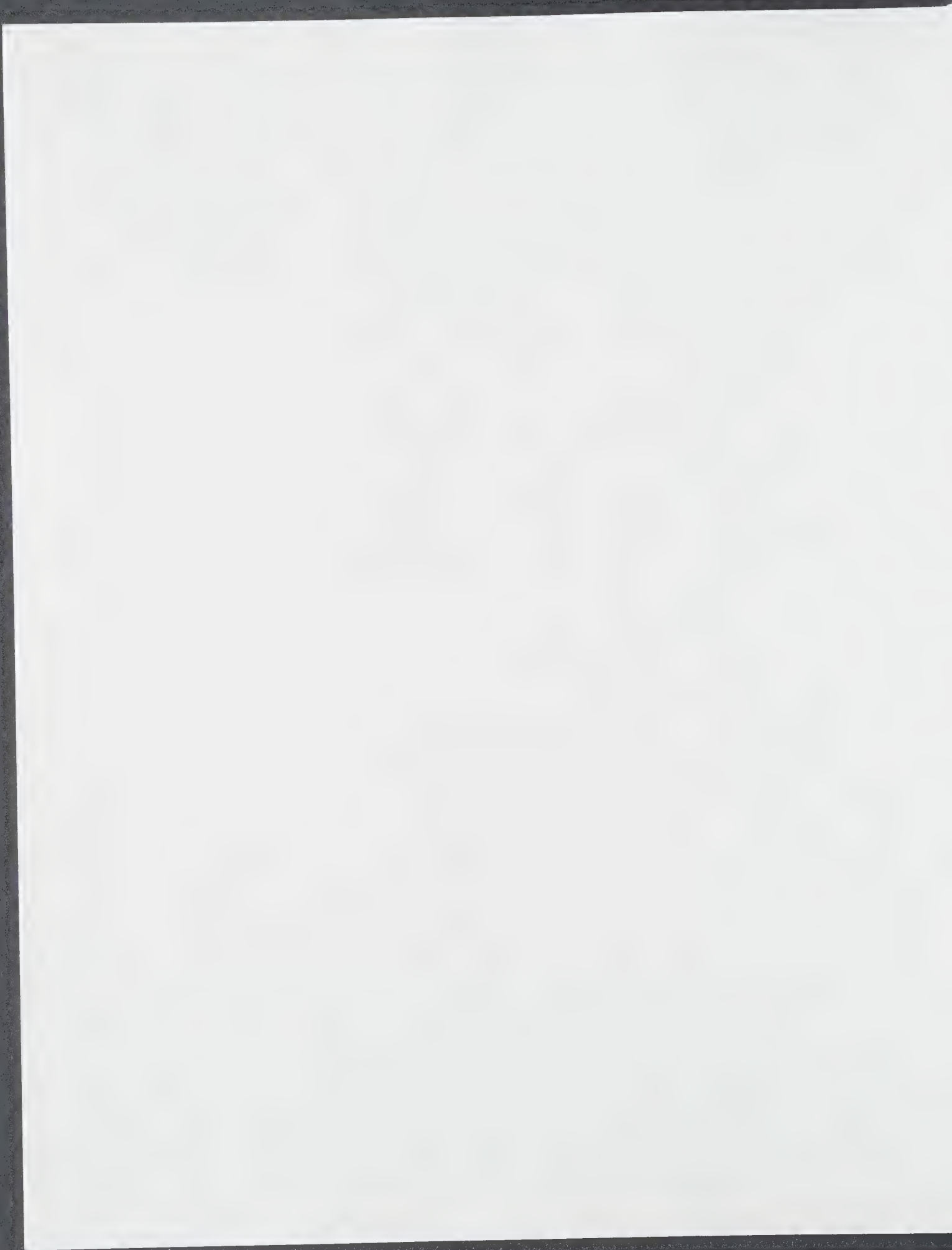
### Federal technology transfer

National laboratories have been under the gun for many years to justify their continued expenditure of huge sums of tax dollars. Most often, "technology transfer" is mentioned as a yardstick of value, but as Wil Lepkowski points out in his recent article, "Federal Labs Examine Strategies for Meeting Technology Transfer Goals" (C&EN, Sept. 5, page 17), "a policy that optimally translates results of publicly funded R&D into competitive industrial products has eluded everyone." One can raise the question of whether there is much technology to transfer.

Department of Energy laboratories in particular have produced only one well-known R&D result: nuclear devices. Although some of this technology was transferred to the private sector (for example, reactors), much was not. Little else in the way of industrial products or new technology has sprung from the vast sums that have been consumed by DOE laboratories over the many years since the Manhattan Project days. The question of how much useful technology is being produced should be examined.

In some cases where there is evident technology to transfer, the DOE bureaucracy has prohibited the realization. An example was the failure of a potentially large-scale transfer of gas centrifuge enrichment technology that was left on the shelf after abandonment by DOE in 1985. Taxpayers spent billions on this already developed enrichment technology that was sought by a private-sector firm to be

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## The image and reality of chemistry

*Alfred Bader is chairman and chief executive officer of Aldrich Chemical. He spoke earlier this year at an awards ceremony at the University of Wisconsin, Milwaukee. Here are excerpts from what he had to say.*

When I was a student at Harvard in the forties, the profession of chemistry was regarded very highly, and many of the ablest students wanted to become chemists. Ask the man on the street then what he associated with chemistry and his answer was likely to be "vitamins or new drugs, plastics, a better life."

Ask the man on the street today and his answer is likely to be "cancer" or "pollution." The reasons for this change are manifold and complex, and I would like to touch on just a few of these.

Cancer is on everybody's mind at least some of the time, and of course in a roundabout way chemical research is responsible for many deaths by cancer. For cancer is an illness of old age. Research in medicinal chemistry has helped to double our life span in the last century, and so naturally many more people die of cancer.

Another reason is that, unfortunately, as a profession we have done a very poor job educating the public and the media. Let me give you an example taken at random from many that come to mind. Some months ago the *Milwaukee Journal* had bold headlines on the front page that 2 ppb of benzene had been found in the water of a well near a chemical company in Port Washington. Two ppb—I wonder what the editor would say if someone pointed out to him that gasoline contains 2% benzene, and 2% is 10 million times as much as 2 ppb! Now, of course, we don't drink gasoline, but I am sure that many gas station operators occasionally have traces of gasoline get into their coffee or their drinking water, and then it's likely to be much more than 2 ppb.

The *Milwaukee Journal* is a very responsible newspaper. It is we, the scientists, who have done a poor job in communicating with the media about the significance or insignificance of such findings as 2 ppb of benzene.

Here, of course, is yet another reason for the disrepute of chemists and chemicals: Our analytical methods have gotten better and better and pretty soon we'll be able to show that everything is everywhere, at least in some amounts. Like 2 ppb.

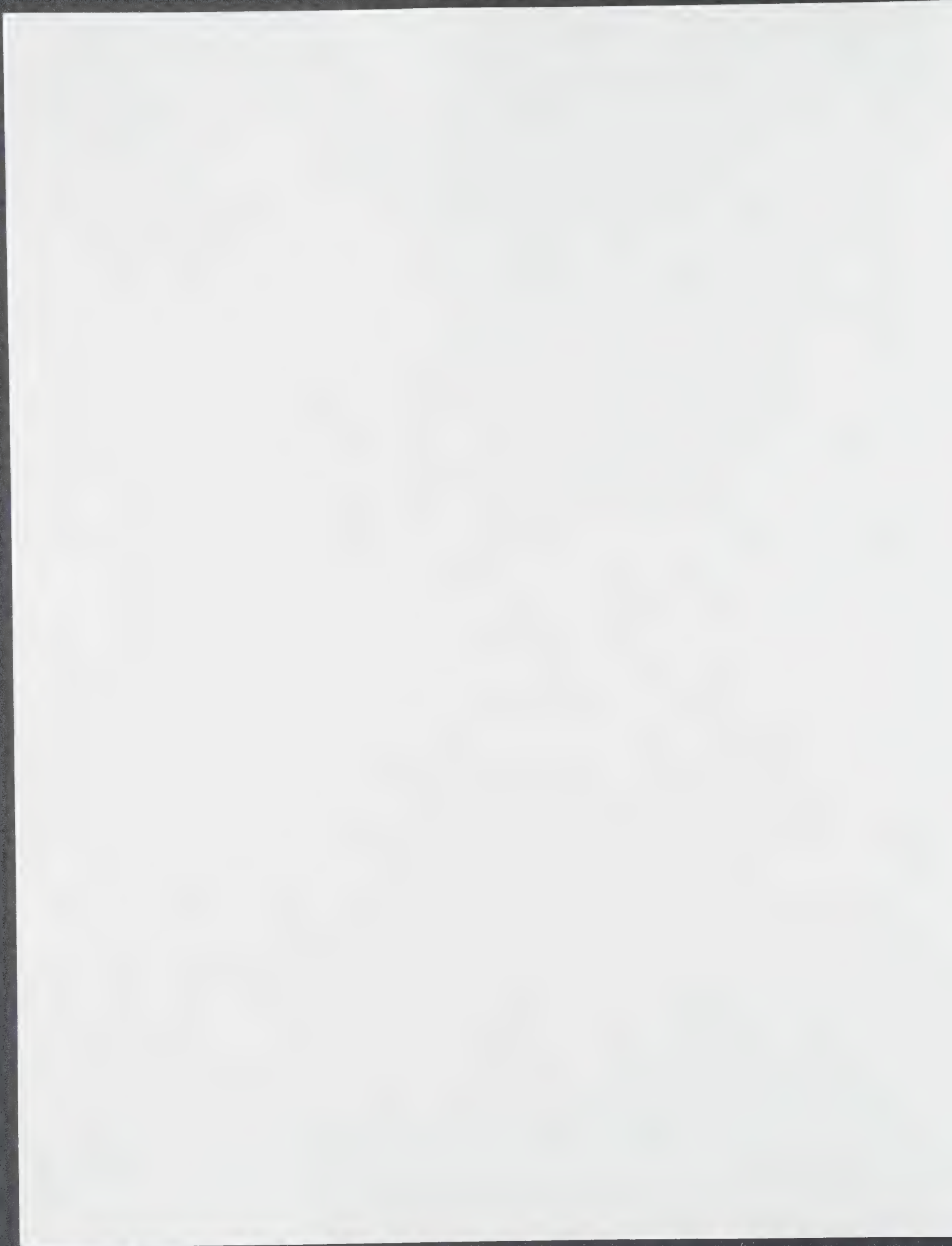
Of course, yet another reason for the disrepute of chemistry is that some companies have been negligent and have polluted the environment, and it is almost comical to see some of these very companies trying to change their image by deleting the name "chemical" from their corporate names.

The reality of the matter is that chemists have contributed very heavily to the quality of life. Many of us wouldn't be alive at our age had we been born in the 17th century, and life all around us has been improved by chemistry. The image of chemistry is much worse than the reality, and the bright high school student seeing America slowly sinking into a cesspool of chemicals on the cover of *Time* magazine wants no part of chemistry.

Therefore, you will find that because chemistry is today associated with cancer and pollution many fewer of the brilliant young students will enter chemistry, and the quality of chemical research will decline and so will the rate of improvement of the quality of life.

While many able chemists will disagree with me, I believe that historians of science looking at the 20th century will conclude that pure synthetic organic chemistry peaked shortly after the middle of this century. Once Woodward had synthesized such enormously difficult compounds as vitamin B<sub>12</sub> and strychnine, everything else seemed almost anticlimactic. From then on, the great contribution of chemical research is in its application to biochemistry, to understanding the chemistry of life. If fewer and fewer really outstanding students enter chemistry—as is now happening—that understanding will come about very much more slowly.

Research scientists are the locksmiths to a better life, and only when society as a whole, and our government, and our media understand this, will there be a change. □







Dr. Alfred Bader  
924 East Juneau, Suite 622  
Milwaukee, Wisconsin 53202  
Phone: 414/277-0730  
Fax: 414/277-0709

A Chemist Helping Chemists

August 30, 1996

Ms. Madeleine Jacobs  
Editor  
C&E News  
1155 Sixteenth Street, N.W.  
Washington, DC 20036

Dear Ms. Jacobs:

I read Bette Hileman's article, "Global warming is target of disinformation campaign" (C&E News, August 19) with deep concern. She states that "a systematic campaign of disinformation" is funded by industries with a vested interest.

Please review "The Global Warming Debate" (The Report of the European Science and Environment Forum [ESEF]; details enclosed) edited by John Emsley, an eminent science writer and chemist at Imperial College in London. The back cover quotes the Nobel Laureate, Sir Geoffrey Wilkinson: "The ESEF report on global warming is essential reading for anyone who, like me, has been concerned that the science behind global warming theory lacks a firm foundation, and that the debate on this key issue has been so one-sided."

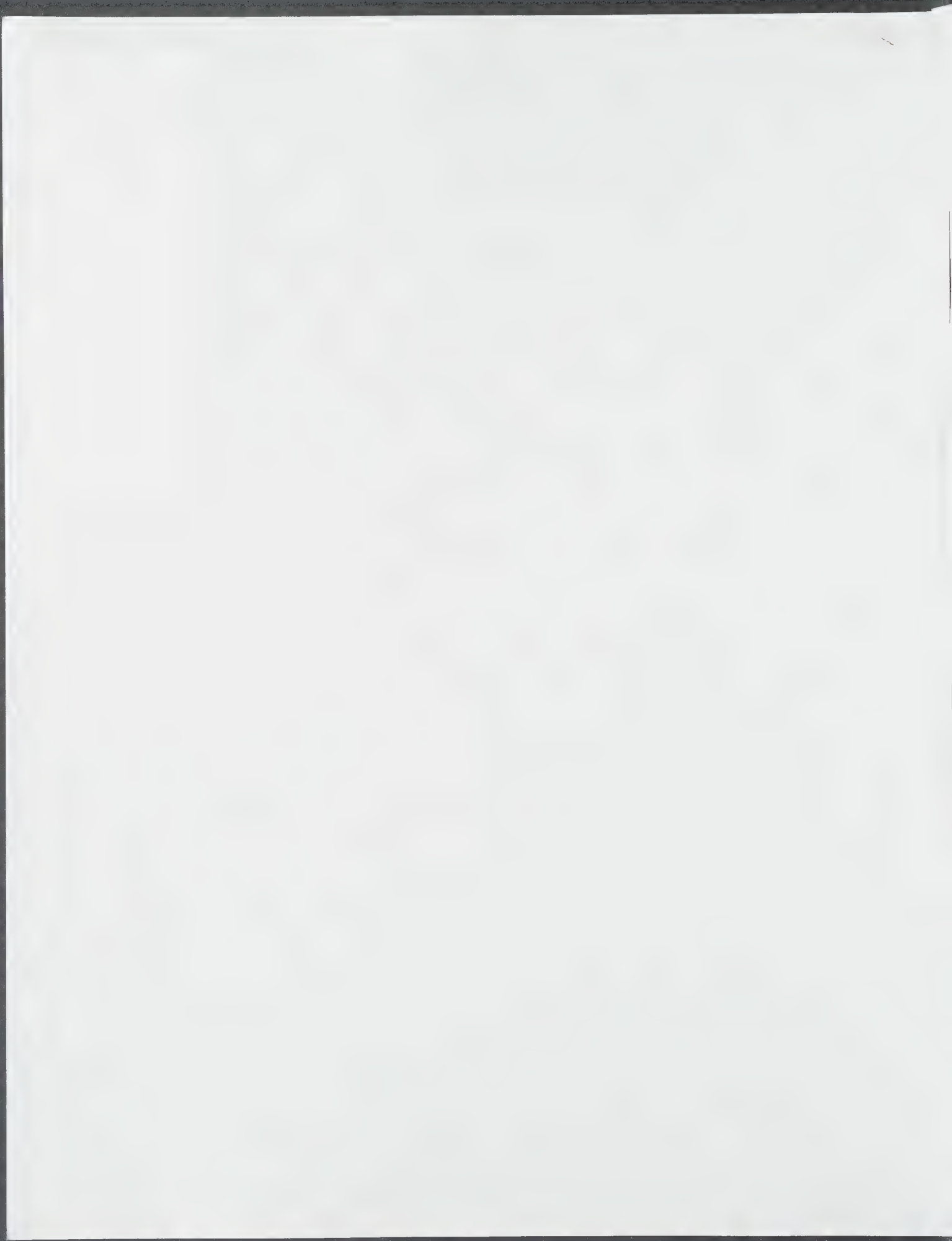
Clearly there are scientists without vested interests who believe there is little threat of global warming. "How can scientists defend the integrity of their work when it is difficult for those outside the field to understand the details?", Ms. Hileman asks. There are scientists inside the field who disagree.

I do not know who is right, but it is so important for us to hear both sides fairly presented.

Sincerely yours,

AB/cw  
Enclosures

Post-it: Fax Note	7671	Date	8/31/96	# of pages	1
To	John Emsley	From	Alfred Bader		
Co./Dept		Co.			
Phone #		Phone #			
Fax #	44-181-441-4885	Fax #			





Dr. Alfred Bader  
924 East Juneau, Suite 622  
Milwaukee, Wisconsin 53202  
Phone: 414/277-0730  
Fax: 414/277-0709

*A Chemist Helping Chemists*

September 27, 1996

Via Mail and Fax: 202/872-8727 - Page 1 of 2

Ms. Madeleine Jacobs  
Editor, *C&E News*  
1155 Sixteenth Street, N.W.  
Washington, DC 20036

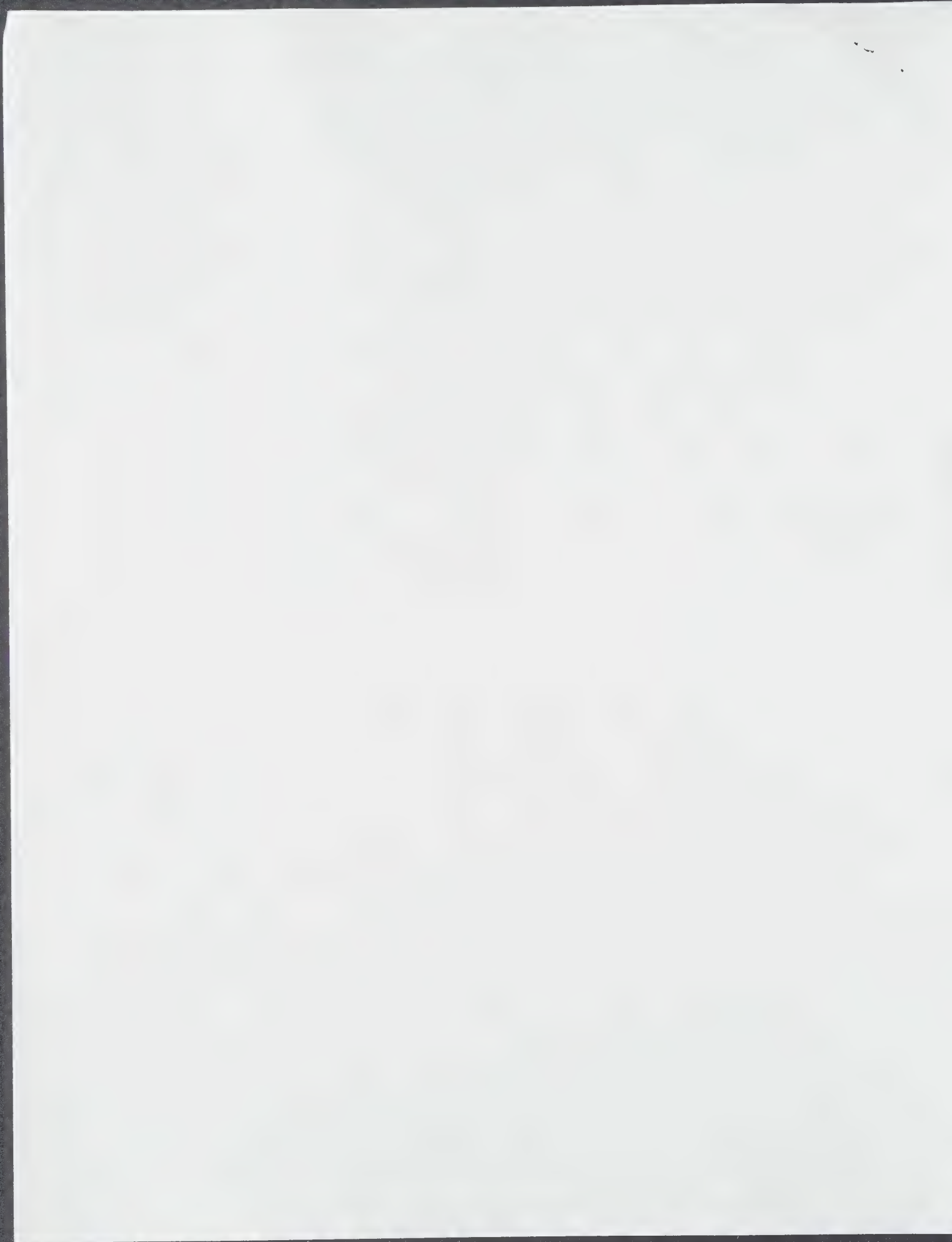
Dear Ms. Jacobs:

Thank you for your thoughtful letter of September 16th.

*C&E News* is one of three publications that I read cover to cover, and I read Dr. Wirth's interview and the pertinent question and answer on page 24 before your letter arrived. I said to myself, "Wirth's answer is what mine would have been, before I read the ESEF report."

Please don't think for a moment that I consider myself an expert on global warming. I am not. But I am very impressed by the arguments in *The Global Warming Debate*. When I wrote to you, I had seen only one review, in *The Sunday Telegraph*, not known for its scientific excellence. But since then, I have read the review in the *Royal Society of Arts Journal*, copy enclosed. Please note particularly the review's third paragraph.

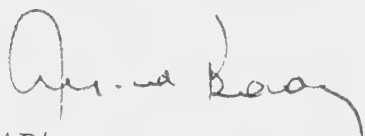
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Ms. Madeleine Jacobs  
September 27, 1996  
Page 2

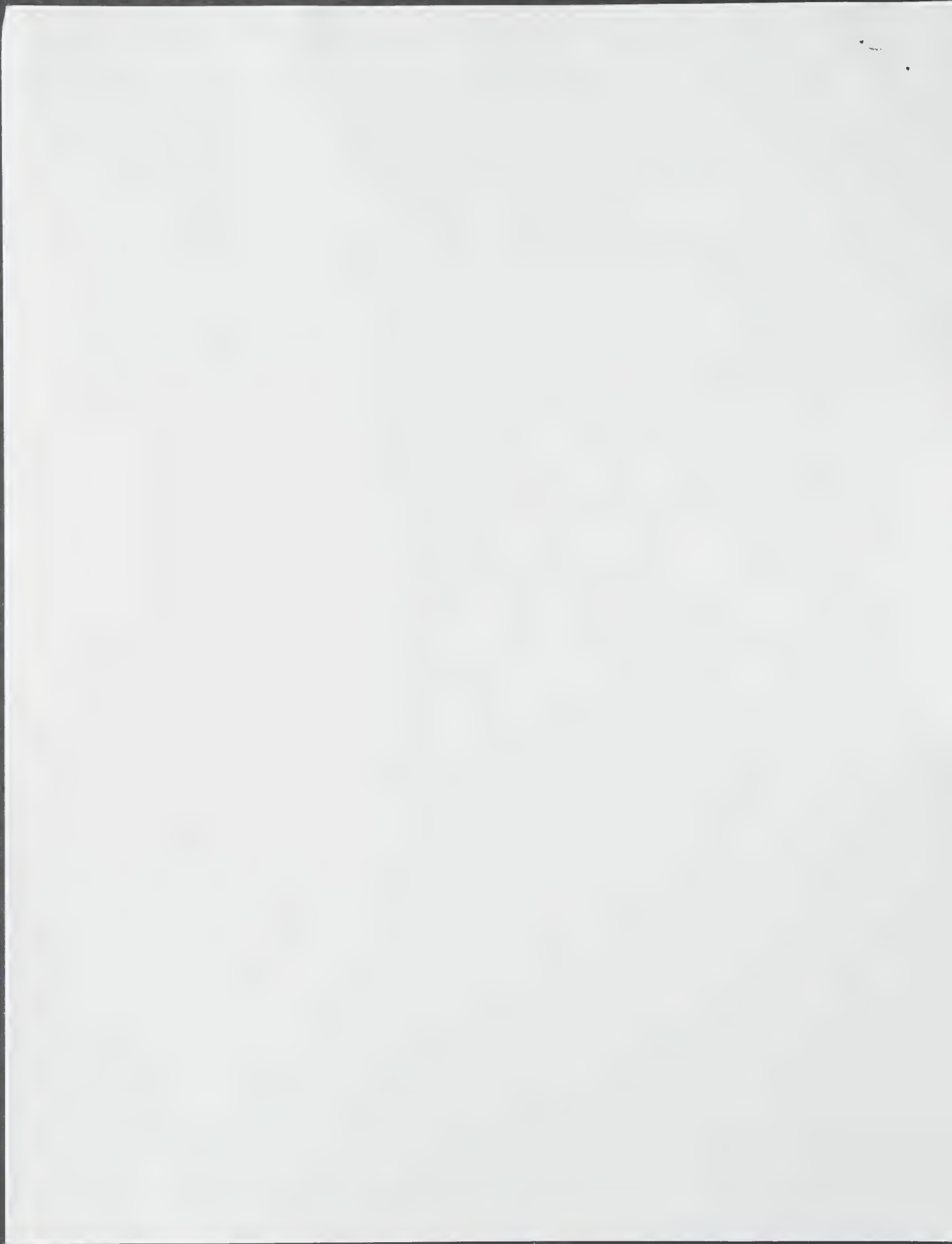
I had to smile at your writing "we've been inundated with letters during the past six weeks..."  
I am not surprised; the better you make *C&E News*, the more letters you will receive

With best wishes,

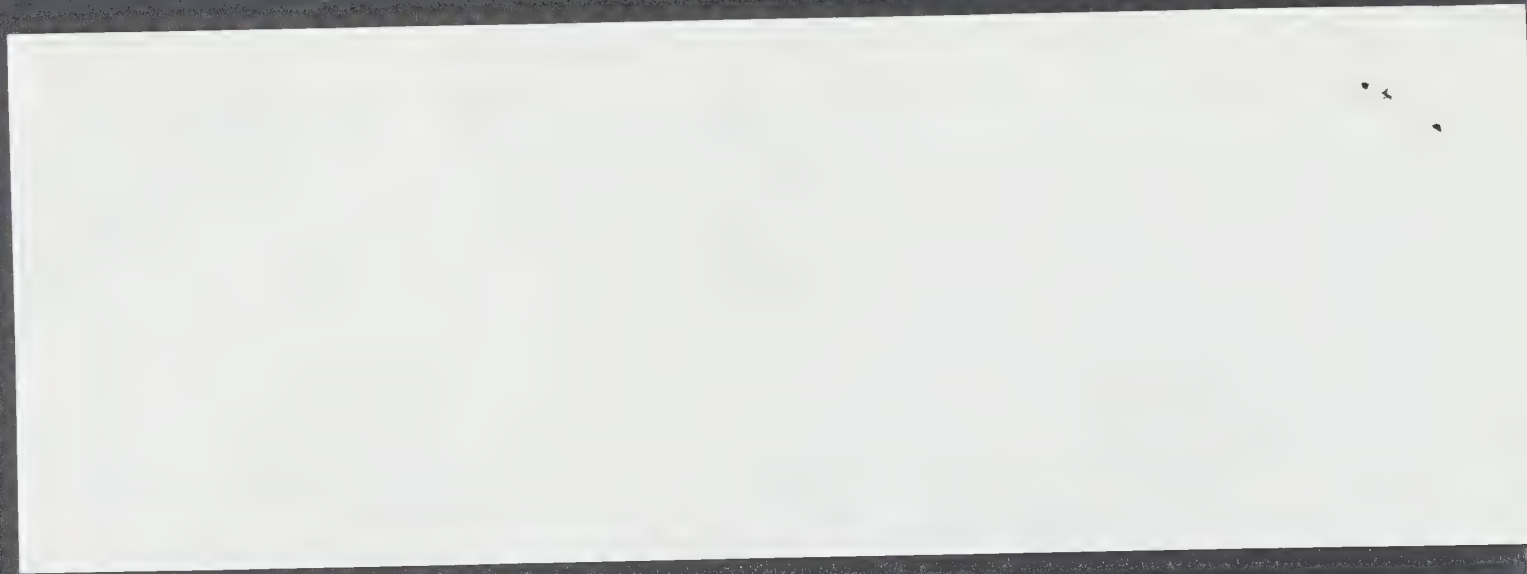
A handwritten signature in cursive script, appearing to read "Andrew Kay". The signature is written in dark ink and is positioned above the typed name "AB/cw".

AB/cw

Enclosures

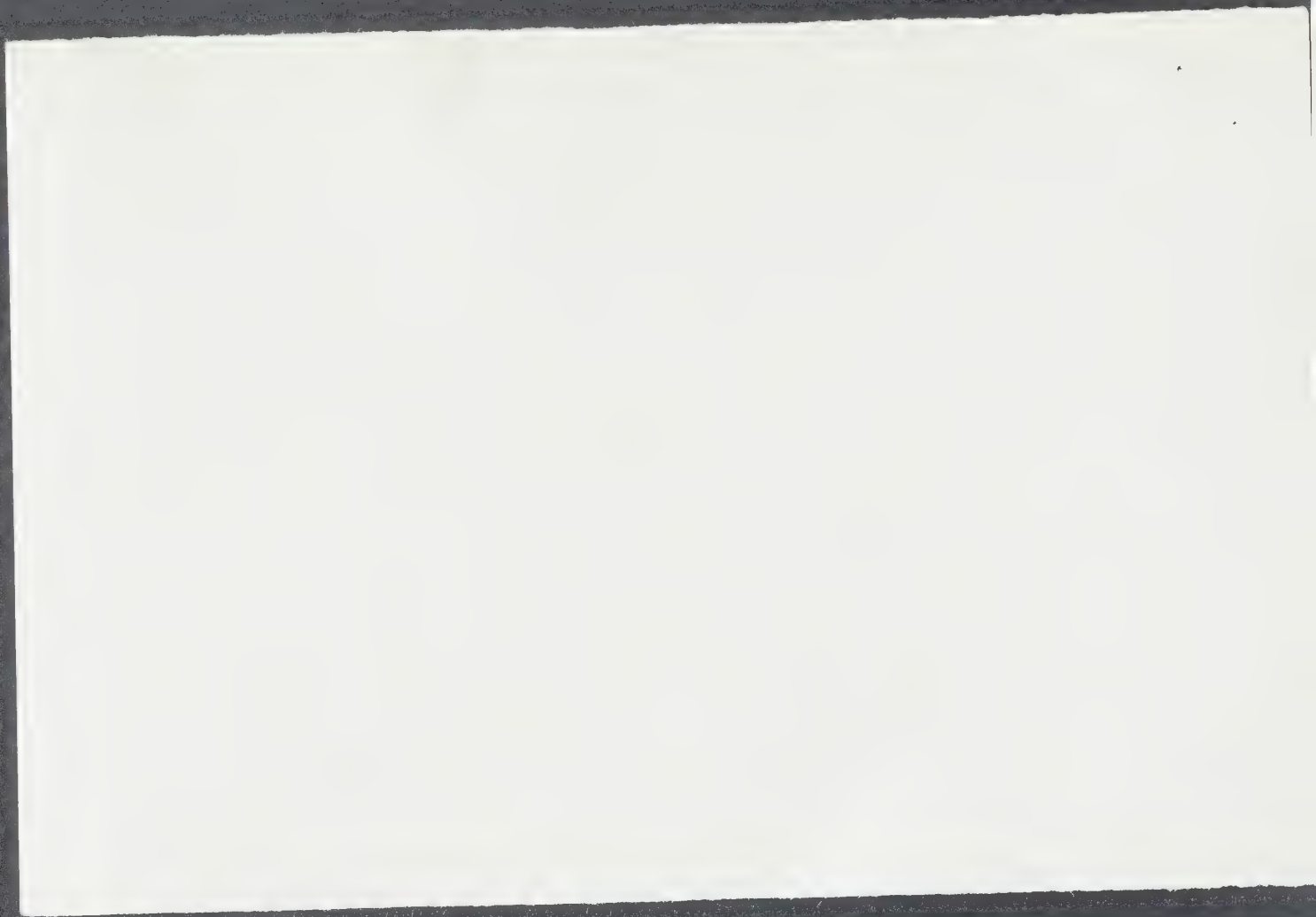














FAX FROM

DR. ALFRED R. BADER  
White Gables  
2A Holmesdale Road  
Bexhill-on-Sea  
East Sussex TN39 3QE  
Telephone/Fax: 0424-22-22-23

*A Chemist Helping Chemists*

Date: December 17 95

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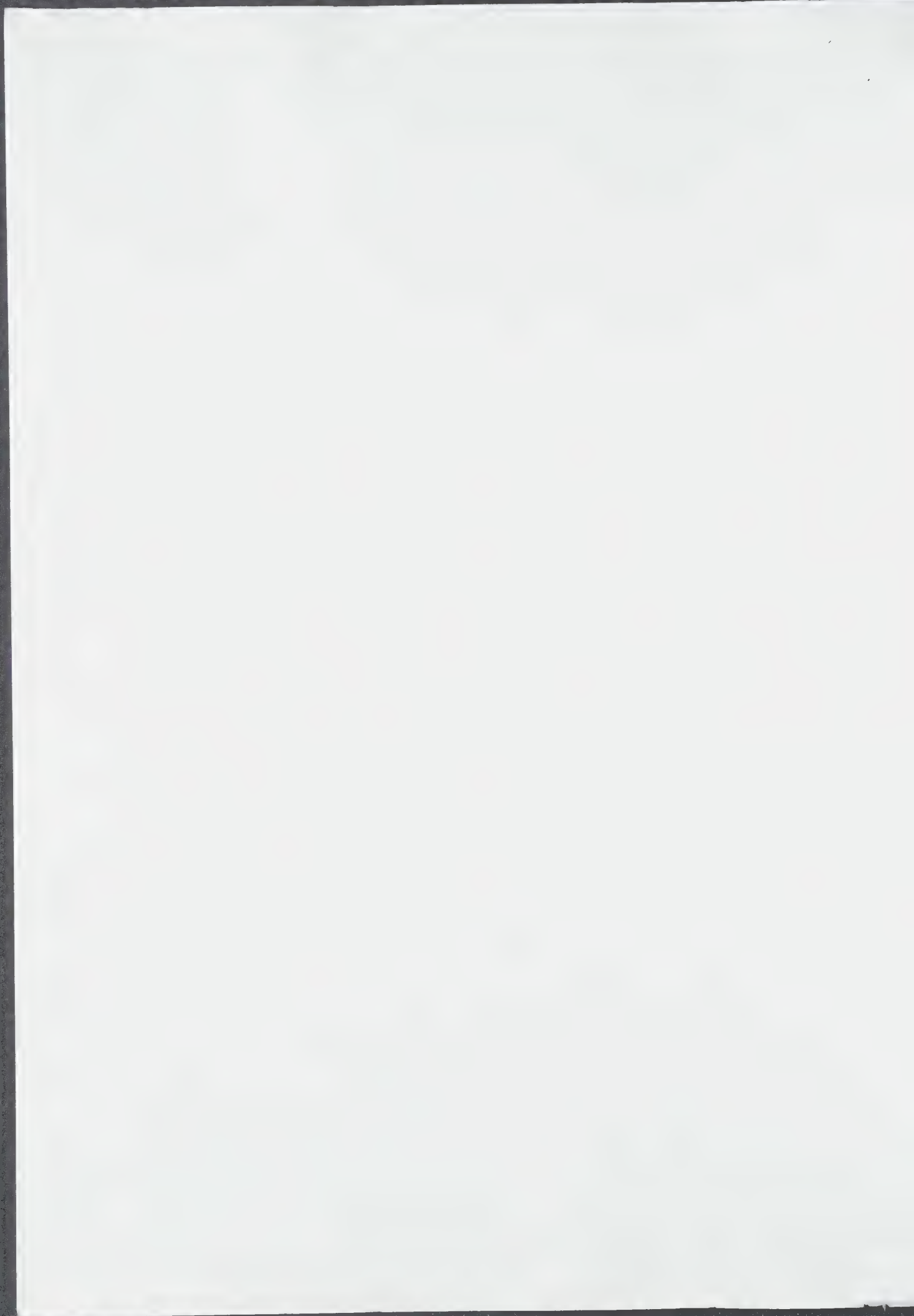
To: Ernie Carpenter, C&E News  
Fax: 001 202 872 8727

Dear Ernie

Thank you for your wonderful  
reviews.

With all good wishes for 1996  
your old & sincere friend

Alfred





Dr. Alfred Bader  
 924 East Juneau, Suite 622  
 Milwaukee, Wisconsin 53202  
 Phone: 414/277-0730  
 Fax: 414/277-0709

English  
 HOF

Nov. 3 1995

A Chemist Helping Chemists

202 872 8727

To Ernie Carpenter  
 C&E News.

Dear Ernie

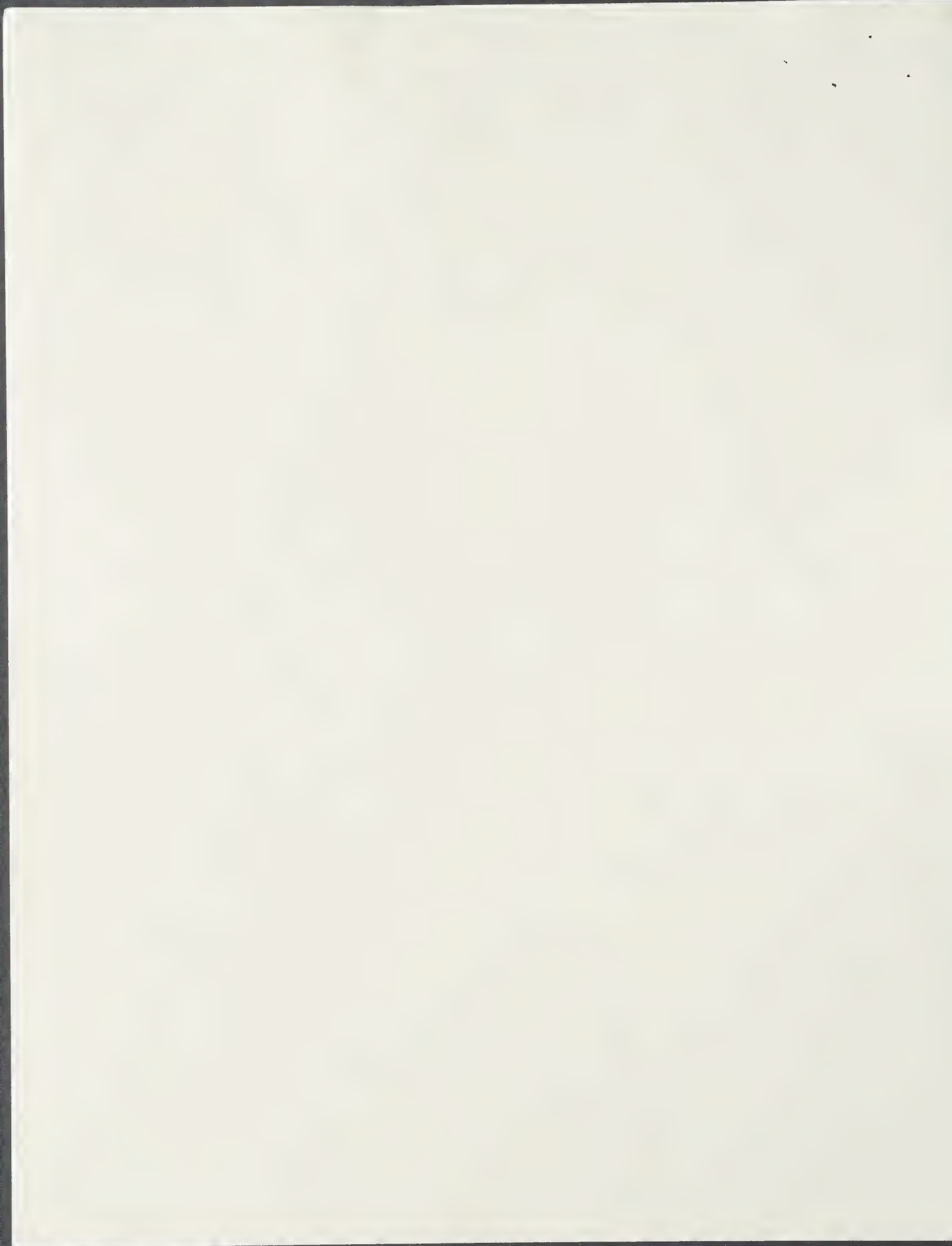
I appreciate your fax of to-day more than I can tell you.

When the review is published, please just fax the page to Milwaukee and my secretary (on vacation just now) will forward it and it will make my day.

I must tell you, Ernie, that I enjoy life more to-day than I did 4 years ago - I no longer have to work with Kope characters in St Louis; the chemists at Aldrich have remained my good friends, I work closely with several other chemical companies, and just bought another Rembrandt (RRF also). Another book is in the works and - most important - we are in good health.

Best wishes, As Always, Alfred

I hope you can read this without laughing!



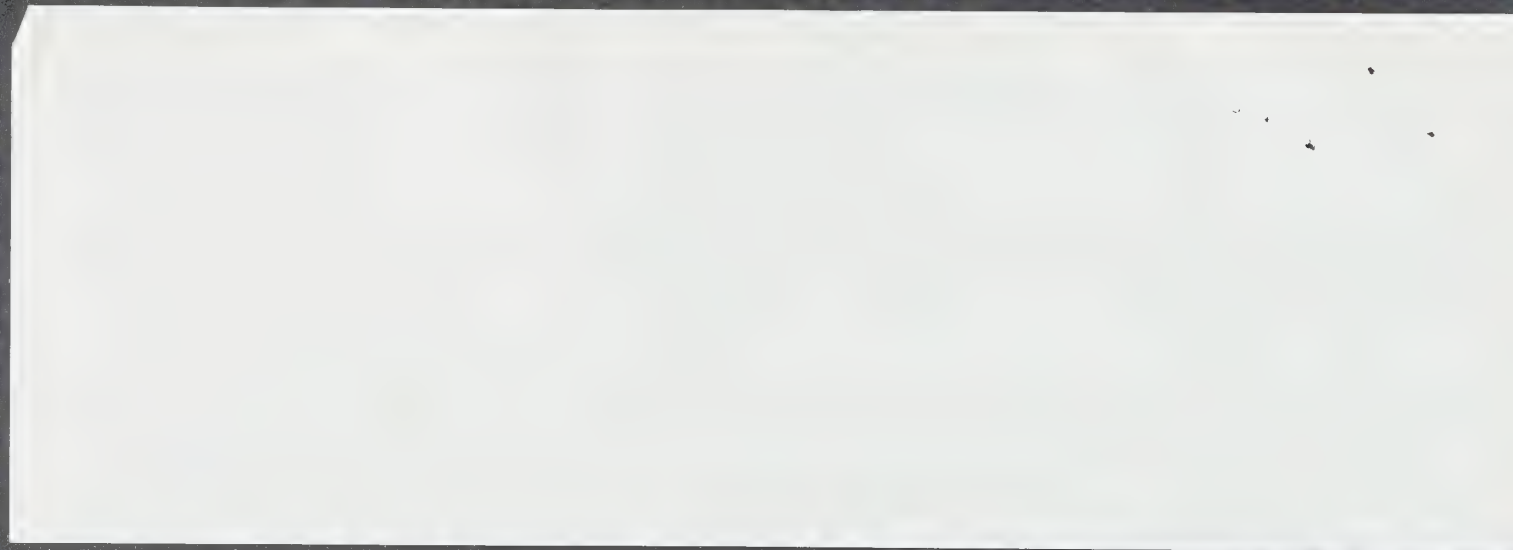
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1155 SIXTEENTH STREET, N.W.  
WASHINGTON, D.C. 20036  
(202) 872-4600  
FAX (202) 872-8727

November 3, 1995

Dr. Alfred Bader  
Alfred Bader Fine Arts  
Milwaukee

Dear Alfred:

Your fax of Nov. 1 just arrived on my desk today! When you send faxes to the general ACS number, as you did, they are mailed by interoffice mail to the recipient. Not the quickest way to communicate. Better you should use C&EN's fax number, which is (202) 872-8727.

Anyway, to answer your inquiry, I'm sorry to say that many matters at the C&EN office have delayed getting the review finished. An original version that I submitted was sent back to me for revisions and I have not been able to get back to it. Because of the way C&EN schedules its book reviews, I'd say it's likely that the review will be published within the next several weeks, but I really can't say when, because other reviews are in the pipeline.

If it happens while you're away, I'll send you a copy to England, if you'd like. I think I have your address there, but to be sure you might fax it to me.

I certainly understand your interest and I'll try to hurry it along. Good to hear from you.

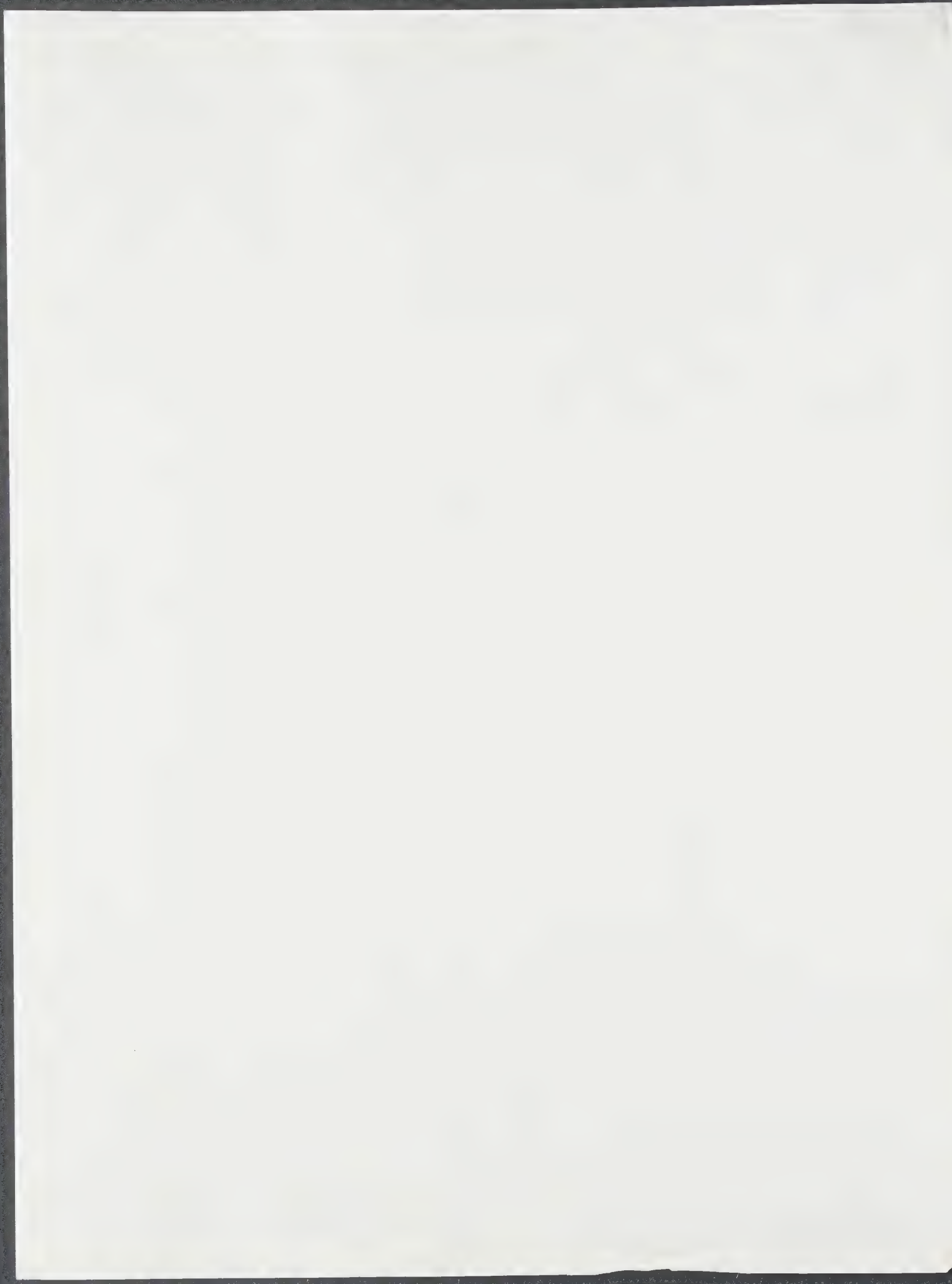
Best regards,

A handwritten signature in cursive script, appearing to read 'Ernie', is written over a horizontal line.

Ernie Carpenter

Page 1

DANIEL



Dr. Alfred Bader  
2961 North Shepard Avenue  
Milwaukee, Wisconsin 53211

August 24, 1993

Mr. Ernest L. Carpenter  
Staff Editor  
Chemical & Engineering News  
1155 - 16th Street, N.W.  
Washington, D.C. 20036

Dear Ernie:

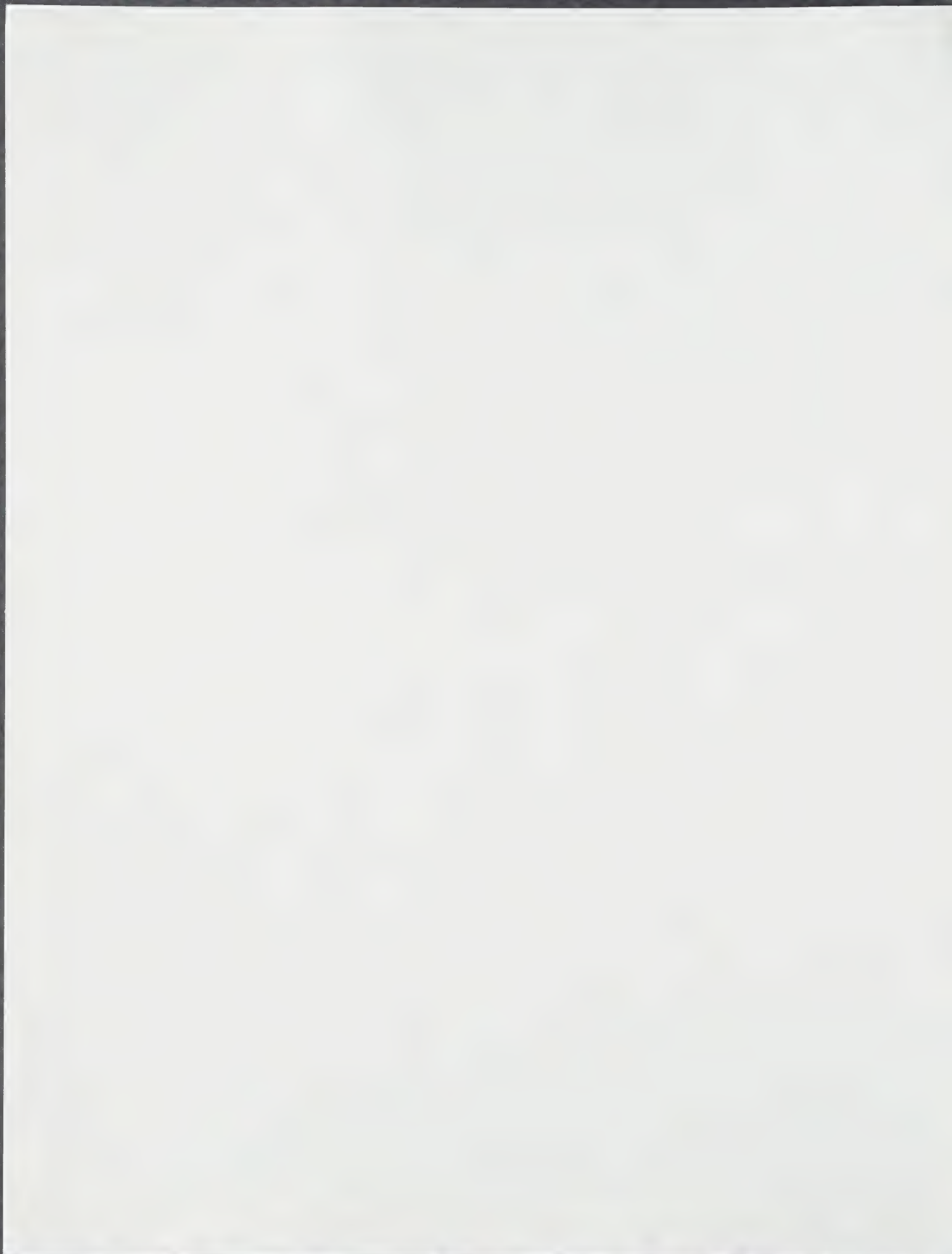
It was such a pleasure finally to meet you personally.

I enclose the September 14, 1981 C&E News editorial, from which you will see that I used it extensively in my talk yesterday.

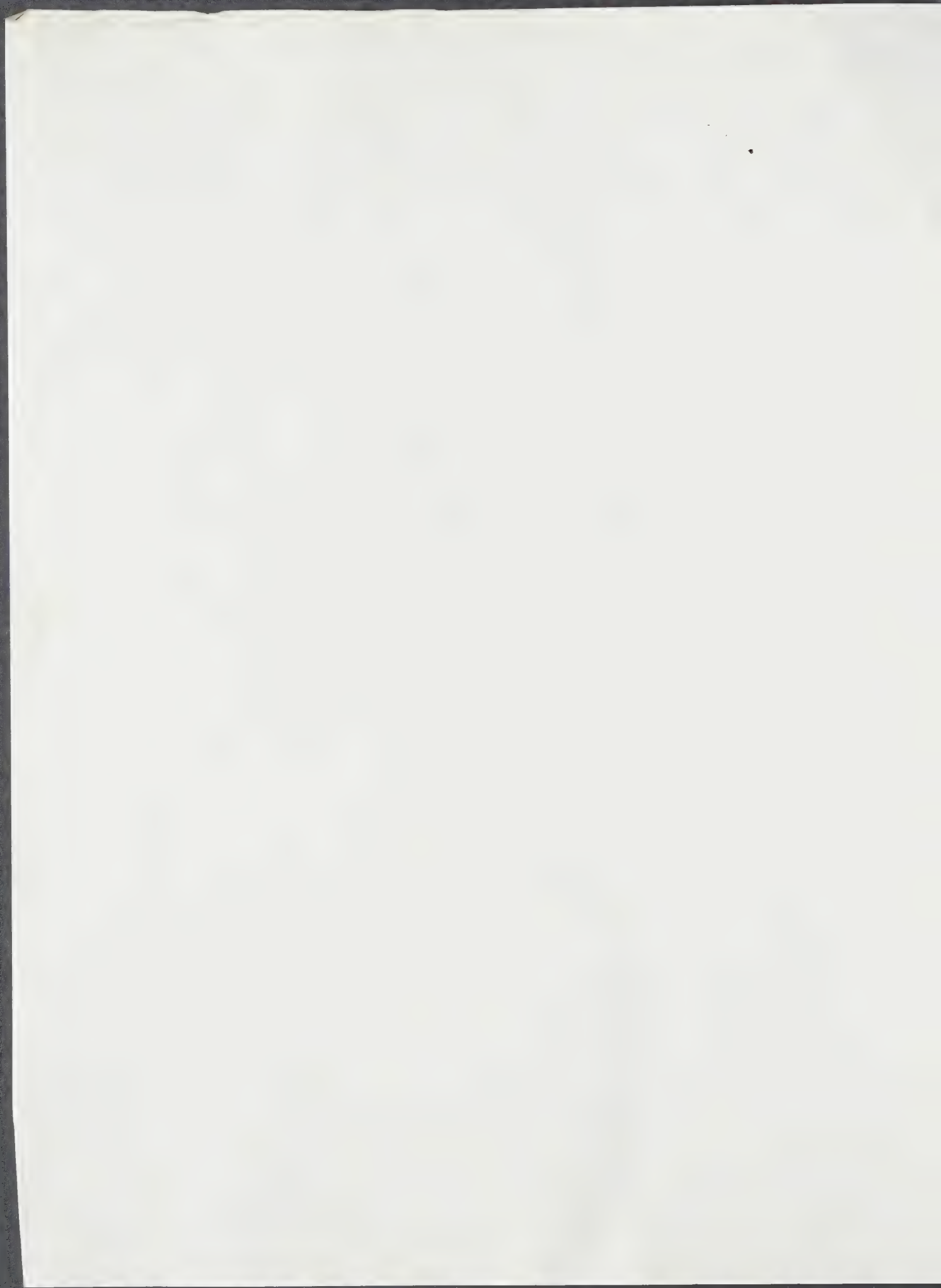
All good wishes.

Sincerely,

Enclosure











ALFRED BADER FINE ARTS

DR. ALFRED BADER

ESTABLISHED 1961

April 14, 1995

Mr. Ernie Carpenter  
C&E News  
1155 Sixteenth Street, N.W.  
Washington, DC 20036

Dear Ernie:

It was so good to see you on April the 1st.

If, perchance, you have some spare prints taken that evening, I would much appreciate them.

It has occurred to me that you might want a clean copy of my Parson's Award address, and that is enclosed. When I timed it with Isabel the afternoon before the talk, I realized that it was somewhat too long, and so I omitted a couple of paragraphs.

I have just returned from our trip to California, Vancouver and Edmonton, and I learned that Rebecca Rawls wanted a copy of my autobiography. My response to her, also enclosed, will be self-explanatory.

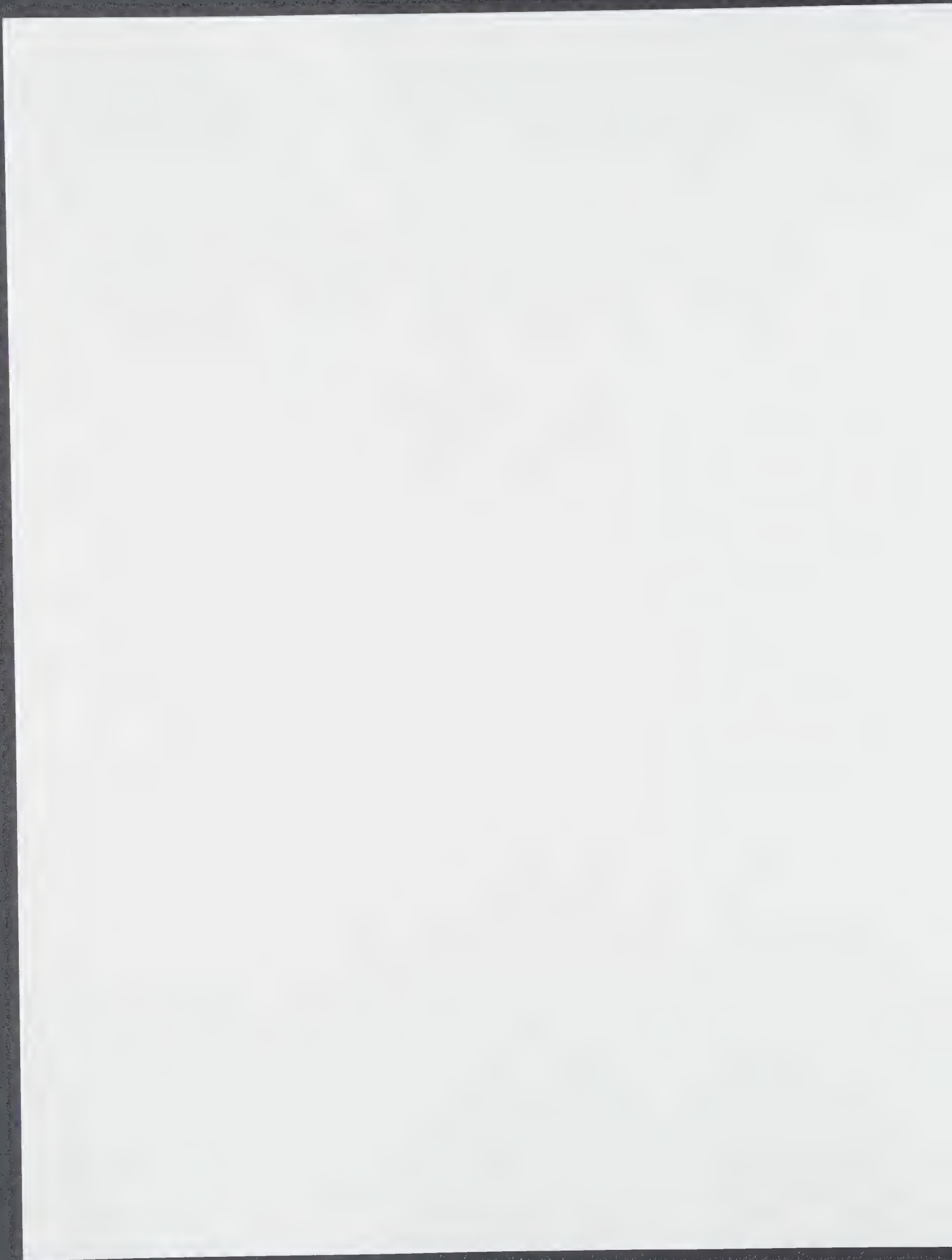
With all good wishes, I remain,

Yours sincerely,

AB/cw

Enclosure

*By Appointment Only*  
ASTOR HOTEL SUITE 622  
924 EAST JUNEAU AVENUE  
MILWAUKEE WISCONSIN USA 53202  
TEL 414 277-0730 FAX 414 277-0709





9-20-94

Dear Alfred,

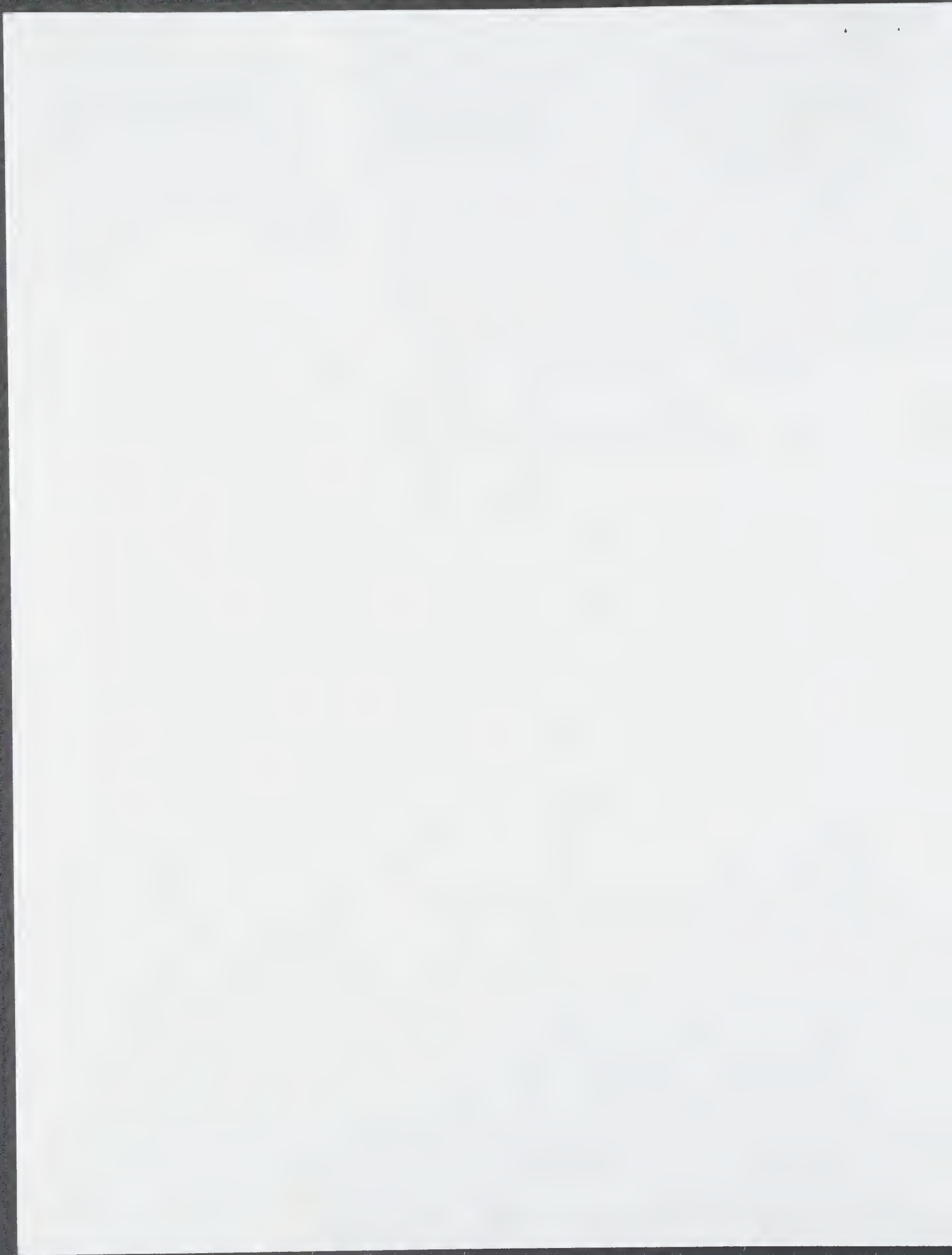
This letter arrived for you yesterday, and so I'm forwarding it to you.

I hope you and Isabel are well and have had a good summer. Perhaps we will meet at next Spring's ACS meeting in Anaheim, where I think the Parsons Award will be presented.

Meantime, stay well and happy.

Best regards,

Eric Carpenter





Potsdam • New York • 13699

Department of Chemistry  
Science Center  
Potsdam, New York 13699-5810  
315-268-2389 • FAX 315-268-6610

October 12, 1994

Dr. Ernest L. Carpenter  
*Chemical and Engineering News*  
1155 16th Street, NW  
Washington, DC 20036

Dear Dr. Carpenter:

In the May issue of the *C&E News* you wrote about Alfred Bader. I wonder whether you could send me his address. Bring also from the Czech Republic and long term co-worker of Professor J. Heyrovský, the Czech Nobel Prize Winner, I would like to inquire about a possible fellowship in his name.

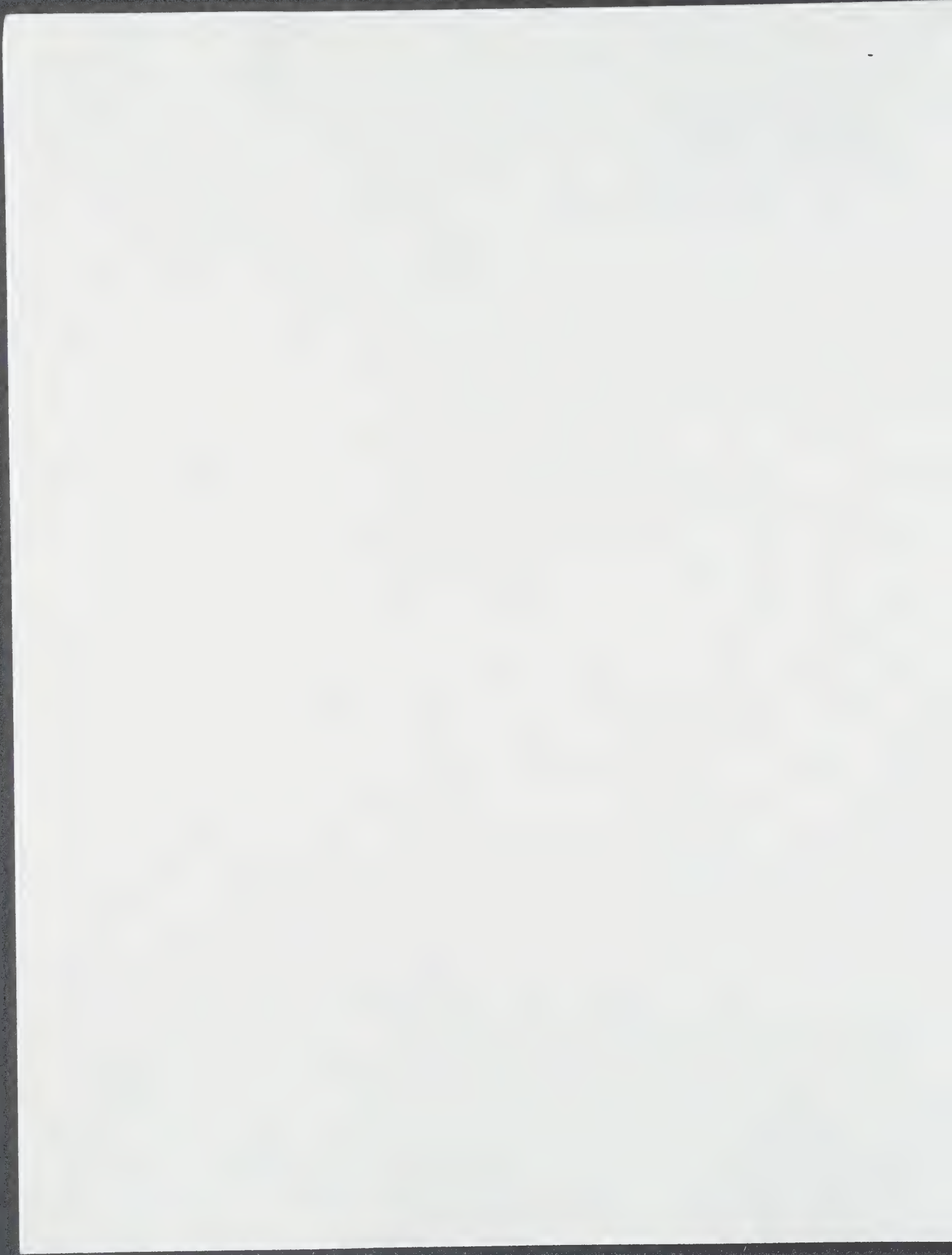
Sincerely yours,

Petr Zuman  
Professor of Chemistry

PZ:mjt

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→ Alfred:  
Hope this finds you well. As you  
can see, another fan is trying  
to reach you! As we approach another  
year's end, best wishes for all  
the coming holidays and the new year.  
Ernie





1155 SIXTEENTH STREET, N.W.  
WASHINGTON, D.C. 20036  
(202) 872-4600  
FAX (202) 872-8727

October 25, 1994

Dr. Petr Zuman  
Professor of Chemistry  
Clarkson University  
Potsdam, N.Y. 13699-5810

Dear Dr. Zuman:

Thank you for your inquiry concerning a news article about Alfred Bader. You may contact him at the following address:

Suite 622  
924 East Juneau Avenue  
Milwaukee, Wisconsin 53202

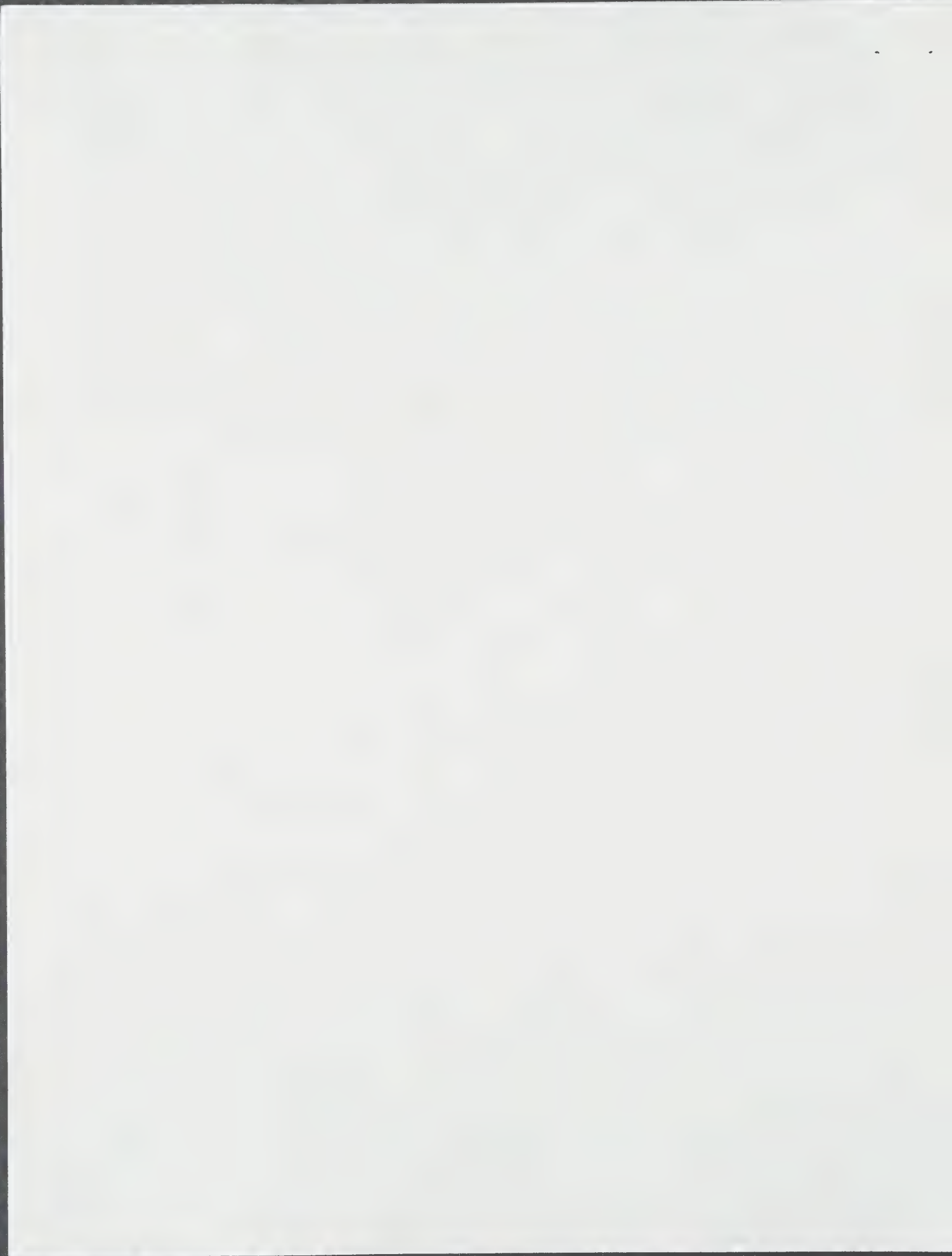
I am also sending a copy of your letter to him.

Sincerely,

A handwritten signature in cursive script that reads 'Ernest Carpenter'.

Ernest Carpenter  
Assistant Managing Editor

cc: Alfred Bader





June 10, 1999

Ms. Madeleine Jacobs  
Editor in Chief, *C&E News*  
1155 Sixteenth Street, N.W.  
Washington, D.C. 20036

Dear Madeleine,

In your response to letters from Professor Herbert C. Brown and myself regarding your sudden change in policy on the listing of the top U.S. Chemical companies, you indicate that you had only two alternatives, one of which, if you continued to list Sigma-Aldrich in accordance with prior practice, on the basis of total sales, would require "opening the door for resellers, distributors, recyclers, and others" who do not produce; and the other which would list Aldrich with 44% of its sales, thus causing it mysteriously to fall off the list on which it had appeared in increasingly higher ranking over a period of many years. You chose the latter notwithstanding the material damage inflicted upon Sigma-Aldrich's reputation.

Your response is reminiscent of the old Danny Kaye movie, *Jacobowsky and the Colonel*, in which the Colonel consistently observed "we have only two alternatives" -- both of which were bad, and Jacobowsky replied, "there must be a third alternative" and came up with an appropriate solution to their dilemma. Clearly, there are many other alternatives to either including in the listing non-producers or including that portion of chemical sales which is produced internally thus giving the false impression that there was a sudden change in Sigma-Aldrich's position in the chemical industry. Over the years Sigma-Aldrich always made it clear which products were produced internally



and which were not – so the 10-K filing to which you referred disclosed nothing new. Further, no reader of C&EN would assume that a company offering close to 100,000 compounds could possibly manufacture them all internally. Yet, throughout the years no nonproducing company claimed the right to be listed, if indeed there exists any which would make the list.

If you will seriously reconsider the matter I am sure you will realize that there are any number of satisfactory alternatives preferable to either of the two which you set forth. To suggest but a few:

1. Continue doing what you had been doing over the years.
2. Establish some reasonable minimum of production facilities as an eligible criteria.
3. Simply footnote the portion of sales which are not internally produced.
4. Any reasonable combination of the above.

In the light of past practice and common sense, the course you have chosen is both misleading and unfair.

I trust you will see fit to correct this injustice to a company which contributes so much to the development of the entire chemical industry, from the top down.

Yours sincerely,

Alfred Bader  
AB/az

