



MG 143 – Robert James Woods

Dates: 1955-1995 (inclusive).

Extent: 3.25 meters of textual records, machine-readable records, and memorabilia.

Biography: Robert James Woods was born in London, England in 1928 and by 1951 had earned a B.Sc. (1949) and a Ph.D. (1951) from Imperial College, University of London. From 1951-1953, Woods worked as a Postdoctoral Fellow at the Prairie Regional Laboratory of the National Research Council in Saskatoon. He spend the following year at the University of New Zealand before accepting his first appointment at the U of S in 1955 as a Research Associate in Chemistry. Dr. Woods advanced through the ranks obtaining the rank of Full Professor.

Scope and content: This fonds contains material relating to the writing and production of four books on radiation chemistry over the period 1960 to 1994. When it appeared, *An Introduction to Radiation Chemistry* by J.W.T. Spinks and R.J. Woods was the first textbook in English to attempt to bring the various strands of radiation chemistry in one place. Revised editions were published in 1976 and 1990. In 1994 R.J. Woods and A.K. Pikaev collaborated to publish *Applied Radiation Chemistry: Radiation Processing*. In addition to illustrating the advancements in radiation chemistry over four decades, the material also illustrates the advancing technology available to scientific writers over the period 1960 to 1993.

Arrangement: Arranged and listed by the donor.

Restrictions: There are no restrictions on access.

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ARCHIVAL MATERIAL - ROBERT JAMES WOODS

Period covered: 1955-1995

SUMMARY

The deposited materials deal with the writing and production of four books on radiation chemistry over the period 1960 to 1994. By 1960 most of the radiation technology associated with the wartime atomic energy programs had been published and radiation chemistry was emerging as a separate subject, distinct from photochemistry. When it appeared in 1964 *An Introduction to Radiation Chemistry* by J. W. T. Spinks and R. J. Woods was the first textbook in English to attempt to bring together the various strands of radiation chemistry in one place (unknown to us at that time, a Russian text had been published a year earlier). The first edition was translated into Japanese and Russian and we still find radiation chemists around the world (including Russia) who were brought up on it. By 1976, when a partly-revised second edition was published, research on radiation chemistry had reached its peak and it was possible to resolve some of the uncertainties present in the first edition. Chief among these were the reducing intermediates present in irradiated water. In 1960 opinion was divided between the hydrogen atom a species with a negative charge. By 1976 it was possible to identify the latter as the hydrated electron and to give a reasonably complete description of the properties and reactions of the hydrated electron based on information obtained by the new technique of pulse radiolysis. The pace of radiation research had fallen by the time a fully-revised third edition appeared in 1990, and this gives a reasonably complete overview of the subject and the advances of the previous three decades. In the third edition the move was made to SI ((Système International) units following the example of national and international organizations, though the move was upsetting some older radiation chemists.

One of the chapters revised for the third edition of *An Introduction to Radiation Chemistry* was that covering the applications of radiation chemistry both in laboratory-scale chemistry and on the industrial scale. At that time it became apparent that there was a great deal more interesting material than could be accommodated in a single chapter, and the idea of a book on applied radiation chemistry was born. Many of the more innovative applications were being studied and applied in the Soviet block and it seemed sensible to try and find a collaborator from that area. Professor A. K. Pikaev agreed to help and this led to the publication of *Applied Radiation Chemistry: Radiation Processing* by R. J. Woods and A. K. Pikaev in 1994. While many of the applications envisaged in the 1960s failed to materialize, by 1990 there were a well-established radiation processing industries dealing with polymerization processes, polymer irradiation, and the sterilization of disposable medical supplies, and developing applications in food irradiation and waste management.

The collected materials also illustrate the advancing technology available to scientific writers over the period 1960 to 1993. At the start of this period it was possible to buy the first portable electric typewriters,¹ making it possible for relatively unskilled typists to produce acceptable typed manuscripts.

¹ The portable electric typewriter and Typit characters used during work on the manuscript of *An Introduction to Radiation Chemistry* are part of the collection.

However, it was difficult to type symbols and these were generally entered by hand until the Typit system appeared on the market. Multiple copies meant using carbon paper, and extensive corrections a great deal of extra typing. By 1976 the IBM Selectric typewriter had appeared, making it possible to use multiple fonts and, particularly valuable, to type the common scientific symbols by changing the normal type element to a symbol element. Multi-level equations were still difficult to type, and carbon paper was still in use for multiple copies. Word-processors, laser printers, and xerox copiers made it feasible for everyone with a little patience to produce professional manuscripts and copies in 1990. The ability provided by the word processor to move text and add material allowed writers to edit and update material up to the point of printing the final manuscript, a great help when new material is appearing continuously and writing is spread over one or two years. Indexing is also a great deal easier using the "index" capabilities of the most recent (1993) word-processor programs - earlier, indexing was carried out using a collection of file cards.

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ARCHIVAL MATERIAL - ROBERT JAMES WOODS

Period covered: 1955-1995

INTRODUCTION

This document² lists the material sent to the University of Saskatchewan archives and gives a brief background to the collection. For the most part, this deals with the three editions (1964, 1976, and 1990) of AN INTRODUCTION TO RADIATION CHEMISTRY written by Dr. J. W. T. Spinks, Professor of Chemistry and President at the University of Saskatchewan, and Dr. R. J. Woods, Professor of Chemistry at the university. It is intended that the collection will also include material relating to another book (published in 1994), APPLIED RADIATION CHEMISTRY: RADIATION PROCESSING written by Dr. R. J. Woods and Dr. A. K. Pikaev, Professor and Deputy Director, Institute of Physical Chemistry, USSR (later the Russian) Academy of Sciences, Moscow.

The three editions of AN INTRODUCTION TO RADIATION CHEMISTRY illustrate the changing perceptions and knowledge of radiation-induced chemical processes over a thirty-year time span.

DR. J. W. T. SPINKS³

Dr. Spinks was born in Norfolk, England in 1908 and educated at the Thetford Grammar School, some 30 miles from Cambridge. He graduated in 1928 with a degree in chemistry from King's College, London, part of the University of London, and stayed at King's to carry out graduate work in photochemistry under Professor A. J. Allmand, a noted photochemist. Completing his Ph.D. in 1930, Spinks came to the University of Saskatchewan as assistant professor and continued photochemical research. 1933-34 was spent with Gerhard Herzberg in Germany carrying out photochemical and spectroscopic studies. During the war, Spinks carried out operations research with the RCAF and then moved to Montreal to become part of the Canada-UK-France atomic energy project. Here he worked with radioactive materials and radiation sources. Returning to the University of Saskatchewan after the war, he introduced his faculty colleagues to the applications of radioactive tracers in agriculture, medicine, and engineering, contributing directly in many of their projects. The radioactive tracer work led to studies on the chemical effects of high-energy radiation (radiation chemistry), which resembles photochemistry in some respects, and eventually to the publication of the book that is the subject of this collection.

DR. R. J. WOODS

Dr. Woods was born in London in 1928 and educated at the Polytechnic Secondary School (later the Quintin School), Regent Street, London, and at the Royal College of Science, London. The Royal College of Science is part of Imperial College, which is itself part of the University of London. Woods graduated with degrees in chemistry (A.R.C.S, 1948, B.Sc. 1949) and carried out research into the synthesis of vitamin A at the Royal College of Science under Sir Ian Heilbron and Dr. B. C. L. Weedon (Ph.D. and D.I.C.

² This document was compiled as a WordPerfect 6.0a for Windows file, updated to, and printed on, August 16, 1994. The WordPerfect file is: RJWoodsfonds.wpd

³ See also Dr. Spinks autobiography, *Three Blades of Grass*, Western Producer Books, Saskatoon, 1980.

in organic chemistry, 1951). He spent 1952-1954 at the Prairie Regional Laboratory of the National Research Council as a postdoctoral fellow, working on the synthesis of branched-chain sugars with Dr. A. C. Neish. 1954 was spent as a postdoctoral fellow with Professor S. N. Slater at Victoria University College, University of New Zealand, Wellington, New Zealand attempting to determine the structure of a natural drug, picrotoxin. Woods returned to Saskatoon in 1955 as research associate with Dr. J. W. T. Spinks to synthesize organic compounds labelled with radioactive tracers for various groups on the campus and, later, to carry out research in radiation chemistry. In 1962, he took up an appointment as Senior Research Fellow at the Royal Military College of Science, Shrivenham, UK, where he worked on polymer irradiation and other radiation-chemical problems with Professor A. Charlesby. Woods returned to the University of Saskatchewan in 1964 as assistant professor of chemistry. Sabbatical leave in 1972-73 was spent as a collaborateur étranger at the Centre d'Études Nucléaires de Saclay, Gif-sur-Yvette, France studying the radiation chemistry of organic halogen compounds by pulse radiolysis.

Woods contributions to the manuscript for the first edition of AN INTRODUCTION TO RADIATION CHEMISTRY were written in 1961-1962 and revised while working at Shrivenham (1962-1963).

CONTRIBUTION TO MANUSCRIPTS

Chapter	1964 Edition	1976 Edition	1990 Edition
1	Woods	Woods	Woods
2	Woods	Woods	Woods
3	Woods	Woods	Woods
4	Woods	Woods	Woods
5	Woods	Spinks	Woods
6	Woods	Woods	Woods
7	Woods	Woods	Woods
8	Woods	Woods	Woods
9	Woods	Spinks	Woods
10	Woods	Woods/Spinks	Woods
11	Spinks	-	Woods
12	Spinks	-	-
13	Spinks	-	-
Appendices	Woods	Woods	Woods
Index	Woods	Woods	Woods

In the second edition all chapters were revised but the chapters on radiation dosimetry, water and aqueous solutions, and organic compounds were rewritten to take account of new knowledge in these areas. A new chapter on radiolysis kinetics was introduced to take account of the new and exciting technique of pulse radiolysis. Kinetic data obtained by pulse radiolysis formed the basis for much of the revised chapter on water and aqueous solutions. The third edition made the change from “traditional” units to SI units and expanded the treatment of “applied” radiation chemistry. While researching the latter, it became apparent that there was too much material on radiation applications to include in a single chapter, and the idea of a separate book on applied radiation chemistry was born. The idea was explored during the visit of Professor A. K. Pikaev to Saskatoon as Spinks Lecturer in February 1990.

The changes made in the second and third editions of *An Introduction to Radiation Chemistry* are described in more detail in the sections devoted to these editions.

AN INTRODUCTION TO RADIATION CHEMISTRY (1964)

SCHEDULE

Date	Action
Approx. January 1959	Spinks and Woods agree to write a textbook on radiation chemistry with each contributing half of the material.
<i>July 1959</i>	<i>Spinks becomes President of the U of S.</i>
Mid 1959 - January 1961	Woods produces an outline for the book and starts to assemble material. Drafts of the early chapters written, and reasonably finished versions of chapters 1 and 2 are typed for submission to selected publishers.
February 23, 1961	Contract signed with John Wiley & Sons, Inc. to publish AN INTRODUCTION TO RADIATION CHEMISTRY by J.W.T. Spinks and R.J. Woods
Approx. January 1962	First ten chapters sent to Wiley. These were sent to an independent reviewer whose comments were sent to us in January 1993.
April 1962 - August, 1963	Woods Senior Research fellow in the Physics Department, Royal Military College of Science, Shrivenham, UK.
May, 1963	Final chapter (chapter 12) sent to Wiley.
May, 1963	Production process gets underway at Wiley.
June, 1963	Edited manuscript received from Wiley.
July, 1963	Edited manuscript returned to Wiley.
August-September, 1963	Galley proofs received and corrected
October-November, 1963	Page proofs received and checked.
November-December, 1963	Index manuscript submitted and proofs corrected.
January, 1964	Book published

LETTERS and OTHER DOCUMENTS (originals)

Date	From/To	Subject/Comments
February 23, 1961		Agreement between J.W.T. Spinks, R.J. Woods, and John Wiley & Sons, Inc. for the publication of AN INTRODUCTION TO RADIATION CHEMISTRY
February 23, 1961	Polhemus (Editor, John Wiley & Sons, Inc., New York)/Spinks	Letter accompanying the contract and describing the benefits of publishing with Wiley. <i>In retrospect, it is surprising that the contract does not specify the length of the manuscript or the expected completion date.</i>
August 18, 1961 + Single page	?/Polhemus (Wiley)	Part of reviewer's comments on two sample chapters submitted to Wiley. It is usual for a publisher to submit samples of the manuscript to two or more reviewers before deciding whether to publish the material. In this case the sample chapters seem to have been sent after the contract was signed
<i>If I remember correctly, the proposal for a book on radiation chemistry was sent to two and possibly three publishers. Offers to publish were received from Wiley and from McGraw-Hill. We decided on Wiley on the basis of Wiley books whose style we liked. I was particularly impressed with "Principles of Radiation Dosimetry" by G.N. Whyte, Wiley, New York, 1959. It seemed to me that this represented an especially clear and uncluttered style that was what we (or I) was looking for. The page of calculations seems to show that royalty income would have been greater with McGraw-Hill. RJW</i>		
April 3, 1962	Woods/Polhemus (Wiley)	Woods address in England.
April 13, 1962	Polhemus/Woods	Address Wiley's London editor.
June 12, 1962	Spinks/Woods	Program of Sod-turning Ceremony for the Linear Accelerator Laboratory included.
September 13, 1962	Spinks/Woods	Manuscript for chapters 11 & 13 received from JWT.
September 13, 1962	Lenhard/Woods	Miss Lenhard was Dr. Spinks secretary.
October 9, 1962	Woods/Polhemus	As far as I know, the book referred to in the letter, "An Introduction to Radiation

Date	From/To	Subject/Comments
		Chemistry" by Hart and Platzman, was never published. The reference may be to an article (see letter of October 29).
October 22, 1962	Polhemus/Woods	Hart/Platzman book.
October 29, 1962	Woods/Polhemus	Hart/Platzman book.
November 16, 1962	Polhemus/Spinks	Apology for delayed review.
November 21, 1962	Polhemus/Spinks	Style for "permission" letter.
November 28, 1962	Woods/Polhemus	Chapters 11 & 13 to Wiley.
January 4, 1963	Spinks/Woods	Delay to chapter 12. Job offer?
January 4, 1963	Lenhard/Woods	Typing supplies sent to RJW.
January 15-February 11, 1963	Spinks/copyright holders of material for figures.	The contract stipulates that the authors are responsible for obtaining permission to reproduce copyrighted material. In our case, these were primarily photographs, diagrams, and graphs for figures.
	Replies from some of the copyright holders.	
January 18, 1963	Lenhard/Woods	Letter accompanying copies of letters to copyright holders.
January 20, 1963	Woods/Polhemus	Query regarding chapters 11 and 12.
January 21, 1963	Polhemus/Spinks & Woods	Letter accompanying reviewers comments on the first ten chapters; the comments are attached to the letter. <i>A list of the numbers of pages and figures in each of the 10 chapters is inserted here - it was probably sent to Wiley earlier with the manuscript for these chapters.</i>
January 27, 1963	Woods/Spinks	Response to reviewers comments.
January 30, 1963	Spinks/Polhemus	Reviewers comments received
January 30, 1963	Spinks/Woods	Spinks response to reviewers comments. Chapter 12 nearly finished.
January 31, 1963	Spinks-Lenhard/Woods	Spinks response to reviewers comments.
February 1, 1963	Pardee (Victoreen)/Spinks	Material requested for figures.
February 7, 1963	Lenhard/Woods	Letter with reprint.
February 11, 1963	Polhemus/Spinks	Notes on production schedule.

Date	From/To	Subject/Comments
February 20, 1963	Polhemus/Woods	Notes on editing process.
March 8, 1963	Spinks/Cormack	Thanks for notes on LET. (<i>The notes are included here</i>)
March 8, 1963	Lenhard/Woods	
March 18, 1963	Spinks-Lenhard/Woods	Note re figure.
March 18, 1963	Spinks/Polhemus	Chapter 12 nearly ready.
March 28, 1963	Woods/Pardee (Victoreen)	Illustration for figure.
March 28, 1963	Woods/Spinks	Note re Victoreen illustration.
April 15, 1963	Spinks/Woods	Victoreen illustration & preprint. Chapter 12 nearly ready.
April 15, 1963	Polhemus/Spinks	Will proceed with manufacturing estimate.
April 19, 1963	Spinks/Woods	Chapter 12 draft.
April 22, 1963	Spinks/Woods	Minor changes to chapter 12.
April 22, 1963	Woods/Polhemus	Material for figures.
April 29, 1963	Spinks/Woods	Victoreen illustration. Alkali chlorates.
May 2, 1963	Woods/Polhemus	Chapter 12 submitted.
May 2, 1963	Woods/Spinks	Manuscript for chapter 12.
May 6, 1963	Woods/Spinks	Extra paragraph for chapter 12.
May 6, 1963	Woods/Pardee (Victoreen)	Request for diagram.
May 7, 1963	Flohn (Manager Illustration Planning Production Division, John Wiley & Sons)/Spinks	Request for missing illustrative material.
May 13, 1963	Todd (Assistant Editorial Supervisor, Production Division, John Wiley & Sons)/Spinks	Request for comments on sample pages illustrating the style and format proposed for the book. The sample pages are with the letter and include a reminder that we are using American rather than English spelling.
May 16, 1963	Woods/Spinks	Comments on sample pages. Query regarding Woods & Spinks, or Spinks & Woods.

Date	From/To	Subject/Comments
May 17, 1963	Polhemus/Woods	Manufacturing estimate. Proposal to proceed with editing the manuscript.
May 17, 1963	Carroll (Advertising and Promotion Manager, John Wiley & Sons)/Woods	Letter accompanying Author's questionnaire.
May 20, 1963	Woods/Polhemus	Send edited manuscript to England.
May 21, 1963	Spinks/Todd	Spinks comments on sample pages.
May 23, 1963	Spinks/Woods	Minor changes to chapter 12. Method of handling edited manuscript and proofs.
May 23, 1963	Todd/Spinks	Queries regarding comments on sample pages.
May 27, 1963	Spinks/Todd	Answer to Todd's query.
May 28, 1963	Woods/Todd	Answers to Todd's queries.
May 29, 1963	Spinks/Carroll (Advertising Manager, John Wiley & Sons)	Return of author's questionnaire (a copy of the information entered on the questionnaire is attached). <i>The Author's Questionnaire is used by the publisher's advertising department as source material for the book cover blurbs and for advertising purposes. It gives the author's assessment of where their book fits, its strengths, and the competition.</i>
May 29, 1963	Spinks/Woods	Author's questionnaire, manner of listing authors, preface.
June 3, 1963	Carroll/Woods	Request for questionnaire.
June 5, 1963	Woods/Carroll	Questionnaire sent.
June 5, 1963	Woods/Spinks	Comment on questionnaire and preface. Return to Saskatoon.
June 10, 1963	Carroll/Woods	Questionnaire received.
June 11, 1963	Polhemus/Woods	Handling edited manuscript,
June 11, 1963	Spinks/Woods	No pictures of RJW available.
June 17, 1963	Redwine (Editorial Supervisor, Production Division, John Wiley & Sons)	Edited manuscript about to be sent to RJW.

Date	From/To	Subject/Comments
	Sons)/Woods	
June 20, 1963	Redwine/Woods	Instructions for handling edited manuscript. A two-page style sheet is with the letter while a longer style sheet used by RJW in preparing the manuscript is included separately.
June 26, 1963	Spinks/Redwine	Note that permissions have been obtained.
July 18, 1963	McNeish (Manager, Production Division, John Wiley & Sons)/Woods	Asking when the edited manuscript will be returned.
July 23, 1963	Woods/McNeish	Edited manuscript returned. Return to Canada.
July 23, 1963	Woods/Redwine	Edited manuscript approved and being returned.
July 25, 1963	Aldzerie (Production Division, John Wiley & Sons)/Woods	Edited manuscript received.
July 30, 1963	Spinks/Woods	Minor changes to chapter 13.
August 7, 1963	Scheier (Production Division, John Wiley & Sons)/Woods	Proof schedule and tentative publication date.
August 12, 1963	Spinks/Scheier	Agree to production schedule.
August, 1963	Woods/Scheier	Draft for letter suggesting proofs could be corrected during voyage from England to Canada.
August 21, 1963	Hults (Staff Editor, Production Division, John Wiley & Sons)/Woods	First set of galley proofs sent to Saskatoon. Query regarding table of contents.
August 21, 1963	Spinks/Woods	Note regarding proof reading.
August 22, 1963	Scheier/Woods	Proof-reading not extremely urgent.
September, 1963	Wiley/Woods	<i>The proofs arrived with routing slips giving the reference numbers of the proof sheets and the page numbers of the manuscript rather than with letters. The instructions to authors for handling galley (the metal print is assembled in long boxes called galleys, each representing 2-3 pages) and page proofs and a page or proofreader's marks</i>

Date	From/To	Subject/Comments
		<i>are included here.</i>
September 4, 1963	Hults/Woods	Testimonial from the printer.
September, 1963	Woods/Spinks	List of expenses to be charged to account 4060 (Spinks radiation chemistry account)
September 20, 1963	Hults/Woods	Note concerning accent marks.
September 22, 1963	Woods/Hults	Testimonial to printer and copy editor. Query regarding author index.
September 25, 1963	Hults/Woods	Author index our decision.
October 9, 1963	Woods/Hults	Figures needing credits.
November 13, 1963	Hults/Woods	Minor changes to equations.
November 15, 1963	Woods/Hults	Page proofs and indexes on schedule.
December 11, 1963	Hults/Woods	Letter with front matter and request to check index proofs in house.
December 11, 1963	Bennett (Creative Supervisor, John Wiley & Sons)/Spinks	Letter with copy and layout for the dust jacket.
February 6, 1964	Barnes (Vice President, John Wiley & Sons)/Spinks	Book will be priced at US\$12.75.
February 10, 1964	Lowell (Assistant Promotion Manager, John Wiley & Sons)/Spinks	Draft of initial promotional plans.
February 11, 1964	Polhemus/Spinks-Woods	First bound copy of book received. Good wishes from staff at Wiley.
February 13, 1964	Barnes/Spinks	Forwarding unbound copies for recording corrections and notes for future editions.
February 25, 1964	Appelt (University librarian)/Woods	Acknowledges receipt of a copy of the book by the U of S library.
February 25, 1964	Lowell/Spinks	Book advertising.
March 2, 1964	Spinks/Thomsen (Assistant Manager, College Sales, John Wiley & Sons)	Thanks for list of people receiving copies of the book. <i>Our own list of suggested recipients is attached.</i>
March 10, 1964	Herzberg/Spinks	Thanks for copy of the book. <i>(Herzberg received the 1971 Nobel Prize for chemistry)</i>

Date	From/To	Subject/Comments
March 12, 1964	News from the University of Saskatchewan	News release.
March 13, 1964	ON CAMPUS	Records publication of the book.
March 16, 1964	Regina Leader Post	Article on book.
March 26, 1964	Samuel/Spinks	Comments on book.
March 30, 1964	Rogan (Marketing Division, John Wiley & Sons)/Spinks	Complimentary copies.
March, 1964	Article in International Science and Technology	Approves book.
April 6, 1964	Woods/Samuel	Thanks for Samuel's comments.
April 9, 1964	Carroll/Spinks	Advertising booklet
May 5, 1964	Carroll/Woods	Advertising material.
May 13, 1964	Wiley (President, John Wiley & Sons)/Authors	Books at the Worlds Fair
May 20, 1964	Armstrong/Woods	Receipt complimentary copy book.
May 22, 1964	Cockcroft (Master, Churchill College, Cambridge)/Spinks	Receipt complimentary copy book. (Cockcroft headed the UK atomic energy program)
May 26, 1964	Norrish/Spinks	Receipt complimentary copy book. (Norrish was joint recipient of the 1967 Nobel Prize for chemistry - he comments on the time required to write a book)
June 9, 1964	Haissinsky/Spinks	Receipt complimentary copy book. (Haissinsky was editor of a well-known series of books with review articles in the area of radiation chemistry and radiation biology - <i>Actions Chimiques et Biologiques des Radiations</i> , Masson, Paris)
October 16, 1964	Amphlett/Spinks	Reprint request with note on book.
November 2, 1964	Spinks/Schwarz	Comments on book review by Schwarz. (Dr. Spinks was not pleased)
November 25, 1964	Schwarz/Spinks	Answer to Spinks' comments.
1965 (?)	Circular from Ryerson Press	Call for manuscripts by Canadian authors.

Date	From/To	Subject/Comments
January 4, 1965	Elmet (Market Research & Sales, John Wiley & Sons)/Spinks	Thank-you letter for summary of sales.
March 23, 1965	Myers (Translation Rights, John Wiley & Sons)/Spinks	Request for approval of a Japanese translation.
March 30, 1965	Spinks/Myers	Approval of Japanese translation.
June 11, 1965	Carroll/Woods	Advertising circulars
June 15, 1965	Circular from John Wiley & Sons	US copyright hearings.
November 4, 1965	Carroll/Woods	Advertising circulars
August 26, 1966	Carroll/Woods	Advertising circulars
October 21, 1966	Carroll/Woods	Advertising circulars
December 28, 1966	Hahn (Advertising Manager, John Wiley & Sons)	Advertising circulars
June 22, 1967	Oller/Woods	Request for information.
June 28, 1967	Woods/Oller	Woods reply.
September 7, 1967	Badger (Editor, John Wiley & Sons)/Spinks	Replies to a letter from Spinks that it is probably too early for a second edition and that there is not sufficient demand for a paperback.
September 30, 1967	Spinks/Badger	Reply to Badger.
October 12, 1967	Badger/Spinks	Not interested in publishing a paperback on the more general aspects of radiation chemistry.
August 20, 1968	Spinks/Batt	Spinks gives permission to use tables from the book.

REVIEWS and RELATED MATERIALS (copies are in the folder "Book Reviews")

1. Comments

Comments by S. C. Lind and T. J. Hardwick. *See also* the comments contained in a letter to Dr. Spinks from Dr. A. H. Samuel (March 26, 1964).

2. **Essay Review "Radiation Chemistry"**
A. G. Maddock, *Chemistry and Industry*, December 26, 1964, p. 2123.
3. **Review**
Harold A. Schwarz, *J. Amer. Chem. Soc.*, **86**, 4227 (1964).
(*Dr. Spinks was upset by this review and wrote to Schwarz. The letter, and Dr. Schwarz's reply are included in the correspondence file.*)
4. **Review**
Russell Johnsen, *Science*, **146**, 760 (1964).
5. **Review**
R. L. Vale, *Int. J. Applied Radiation Isotopes*, **16**, 143 (1965).
6. **Eight pages of reviews provided by John Wiley & Sons**
The reviews included are from a range of North American and European journals.
(*The reviews covered journals that we would not normally have read. Unfortunately this valuable service by the publisher seems to have disappeared by the time the second edition of the book came out in 1976.*)

NOTE **The reviews were useful when the time came to prepare a second edition and many of the reviewers suggestions were incorporated at that time.**

OTHER MATERIALS

1. Typewriter and "Typit" keys

One of the problems in typing the manuscript was the absence of symbols on the standard typewriter keyboard. I did buy a new Smith-Corona electric typewriter and had the Greek symbols α , β , and γ substituted for three standard symbols that I did not use very often. Later a company (Typit) brought out a holder that would fit on a typewriter and hold additional keys with Greek letters and other symbols. These were a great improvement. The original Smith-Corona portable electric typewriter and the set of Typit symbols used will be included with the other materials listed here.

The electric typewriter made it possible for a rather poor typist to produce a professional-looking document, and virtually all material for this edition of the book was typed on this machine. The power supply in Britain was 240 V, 50 Hz. This was accommodated by using a transformer to change the voltage and by changing one of the cogs in the machine to correct for the different frequency (Canada uses 60 Hz); at 50 Hz the typewriter showed a marked diminution in both speed and power.

The second edition of the book was typed using an IBM electronic 50 typewriter which used similar spherical type elements to the earlier IBM Selectric typewriter. One of the balls used carried all the symbols necessary. The third edition was prepared using a DOS word-processor (WordPerfect 5.0), which included symbols among the typefaces available. **Note, the key is broken.**

Smith-Corona typewriter, broken key, box of Typit keys, 2 plastic Typit key holders. See **Box 17, O/S S30.4.**

2. Three green loose-leaf binders (the binders are numbered 1-3)

These contain typed drafts for all chapters. The drafts were probably prepared in early 1961 and taken to Britain where they were amended over the following eighteen months. They show evidence of changes necessitated by new research results that appeared during this period. Probably the most important of these concern the reducing radical in irradiated water and the growing awareness that this might include both the (neutral) hydrogen atom and a negatively charged species. The manuscript was revised in several places so as to include the new observations.⁴ This matter was resolved by the time the second edition came on the scene.

Box 2

3. Five red loose-leaf binders (the binders are numbered 4-8)

The pages proofs received by Woods were checked and, where necessary, corrected with one set of corrected proofs going back to the publisher and a second set pasted into this group of binders. Over the next several years notes were added to the binders listing possible changes and references to be used in revising the text for a new edition. The binders were in fact used as the starting point when the manuscript for a second edition was written. The notes give some idea of the areas where work was concentrated in the years 1963 to 1975.

4. Style sheets

The folder labelled "Style" contains a number of loose pages dealing with various stylistic matters, 1952 and 1959 booklets dealing with the style and format for papers published by the Chemical Society, London, and a number of pages bound into the folder. The latter are a personal style sheet listing a variety of abbreviations, terms, and words where consistency is important. These pages were referred to frequently while typing the manuscript so that the abbreviations and spelling would be the same for chapter 1 and for chapter 12, typed months later.

5. Galley Proofs

Box 3

6. Page Proofs

⁴ See, for example, Chapter 8, pages 24-27, which were replaced with pages 24a-24k. There are a number of similar changes throughout chapter 8. The first few rate constants for reactions in irradiated aqueous solutions were just becoming available. Many more rate constants had been published by the time the second edition was written, leading to considerable revision of chapter 8 at that time.

7. Index cards

The indexes were prepared by writing the terms or names to be included on index cards either while checking the galley proofs or soon afterwards. Once the page proofs had been received and checked, the page numbers were added to the cards. These were then sorted alphabetically and the index typed from the pile of cards. We preferred to do this ourselves rather than rely on a professional indexer because we felt we knew better what was important. The index was quite successful and over the years a number of readers have commented favourably on it. However, the best recommendation came many years later (in 1989 while we were both attending a conference in the Netherlands) from Dr. A. J. Swallow who said he was so impressed that he copied it for his own book "Radiation Chemistry: An Introduction," Longman, 1973. The compliment, from a distinguished colleague and author, was a much-appreciated surprise.

8. Copy of AN INTRODUCTION TO RADIATION CHEMISTRY by J.W.T. Spinks and R.J. Woods, Wiley, New York, NY, 1964. Pages: 477.

Copy of the Japanese translation of AN INTRODUCTION TO RADIATION CHEMISTRY by J. W. T. Spinks and R. J. Woods, Wiley, New York, 1964. The (authorized) translation was published by Sangyo Tosho Publishing Company, Ltd., Tokyo, 1965. Pages: 420.

9. Royalty and Sales Statements (1964-1975)

The statements show total sales of 4195 copies over the period 1964 to 1975. The second edition was published in 1976.

10. Glass slides

Before 35 mm slides came into general use by speakers at scientific conferences, emulsion-covered glass slides were used. The page includes some slides used by Woods when describing some of the radiation-chemical research carried out at the University of Saskatchewan. The slides were shown using a large magic-lantern-type projector, one of the dangers being that the heat from the projector lamp would melt the gelatine if the speaker was too long winded. I remember a few cases where speakers slides slowly melted with the text gradually slipping lower and lower down the screen, to the great amusement of the audiences. The slides were also relatively fragile.

COMMENTS

Box 4

One of the strengths of the book is the chapter on radiation dosimetry, I think we did this better than any of our later competitors (*virtually all the reviewers liked the chapter on dosimetry (chapter 4)*). The

strength of this section owes a lot to a graduate course on "Radiation Physics" given by Professor Harold Johns of the Physics Department that I audited just before starting work on the book. Dr. Johns was working on his own book, *The Physics of Radiology*, at the time and much of the graduate course was concerned with dosimetry applied, particularly, to the treatment of cancer patients. Dr. D. V. Cormack was a graduate student or junior faculty member in the Physics Department at the same time and was also a valuable source and sounding board on dosimetric matters. *(Another person associated with the group in the Physics Department was Sylvia Fedoruk, who went on to a distinguished career as physicist to the Saskatchewan Cancer Commission and later as Lieutenant-Governor of Saskatchewan)*

A weak point of the book, identified by several of the reviewers, was the relatively light treatment of the more theoretical areas of radiation chemistry. This was to have been Dr. Spinks main contribution to the book, but with his appointment as president of the university the time he could devote to writing severely curtailed and the more theoretical topics received less attention than they deserved. This imbalance can be seen in the second and third editions also, though some of the theoretical topics that were hot issues in 1964 had either been resolved or had faded by the time the second edition came out.

R. J. Woods
Chemistry Department

August 22, 1994

ARCHIVAL MATERIAL - ROBERT JAMES WOODS

Period covered: 1955-1995

SECOND EDITION (1976)

This document⁵ lists the material sent to the University of Saskatchewan archives relating to the second edition of AN INTRODUCTION TO RADIATION CHEMISTRY by J. W. T. Spinks, President at the University of Saskatchewan, and Dr. R. J. Woods, Professor of Chemistry.

By 1973 the first edition was out of print and a great deal of new work on radiation chemistry had been published, so that it appeared timely to produce a new edition. By this time too, several competing books had been published⁶. In the second edition all chapters were revised to some extent but the chapters on radiation dosimetry, water and aqueous solutions, and organic compounds were rewritten to take account of new knowledge in these areas. A new chapter on radiolysis kinetics was introduced to take account of the new and exciting technique of pulse radiolysis. Kinetic data obtained by pulse radiolysis formed the basis for much of the revised chapter on water and aqueous solutions. The main changes from the first edition are set out in the Author's Questionnaires completed by Dr. Spinks and Dr. Woods (see July 28, 1975 and September 10, 1974, respectively, in the section "Letters and Other Documents").

Manuscript preparation, proofreading, etc., for the second edition were carried out while RJW was teaching at the University of Saskatchewan. Sabbatical leave had been taken earlier (1972-1973) and spent as a collaborateur étranger with the Commissariat à l'Énergie Atomique, Centre d'Études Nucléaires de Saclay, Gif-sur-Yvette, France. Three months in the summer of 1975 were spent as a Visiting Research Officer with the Division of Physics, National Research Council of Canada, Ottawa. Both the sabbatical leave and the summer research position were spent carrying out research using the relatively new technique of pulse radiolysis. This made it possible to write on this subject with somewhat more authority in the revised version of the book.

SCHEDULE

⁵ This document was compiled as a WordPerfect 6.0a for Windows file, updated to, and printed on, October 23, 1994. The WordPerfect file is: RJWoodsfonds.wpd

⁶ I. V. Vereshchinskii and A. K. Pikaev, *Vvedenie V Radiatsionnuyu Khimiyu*, Moscow, 1963, English translation, Israel Program for Scientific Translations, Jerusalem, 1964; E.J. Henley and E.R. Johnson, *The Chemistry and Physics of High Energy Reactions*, Washington, D.C., University Press, Washington, DC, 1969; A. Henglein, W. Schnabel, and J. Wendenberg, *Einführung in die Strahlenchemie*, Verlag Chemie, Weinheim, 1969; J. H. O'Donnell and D.F. Sangster, *Principles of Radiation Chemistry*, Edward Arnold, London, 1970; A. R. Denaro and G. G. Jayson, *Fundamentals of Radiation Chemistry*, Ann Arbor Science Publishers, Ann Arbor, MI, 1972; G. Hughes, *Radiation Chemistry*, Clarendon Press, Oxford, 1973; A. J. Swallow, *Radiation Chemistry; An Introduction*, Longman, London, 1973

Date	Action
?	Stoll (Group Vice President, John Wiley & Sons)/Spinks
April 27, 1973	Hoffman (Chemistry Editor, Wiley-Interscience division of John Wiley & Sons, Inc., New York)/Spinks
August 28, 1973	Spinks/Hoffman
October 3, 1973	Spinks/Hoffman
October 3, 1973	Spinks/Hoffman
November, 1973	Spinks and Woods agree to prepare a second edition and an Author's Agreement (publication contract) is signed.
1974	Manuscript preparation.
June, 1975	Second edition manuscript sent to Wiley.
July, 1975	Request to complete an Author's Questionnaire to aid in the preparation of promotional material.
August, 1975	Manuscript passed on to the Production Department at Wiley-Interscience.
September 24, 1975	Edited manuscript sent by Wiley for author's examination.
October 1, 1975	Edited and checked manuscript returned to Wiley.
October 15, 1975	Manuscript sent to the typesetter.
December 4-17, 1975	Galley proofs and "cut dummy" figures sent to authors for checking against the edited manuscript and figures.
February 19, 1976	Last page proofs sent to authors for checking.
March 17, 1976	Index manuscript due.
June, 1976	Bound copies of the second edition available.

Date	From/To	Subject/Comments
August 13, 1969	Spinks/Spatorico	Permission to use pages from first edition.
?	Stoll (Group Vice President, John Wiley & Sons)/Spinks	Suggestion that Krieger Publishing be given permission to sell the remaining stock of the first edition and reprint it is necessary.
April 27, 1973	Hoffman (Chemistry Editor, Wiley-Interscience division of John Wiley & Sons, Inc., New York)/Spinks	Response to a suggestion by Dr. Spinks that we prepare a second edition. It is suggested that the book be smaller in order to maintain the price at about \$20.
August 28, 1973	Spinks/Hoffman	Expressing interest in bringing out a second edition. <i>(The additional page is a list of objectives by Dr. Spinks)</i>
October 3, 1973	Spinks/Hoffman	Suggestions for a second edition. Included are suggestions for a smaller "student edition" and a reference "source book on radiation chemistry." Included is a list of chapters in the original and proposed second edition. <i>[Some of the competing texts are small enough to be considered student editions (see footnote to page 1). A source book on radiation chemistry was eventually published: Handbook of Radiation Chemistry (eds. Y. Tabata, Y. Ito, and S. Tagawa), CRC Press, Boca Raton, FL, 1991.]</i> Inserted at this point is an estimate of the authors (or RJW's) costs for producing a second edition. In the event, the final draft was typed by RJW.
October 3, 1973	Spinks/Hoffman	Note with a tentative preface for the second edition.
August 22, 1973	Hoffman (Chemistry Editor, Wiley-Interscience division of John Wiley & Sons, New York)/Spinks	Letter expressing interest in a new edition of AN INTRODUCTION TO RADIATION CHEMISTRY by Spinks & Woods.
September 28, 1973	Hoffman/Spinks	Request for book proposal including a tentative table of contents and preface.
November 13, 1973	Spinks/Woods	Memo relating to costs of book revision.
November 13, 1973	Woods/Carlyle King	Request for financial assistance. <i>(The expected expenses are listed on an additional page inserted</i>

		<i>here.)</i>
November 14, 1973	Spinks/Meredith	Memo setting up a radiation chemistry account (3-816-070)
November 15, 1973	Woods, Carlyle King	Memo granting \$500 towards typing and xerox expenses.
November 16, 1973	Hoffman/Spinks	Letter accompanying author's agreement. Author's Agreement (publication contract) for a second edition of AN INTRODUCTION TO RADIATION CHEMISTRY of approx. 380 pages, the manuscript to be delivered not later than June 1975.
November 28, 1973	Spinks/Hoffman	Return of author's agreement.
November 30, 1973	Hoffman/Spinks	Author's agreement received by Wiley. (<i>Mail between Saskatoon and the US and Europe was a good deal faster in 1974 than in 1994</i>)
March 3, 1974	Woods/Tomlinson (AECL, Pinawa, Manitoba)	Questions regarding the possible use of SI units in radiation chemistry and electron dosimetry.
March 20, 1974	Tomlinson/Woods	General comments re the Radiation data Centre at the University of Notre Dame, Indiana.
April 30, 1974	Tomlinson/Woods	Answers to the queries in Woods March 20 letter to Tomlinson. We are on our own with regard to SI units and electron dosimetry.
August 20, 1974	Woods/Law (Royal Infirmary,	request for reprints dealing with dosimetry.
August 22, 1974	Woods/Rodgers	Request for reprints on the radiation chemistry of acetone.
September 3, 1974	Hoffman/Spinks	Note inquiring whether we are on schedule with the revised edition.
September 3, 1974	Rodgers/Woods	Note with reprints, with complimentary remarks on the first edition.
September 11, 1974	Woods/Hoffman	Report on progress with the second edition. Queries regarding style, etc.
September 12, 1974	Woods/Ausloos	Request for reprint.
September 13, 1974	Spinks/Hoffman	Progress report on the chapters being written by

		Dr. Spinks.
September 19, 1974	Hoffman/Spinks, Woods	Answers to author's queries about style (See letter of September 11, 1974)
October 3, 1974	Gillis/Woods	Information on dosimetry used at the NRC laboratory, Ottawa.
October 21, 1974	Woods/ICRU Publications	Order for ICRU publications.
October 22, 1974	Woods/Law	Thank you for reprints.
October 23, 1974	Woods/Matthews	Request for reprints.
October 27, 1974	Woods/McLaren	Request for reprints.
October 28, 1974	Matthews/Woods	Letter with reprints describing recent advances in ceric sulfate dosimetry.
November 4, 1974	McLaren/Woods	Complimentary letter with reprints.
November 9, 1974	Woods/Klots	Request for reprints.
November 14, 1974	Woods/Buxton	Request for reprint and for information.
November 14, 1974	Woods/Dixon	Request for reprint.
November 14, 1974	Woods/Woodward	Request for reprint
November 19, 1974	Dixon/Woods	Complimentary letter with reprint.
November 25, 1974	Buxton/Woods	Information with reprint.
November 29, 1974	Woods/Teplý	Request for reprint.
November 29, 1974	Woods/Draganic	Request for reprint.
November 29, 1974	Woods/Wilson	Request for reprint.
December 1974	Teplý/Woods	Note with reprints.
December 1, 1974	Woods/Elsevier	Query regarding journal back issues.
December 3, 1974	Woods/Cormack	Cormack asked to read the chapter on dosimetry.
December 5, 1974	Cormack/Woods	Agreement to review dosimetry chapter.
December 9, 1974	Woods/Cormack	Letter describing our intent in revising the

December 16, 1974	Woods/Dixon	dosimetry chapter. Thanks for reprint and query about yields.
December 17, 1974	Cormack/Woods	Comments on dosimetry chapter.
December 17, 1974	Draganic/Woods	Note with reprints.
December 20, 1974	Woodward/Woods	Note with reprints.
December 26, 1974	Dorfman/Spinks	Permission to use an illustration identified as coming from another author's paper.
December 27, 1974	Woods/Cormack	Thanks for reviewing dosimetry chapter.
January 6, 1975	Woods/Imamura	Request for reprints.
January 8, 1975	Dixon/Woods	Reply to request for information on the radiolysis of water.
January 20, 1975	Imamura/Woods	Letter with reprints.
January 28, 1975	Woods/Kroh	Request for reprints.
March 20, 1975	Woods/Armstrong	Request for information on the radiolysis of cysteine solutions.
March 20, 1975	Woods/Phillips	Note to Phillips, Editor, Radiation Research Reviews, asking whether he would be interested in an article on chemical dosimetry.
March 20, 1975	Woods/Hunt	Questions regarding early radical yields in the radiolysis of water.
April 1975 ?	Hunt/Woods	Letter giving the early solvated electron yields in several liquid systems.
April 19, 1975	Woods/Armstrong	Thanks for reprints and information.
April 25, 1975	Armstrong/Woods	Brief note on cysteine irradiation.
June 17, 1975	Spinks/Hoffman	Note re material for figures.
June 20, 1975	Spinks/Woods	Comments and questions re manuscript.
June 26, 1975	Spinks/Woods	Memo re copies chapters 3 and 7.
June 26, 1975	Spinks/Hoffman	Letter describing the main changes sent with the second edition manuscript. <i>(A copy of the preface is included here, it may have been sent somewhat</i>

earlier or later - RJW

July 28, 1975	F.D. Washington (Manager, Bibliographic Dept., John Wiley & Sons)/Spinks-Woods	Letter with request to complete an Author's Questionnaire to aid in promotion of the Second Edition.
		<i>[The copy of the Author's Questionnaire included here gives Dr. Spinks description of the contents of the book (pages 4 and 4a) and of the changes made in the second edition (page 6)]</i>
August 14, 1975	Spinks/Washington	Dr. Spinks returns the Author's Questionnaire with a note that he will discuss it with Dr. Woods when he returns to Saskatoon from a summer appointment in Ottawa.
August 19, 1975	Fletcher (Production Manager, Wiley-Interscience)/Spinks	Second-edition manuscript received for production. <i>(Material goes to copy editor for editing and insertion of instructions to the typesetter)</i>
September 5, 1975	Aldzeris (Editorial Supervisor, Production Division, Wiley-Interscience)/Spinks	Outline of editorial procedures and deadlines.
September 10, 1975	Woods/Washington	Letter with additional material for the Author's Questionnaire.
		<i>[The copy of the Author's Questionnaire included here gives Dr. Woods additional comments on the contents of the book (pages 4) and the changes made in the second edition (page 6)]</i>
September 15, 1975	Washington/Woods	Author's Questionnaire received by Wiley.
September 16, 1975	King/Woods	Memo authorizing \$161.60 to cover the cost of a computer-run literature search.
September 24, 1975	Woods/Aldzeris	Additional material send to Appendix 3.
September 24, 1975	Aldzeris/Spinks	Edited manuscript returned for review.
October 1, 1975	Spinks/Aldzeris	Edited manuscript checked and being returned to Wiley.
October 7, 1975	Aldzeris (Editorial Supervisor, Production Division, Wiley-Interscience)/Spinks	The edited (by the publisher) and checked (by the authors) manuscript received by Wiley.

October 15, 1975	Fliess (Production Supervisor, Wiley-Interscience)	Manuscript sent to typesetter.
October 23, 1975	Woods/Fliess	Notification of a possible postal strike and author's telephone numbers.
December 2, 1975	Fliess (Production Supervisor, Wiley-Interscience)/Spinks	Instructions and schedule for galley and page proofs
December 2, 1975	Fletcher (Production Manager, Wiley-Interscience)/Spinks	Request that all material be sent by air freight during the mail strike. <i>(Several customs declarations and memos re proofs are included here)</i>
December 16, 1975	Spinks/Fliess	Note with returned proofs for chaps. 1-8.
December 23, 1975	Woods/Fliess	Final batch of galleys received, galleys 57-118 returned with cut dummy for several figures. Congratulations to typesetters.
December 30, 1975	Woods/Fliess	Final galleys and cut dummy figures returned to Wiley.
January 8, 1976	Spinks/Washington	Material for the dust jacket <i>(Outlines the purpose of the revision and gives information on the authors)</i>
January 14, 1976	Morganstern/Woods	Request for information about the first International Meeting on Radiation Processing.
February 6, 1976	Spinks/Fliess	Material for front matter returned to Wiley.
February 12, 1976	Spinks/Fliess	Master and foul galleys for chapters 1-3 returned to Wiley.
February 17, 1976	Spinks/Fliess	Master and foul galleys for chapters 4-6 returned to Wiley.
February 17, 1976	Spinks/Fliess	Page numbers to be inserted in the table of contents.
February 18, 1976	Woods/Fliess	Proofs and galleys for chap. 7 returned.
February 18, 1976	Gopal/Woods	Request for information on the radiolysis of urea and book publication date.
February 20, 1976	Woods/Fliess	Proofs and foul galleys for remaining chapters and appendices returned to Wiley.

March 1, 1976	Lal/Woods	Background information and request for a complimentary copy of the second edition. (<i>Dr. Lal worked with D.A. Armstrong, U. Calgary, and for a week with RJW at NRC, Ottawa, in the summer of 1975</i>)
March 1, 1976	Woods/Gopal	Note re the radiolysis of urea.
March 5, 1976	Woods/Fliess	Index material sent to Wiley.
March 11, 1976	Hoffman/Spinks, Woods	Price book set at US\$24.95.
March 15, 1976	Raybould (Copy Chief, Wiley-Interscience)	Material for dust jacket for approval.
March 22, 1976	Woods/Washington	Request to send Dr. Lal a review copy and suggestion that the book be displayed at the first IMRP meeting in Puerto Rico.
March 23, 1976	Spinks/Fliess	Material for binding returned to Wiley.
March 23, 1976	Spinks/Raybould	Copy for the dust jacket returned. We did not like the jacket design and suggest using fig 2.22 instead. (<i>Figure 2.17 was actually used on the dust jacket</i>)
March 25, 1976	Woods/Lal	Note on work in Ottawa and that the publisher has been asked to send Dr. Lal a review copy of the book.
March 26, 1976	Washington/Woods	Request to send Dr. Lal a complimentary copy forwarded to marketing manager, Dr. Badger.
July 6, 1976	Hoffman/Spinks	Pleased that we like the appearance of the book and wanting to be kept informed of our plans for a book on industrial radiation chemistry.
July 16, 1976	Herzberg/Spinks	Thank you for a copy of the 2nd edition.
July 23, 1976	Kevan/Woods	Thank you for a copy of the 2nd edition.
July 23, 1976	Spinks/Nuclear Canada	Informing Nuclear Canada of the new edition.
July 29, 1976	Spinks/Weller	The Canadian Nuclear Association looks forward to receiving a copy of the book.
July 30, 1976	University News	Reports the publication of the 2nd edition.

August 4, 1976	Star-Phoenix	Note reporting the publication of the 2nd edition.
August 10, 1976	Lal/Woods	A second request for a complimentary copy of the 2nd edition (<i>the letter of March 25, 1976, appears to have gone astray</i>)
August 12, 1976	Western Producer	Note reporting the publication of the 2nd edition.
August 20, 1976	Woods/Lal	Note that a review copy has been requested for Dr. Lal.
August 20, 1976	Woods/Badger	Weller's letter of July 29 forwarded with note that they would appreciate a review copy.
October 8, 1976	Lal/Woods	Request for copy of the 2nd edition.
October 21, 1976	Spinks/Stourm	Request not to continue sending documentation from CAPRI, the industrial radiation group at the Centre d'Études Nucléaires de Saclay, Gif-sur-Yvette, France.
November 16, 1976	Bennett (National Library of Canada)/Spinks	Wiley are sending two copies each of the first and second editions to the National Library.
January 5, 1977	Hoffman/Spinks	Sales of the 2nd edition are 580 as of December 30, 1976. Inquiry regarding a possible book on industrial radiation chemistry.
January 20, 1977	Spinks/Hoffman	Preliminary outline for a book on Industrial Radiation Chemistry.
January 25, 1977	Hoffman/Spinks	Will evaluate the proposal for a book on Industrial Radiation Chemistry.
September 29, 1977	Gromov/Spinks	Dr. Spinks apparently asked about translating a Russian book on radioisotope installations into English. (<i>Dr. Gromov translated the first edition into Russian</i>)
October 13, 1977	Spinks/Gromov	Spinks interested in arranging the translation (<i>see letter of Sept. 13</i>).
October 13, 1977	Spinks/VAAP	Note to VAAP, the organization that arranges for Russian books to be translated into other languages, asking how we can get agreement to translate the book on radioisotope sources.
January 29, 1979	Woods/Kroh	Our permission to cite material from the second

		edition.
January 30, 1979	Woods/Hoffman	Kroh's request to cite material passed on to Wiley.

REVIEWS and MISCELLANEOUS MATERIALS (In folders)

1. Review

A. J. Swallow

(Taylor & Francis Ltd., 9/76 - the review was sent on by Wiley and the journal is not identified. Swallow wrote a competing book on radiation chemistry. Swallow told me years later that he liked the subject index in our first edition and used it as a model for his own book.)

2. Review

J. K. Thomas

Photochemistry & Photobiology, **25**, 498 (1977)

3. Review

Jan. A. Herman

J. Amer. Chem. Soc., **100**, 6298 (1978)

4. Schedule

Schedule used to keep track of proofs and author's responsibilities.

Schedule of proofs and publisher's instructions for index.

5. Style Sheet

Outlines the conventions to be followed with regard to style, units, spelling, etc.

6. Folder containing miscellaneous receipts etc.

The receipts may be of interest as an indication of book and stationary prices at the time.

OTHER MATERIALS

Not all material for this edition was retyped. Chapters with minor changes were sent to the publisher in the form of tear sheets (from the page proofs for the first edition) with changes written on the sheet or with added pages of typewritten material. The five red binders included with the material for the first edition were the starting point for the revision and represent the type of material sent to the publisher. Chapters 2, 5, and 13 were rewritten in part with a considerable amount of material from the first edition, chapter 3 was largely rewritten with some excerpts from the first edition, while chapters 7 and 8 were completely rewritten.

The typed material was prepared using an IBM Selectric typewriter with a symbol (ball) element, making it reasonably easy to enter mathematical and physical symbols and equations.

7. Blue loose-leaf binder (binder numbered 9)

This contains final typed drafts for chapters 3, 7, 8, and the appendices. This was the manuscript

material sent to the publisher.

8. Brown envelopes containing early drafts for several chapters

1. Calculations and rough drawing for Fig. 3.5.
2. Legends for figures (some from the first edition).
3. Notes for the early sections of chapter 3 *(These materials were used in teaching part of CHEM 300 for several years)*
 First draft of early sections of chapter 3.
 Edited copy of the first sections of chapter 3.
4. First drafts for chapters 3, 7, 8, and the index (Woods), and chapters 2, 5, 13 (Spinks).
5. References for chapter 7 (first edition references + later references).

9. Corrected Galley Proofs

Two sets, one corrected by Dr. Spinks, the other with corrections from both authors.

10. Corrected Page Proofs

Two sets, one corrected by Dr. Spinks, the other with corrections from both authors.

11. Index cards

The indexes were prepared by writing the terms or names to be included on index cards either while checking the galley proofs or soon afterwards. Once the page proofs had been received and checked, the page numbers were added to the cards. These were then sorted alphabetically and the index typed from the pile of cards.

The second set of cards with references to specific published papers were used in compiling the chapter references. In the early stages of writing the papers were identified by a five letter-two number code giving the first letters of the author's names and the date of publication. In the final version of the manuscript, when no more references would be added, the codes were replaced with the numbers appearing in the published work. At the time it was difficult to add late references if numbers were used from the start - this is no longer a problem with current word processors (1994) which will renumber references automatically.

12. Copy of AN INTRODUCTION TO RADIATION CHEMISTRY (Second Edition) by J.W.T. Spinks and R.J. Woods, Wiley, New York, NY, 1976. Pages: 504.

13. Royalty and Sales Statements (1976-1986)

The statements show total sales of 1747 copies over the period 1976 to 1986. The second edition was published in 1976.

ARCHIVAL MATERIAL - ROBERT JAMES WOODS

Period covered: 1955-1995

THIRD EDITION (1990)

This document⁷ lists the material sent to the University of Saskatchewan archives relating to the third edition of AN INTRODUCTION TO RADIATION CHEMISTRY by J. W. T. Spinks, President at the University of Saskatchewan, and Dr. R. J. Woods, Professor of Chemistry. The third edition was prepared by R. J. Woods since Dr. Spinks was in failing health and, while supportive, had little interest in the practical steps necessary to produce a revised manuscript.

Three chapters (chapters 3, 7, and 8 in the second edition) were extensively revised for the second edition, but the remainder of the material was largely unchanged from the first edition.

The third edition represents a complete revision of the text, though maintaining the same basic structure as the two earlier editions. The third edition manuscript was prepared using a word-processor (WordPerfect, version 5.0)⁸ which proved a great advantage over typewritten copy since material could be moved within and between chapters, and new references added, up to the time the master manuscript was printed. This led to a better organized publication, and made it possible to continuously update material in the earlier chapters; much of the material in these chapters was drafted in the spring and early summer of 1988 while the later chapters were completed during the first months of 1989. Samples of the word-processor files were sent to the publisher with specimen chapters in January 1989, and a decision was reached at that time to use the word-processor files directly to prepare most of the final typeset material, avoiding the usual step of manual typesetting, it was suggested that this would be done in Ireland. In the event, the typesetting was carried out in the conventional manner in India, where Wiley apparently had compositors free who were already under contract. One of the several compositors working on the manuscript had some knowledge of chemistry and, trying to be helpful, corrected what he believed to be errors in spelling. In particular, changing "ethanol" (CH_3CHO) to "ethanol" ($\text{CH}_3\text{CH}_2\text{OH}$) wherever it appeared. Unfortunately, ethanal was correct; hopefully, all the "corrections" were corrected again when the page proofs were received and checked.

The most obvious difference between the third edition and the earlier editions is the change to SI (Système International) units, necessitating recalculation of all reaction yields (changed from molecules per 100 eV to micromole per joule) and most of the other numerical data quoted in the text. The change simplifies many of the calculations involved in radiation chemistry and avoided the use of special units unfamiliar to scientists in other areas. At the same time out-dated material was removed, allowing a number of new subjects to be included while keeping the length of the manuscript within the limits

⁷ This document was compiled as a WordPerfect 6.0a for Windows file, updated to, and printed on, December 13, 1994. The WordPerfect file is: RJWoodsfonds.wpd

⁸ Other software programs used in preparation of the manuscript were DataPerfect (for data management of references and sources), PlanPerfect and (Microsoft) Multiplan (for calculations), and Molecular Presentation Graphics (Hawk Scientific Systems, Inc.)(to draw complex chemical structures and some of the diagrams). The software used was all compatible with WordPerfect version 5.0. An IBM-compatible computer with 1 Mbyte internal memory and a 30 Mbyte hard disk was just adequate to handle the programs and the necessary files; each of the software programs was upgraded during the course of the project, in each case with increased demands on the internal memory.

agreed with the publisher. Reorganization of the text also provided some additional space for new material. In view of the high cost of hard-cover graduate texts, the publishers agreed to consider a shorter, soft-cover, student version once sales of the hard-cover edition have stabilized. Publication of a less-expensive student text was recommended by one of the referees when the proposal for a third edition was sent out for peer review.

The technical nature of the manuscript caused a number of problems, most associated with attempts to print the chemical and mathematical equations and symbols. Problems were compounded by the change from WordPerfect version 4.2 to version 5.0 in July 1988. The two programs were not completely compatible so that files written in "4.2" often had to be amended line by line to convert them to version "5.0." Worse, some of the printer drivers provided with the initial release of WordPerfect 5.0 contained errors. Several weeks were spent learning to handle the new version of WordPerfect and in compiling a new printer driver for the HP Deskjet printer used for the chapter drafts and the HP Laserjet II used to print the final manuscript. Eventually, amended "Interim Release" versions of WordPerfect 5.0 were obtained from WordPerfect Corporation and the earlier difficulties with the program resolved. A continuing problem, however, was the tendency of the WordPerfect program to crash or lock-up if there was any instability in the power supply (at least, this seemed the only possible cause). The problem was most acute when chapter-length files were being processed and occurred almost regularly when the chapters were being "regenerated" to update the cross-references - one of the great advantages of the word processor was the ability to add and delete references (endnotes), footnotes, and cross references, and then update the numbering even though the chapter was essentially complete. The program was set to make automatic backups every 10 minutes and new, updated files were created every one or two days, so that no great amount of material was ever lost due to system problems, though a considerable amount of time was spent trying to trace the causes of the problems and to rebuild corrupted files. Most of the damaged files were recovered completely, but a few errors escaped detection and found their way into the printed book - these will be corrected if the opportunity arises. The problem was eventually cured by a combination of a new computer, which was a great deal faster and which had a much larger internal memory, and updated software. However, the computer and software upgrades occurred after the third edition was in print. Despite the problems, use of a word processor proved far superior to production of a book manuscript on a typewriter.

SCHEDULE

Date	Action
May 1987	Detailed proposal for third edition sent to publisher (John Wiley & Sons, New York).
December 1987	Contract for a third edition signed with publisher.
February 1988	Publisher agrees to a complete revision of the second edition manuscript.
July 1, 1988 - June 30, 1989	Sabbatical Leave. About 10 months of this period was spent in Saskatoon working on the manuscript for the new edition.
June 23, 1989	Manuscript sent to publisher.
August 30, 1989	Manuscript forwarded to Wiley production unit for copy editing, composition, and release to the printer.
October 19 - November 3, 1989	Copy edited manuscript returned to author for comment and checking.
December 29, 1989 - January 18, 1990	Page proofs received for review.
February 15, 1990	Index manuscript sent to publisher.
March 6, 1990	Index proofs received for review.
May, 1990	Bound copies of the third edition received in Saskatoon.

LETTERS and OTHER DOCUMENTS (originals)

Date	From/To	Subject/Comments
July 7, 1986	Woods/Christopher (John Wiley & Sons, New York)	Request for authors guide and Wiley guide to word processing and generic coding.
December 4, 1986	Krieger (Krieger Publishing Co., Melbourne, FL)/Spinks	Requesting our opinion on a limited rerun of the second edition, or updated version.
January 7, 1987	Woods/Krieger	We indicate interest in a revised third edition and a book on applied radiation chemistry.
February 5, 1987	Krieger/Woods	Krieger Publishing happy to discuss a revised third edition if Wiley are not interested.
March 12, 1987	Woods/Science Editor, John Wiley	Asking whether Wiley was interested in a revised third edition.
March 26, 1987	Scholar (Wiley)/Woods	Acknowledging receipt of March 12 letter.
May 27, 1987	Woods/Scholar	Summary of revisions to be included in a revised third edition. <i>(The Woods proposal is attached)</i>
June 4, 1987	Hoffman (Senior Editor, Wiley-Interscience)/Woods	Acknowledges receipt of proposal, which will be discussed with marketing staff.
August 28, 1987	Woods/Hoffman	Request for decision on third edition and opinion on Krieger publishing.
September 16, 1987	Woods/Hoffman	List of possible reviewers for proposed third edition. <i>(This appears to be in response to a phone call from Dr. Hoffman)</i>
September 27, 1987	Woods/Hoffman	Acknowledges receipt of Wiley Author's Guide to Word Processing and Generic Coding. <i>(A copy of the revisions proposed earlier, but printed on a laser printer, was included, also a detailed breakdown of the chapters and subheadings)</i>
November 19, 1987	Hoffman/Woods	Offer of a contract for a third edition, with three copies of the authors agreement (publication contract). The contract stipulates a book of 450 pages with the

Date	From/To	Subject/Comments
		manuscript due by the end of June 1989. <i>(copy Author's Agreement attached)</i>
December 3, 1987	Woods/Hoffman	Note with signed contract.
December 16, 1987	Hoffman/Woods	Contract received by Wiley.
February 24, 1988	Woods/Hoffman	<p>Acknowledges receipt of an author's guide.</p> <p>Suggests that text be completely rewritten rather than a more limited revision based on tear sheets from the previous edition. This was in response to the publication of <i>Radiation Chemistry: Principles and Applications</i> by Farhataziz and Rodgers in late 1987. Farhataziz and Rodgers is a more advanced book than ours and not a direct competitor.</p> <p>We ask whether the manuscript should be submitted as a word processor file rather than on paper.</p>
March 7, 1988	Hoffman/Woods	Request for sample chapter on disk. <i>(This seems to have been done in early 1989 - see letter of February 16, 1989)</i>
November 1, 1988	Hoffman/Woods	Query regarding completion date for manuscript.
November 14, 1988	Woods/Hoffman	Report on progress. Query regarding format.
November 30, 1988	Hoffman/Woods	Questionnaire to accompany sample material on disk.
January 5, 1989	Woods/Hoffman	Draft copies of chapters 1 and 5 on paper and also on disk as WordPerfect 5.0 and DOS (ASCII) files. Query regarding figures. <i>(The two draft chapters were returned with comments. They follow the February 16, 1989, letter from Wiley in this file. Material was generally sent to the publisher by courier to avoid unnecessary delay.)</i>
January 9, 1989	Hoffman/Woods	Material received. Figures produced using graphics program almost camera ready, with some changes could be used directly.
	Samuels (Editing &	Disk and manuscript reviewed by

Date	From/To	Subject/Comments
February 16, 1989	Production Manager, Wiley)/Woods	compositor and production editor. Disk acceptable for conversion: WordPerfect 5.0 format preferred. <i>(The returned draft chapters, 1 & 5, follow this letter)</i>
April 11, 1989	Woods/Samuels	Request for permission forms. Work progressing satisfactorily.
April 12, 1989	Woods/Coates (Nordion)	Request for illustrative material for Gammacell and gamma-irradiation equipment and permission to use this.
May 29, 1989	Freeman/Woods	Recommends unit of radiation chemical yield be $\mu\text{mol}/\text{J}$ rather than a G value in units of molecules/100 eV.
June 28, 1989	Woods/Hoffman	Progress report. Final version of the manuscript should be ready by third week of July, 1989.
July 23, 1989	Woods/Hoffman	Manuscript and illustrations sent to publisher. The manuscript was in the form of a hard (paper) copy and the corresponding WordPerfect 5.0 files. <i>(A "Note to Copy Editor" was included with the manuscript and is included with this letter. The note describes some quirks associated with WordPerfect 5.0 and includes a Style Sheet listing some of the practices adopted in the manuscript.)</i>
July 25, 1989	Henninger (Editorial Assistant to Dr. Hoffman)/Woods	Note that manuscript had been received and a request that an author's questionnaire be completed.
July 28, 1989	Woods/Hubbell	Thanks for a copy of the XCOM software developed by Dr. Hubbell at the National Institute of Standards and Technology, Gaithersburg, MD)
August 8, 1989	Woods/Henninger	Author's questionnaire returned. Some queries regarding figures and headings. <i>(The author's questionnaire, which is inserted here, includes the authors answers to questions about the book content, changes from the previous edition, target group, etc.)</i>

Date	From/To	Subject/Comments
August 10, 1989	Wend (Editorial Assistant to Dr. Hoffman)/Woods	Acknowledges receipt of the author's questionnaire.
August 30, 1989	Samuels (Production Manager, Wiley)/Woods	Manuscript assigned to production unit.
August 31, 1989	Wend/Woods	Acknowledges receipt of a copy of the second edition. <i>(This copy of the earlier edition was used as a guide in the copy editing and as a source of some figures.)</i>
September 8, 1989	Woods/Samuels	Letter giving phone and fax numbers for RJW.
September 19, 1989	Comaskey (Senior Production Editor, Production Division, Wiley)/Woods/	Outlines the steps following copy editing through composition, and sets out the deadlines. Emphasizes the importance of timing with the index copy and the permissions to reproduce copyright materials.
October 19, 1989	Comaskey/Woods	First half of copy edited manuscript returned for review and checking.
November 3, 1989	Comaskey/Woods	Second half of the copy edited manuscript returned for review.
December 11, 1989	Woods/Swallow	Thanks for a reprint received dealing with the distribution of energy in irradiated mixtures.
December 19, 1989	Cantillon (Senior Production Editor, Wiley)/Woods	Schedule for proofs and instructions for proofreading. First pages proofs sent December 29, 1989 and the last January 17, 1990.
December 21, 1989	Swallow/Woods	Response to December 11 letter. We disagreed in earlier editions on the value of a particular quantity.
January 18, 1990	Cantillon/Woods	Page proofs of front matter. <i>(Inserted here are some waybills and notes with respect to the page proofs)</i>
March 6, 1990	Cantillon/Woods	Page proofs of index. These will be proofread by the publisher as well.
March 20, 1990	Woods/Hoffman	Is Wiley interested in publishing a student edition, a manual for a laboratory course in

Date	From/To	Subject/Comments
		radiation and photochemistry, or a book on applied radiation chemistry?
April 4, 1990	Wend /Woods	US price of third edition set at US\$89.95. The number of pages estimated to be about 592.
April 19, 1990	Hoffman/Woods	Wiley possibly interested in a laboratory manual on radiation and photochemistry and a book on applied radiation chemistry.
May 23, 1990	Ross(Radiation Chemistry Data Center)/Woods	Thanks for complimentary copy of third edition.
July, 1990		<i>Wiley advertisement in the July 1990 issue of Chemistry in Britain. Third edition approx 574 pp, due 1990, approx , 68.95/\$103.45.</i>
		<i>Book review by Arthur Charlesby in Radiation Physics and Chemistry, Vol. 36, no. 6, p. 871, 1990.</i>
March 1991		<i>Book listed as a publication received in the March 1991 issue of Chemistry in Britain. Price shown as , 91.45.</i>
March 6, 1991	Woods/Hoffman	Offer to help with a Russian translation of the third edition if this is authorized by Wiley. A letter from Professor A. K. Pikaev regarding a translation is attached.
May 28, 1991	Woods/Hoffman	Query regarding a decision on the proposed Russian translation.
June 7, 1991	Gonzalez (Supervisor, International Rights, Wiley)/Pikaev	Wiley regrets that it cannot grant translation rights free of charge.
November 12, 1991	Woods/Hoffman	Recommend a Russian translation of the third edition as a candidate for a new joint publishing venture between Wiley and the Academy of Sciences of the USSR.
December 17, 1991	Grosso (Wiley)/Polyakov (Khimia Publishers, Moscow)	A copy of the third edition sent to Khimia Publishers so that they could consider it for a Russian translation. As far as we know, they decided not to publish a translation.

OTHER MATERIALS

1. Three red loose-leaf binders (the binders are numbered 10-12)

These contain near-final drafts for all chapters, the appendices, and index, and copies of the figures.

2. The master manuscript after copy editing

This is the "Master Manuscript" sent to the publisher, edited, and set in type. The copy editor marked the manuscript with instructions to the compositor regarding format, spacing, etc., with queries to the authors where their intention was not clear or must be changed. Probably most authors are horrified when the perfectly clean manuscript they sent to the publisher is returned with the copy editors marks. The copy-edited manuscript was checked for errors, the queries answered, and the manuscript returned to the publisher. After being set in type the manuscript was returned to the authors with the page proofs so that these could be checked, and both manuscript and proofs returned to the publisher (the author is allowed to correct any errors introduced during type setting, but will be responsible for the costs of any major changes from the master manuscript).

3. Corrected Page Proofs

With the original (1964) edition we received both galley and page proofs and were able to check both against the manuscript. In the case of the second and third editions the galleys were checked in house and we only saw the page proofs.

4. Copy of AN INTRODUCTION TO RADIATION CHEMISTRY (Third Edition) by J.W.T. Spinks and R.J. Woods, Wiley, New York, NY, 1990. Pages: 573.

5. Author's Guides

The McGraw-Hill Author's Book, McGraw-Hill, New York, NY, 1955.

Dorothy Thompson, *Author's Manual (2nd edition)*, Harper and Brothers, New York, NY, 1956.

Handbook for Chemical Society Authors, The Chemical Society, London, 1960

These authors guides and an additional guide from John Wiley & Sons were used as reference sources while writing the original edition and the revised editions. The two publisher's guides outline the process from manuscript to book and give practical information on manuscript preparation, figures, proof reading, etc. The Chemical Society handbook was used as a reference source on chemical nomenclature and scientific units.

6. Word Processor Files (3 disks)

The three disks contain the DOS WordPerfect 5.0 files used to print the master manuscript but with

changes added as a result of the copy editing. The files can be loaded into more recent versions of WordPerfect (e.g., 5.2 and 6.0a for Windows) but some of the formatting may be lost though the text remains intact.

7. Computer Software (Manuals and disks)(DOS)

At the time the third edition was being written the following DOS software was state-of-the-art. Most was replaced by an updated version within a few months of publication. The WordPerfect family (WordPerfect, PlanPerfect, DataPerfect, DrawPerfect) probably represent the first broad range of integrated software. Besides the obvious advantage of being able to move material from one platform to another, the programs used similar commands so that learning time was much reduced.

WordPerfect 4.2 (licence # WP 523027) and update

This version was used for the earlier chapters but was upgraded to WordPerfect 5.0 during the early summer of 1988 (see notes on page 33).

WordPerfect 5.0 (licence # WP 523027) and update, WordPerfect 5.1

The files produced by WordPerfect 4.2 were not completely compatible with WordPerfect 5.0, particularly in the formatting codes used. Because of the differences between the two versions chapters 1 and 2 required editing when transferred to WordPerfect 5.0, mainly to correct for formatting codes that were different in the new version. The first release of WordPerfect 5.0 (5/5/88) had some problems with the printer driver for Hewlett-Packard printers that stem from an error in one line of the printer driver. This was corrected by editing the driver once the problem was identified. However, an updated version of WordPerfect 5.0 (7/19/88) included a new printer driver that worked well and this was used for all subsequent printing. The WordPerfect 5.0 materials include the manual and workbook; the program disks are at the back of the manual.

WordPerfect 5.1 appeared before the manuscript was completed but was not used extensively since it was more important at this point to complete the manuscript on time. Included here are the manual and software.

MathPlan 3.0 (licence MP 064486) and PlanPerfect 3.0 and 3.1

MathPlan and PlanPerfect are spreadsheets produced by WordPerfect Corporation. They were used to carry out routine calculations required for tables, etc. in the text. The PlanPerfect program also allowed the data to be plotted and several figures in the text were prepared in this way. Versions 5.0 and 5.1 of PlanPerfect were purchased in 1989 and 1990 and are still in use; they are not included with this material. The programs are compatible with WordPerfect in all its versions so that data can be readily transferred between word processor and spreadsheet. The data and graphs can also be printed quite easily. The program disks are at the back of the PlanPerfect manual, a Workbook is included.

Microsoft Multiplan 3.0

Multiplan was a rather earlier spreadsheet produced by Microsoft. It is useful but does not include any graphics capabilities and has rather limited printing capabilities. Multiplan was superseded by a more sophisticated Microsoft spreadsheet, Excel.

DataPerfect 2.0 (licence DP 044-02312)

DataPerfect was the data management program produced by WordPerfect Corporation. It was, and is, used to store information on papers and books on radiation chemistry in much the same way as a card index. Included are a User Manual and a Definer Manual.

DrawPerfect 1.0, 1.1 (licence DR 8000001396)

DrawPerfect was the WordPerfect graphics program, which became available in mid-1990. It may have been used to draw one or two of the line diagrams used in the third edition. The program was superseded a year or two later by WordPerfect Presentations programs for both DOS and Windows.

Molecular Presentation Graphics (MPG 4.3 and MPG 5.0)(DOS)

Molecular Presentation Graphics is a graphics program for drawing organic structures. At the time it appeared it was one of the few reasonably inexpensive DOS programs for this purpose. An outstanding program, CHEMDRAW, was available for Macintosh users but a DOS version only appeared in 1993-94. At the time of writing (1994) Molecular Presentation Graphics appears to be dead and the company (Hawk Scientific Systems, Inc.) out of business. A new, and more powerful, DOS graphics program for chemists, CHEMWINDOW, has appeared and is in every way superior to the MPG program. Nevertheless, MPG was a great advance and a valuable tool at the time the manuscript was being prepared and organic structures and some other diagrams in the text were drawn using this program. A problem with MPG was controlling the thickness of the lines in the structures, an important consideration if the formulae are to be reproduced in a book.

Period covered: 1955-1995

APPLIED RADIATION CHEMISTRY: RADIATION PROCESSING (1994)

This document⁹ lists the material sent to the University of Saskatchewan archives relating to APPLIED RADIATION CHEMISTRY: RADIATION PROCESSING by Dr. R. J. Woods, Professor of Chemistry, University of Saskatchewan, and A. K. Pikaev, Deputy Director, Institute of Physical Chemistry of the Russian Academy of Sciences, Moscow (formerly the Academy of Sciences of the U.S.S.R.).

It became obvious while compiling the chapter on applied radiation chemistry (Chapter 11) for the third edition of AN INTRODUCTION TO RADIATION CHEMISTRY that there was far more material than could be used in a single chapter in the revised edition. The literature search also showed that the most recent reviews on the applications of radiation chemistry had been published in the period 1972-1974. Thus, it seemed worthwhile to explore the possibility of a book on radiation chemistry and its applications. The idea was also discussed with Professor A. K. Pikaev in February, 1990 while he was in Saskatoon to give the annual Spinks Lecture to the departments of Chemistry and Chemical Engineering. He thought the idea was a good one and agreed to act as co-author - at the time much of the more innovative work on radiation applications was being carried out in the Soviet Union and Eastern Europe, where concerns about the dangers of radiation were more muted than in North America and Europe. The suggestion for a book on applied radiation chemistry was included in a letter to our (Spinks & Woods) editor at John Wiley & Sons in March 1990, and received a favourable response. Later in 1990 a contract was signed with Wiley-Interscience, John Wiley & Sons, Inc, New York, for a book manuscript of 450 pages on Applied Radiation Chemistry (Radiation Processing) to be delivered by mid 1992.

Writing was started in the summer of 1990 and by July 1992, when RJW started on a six-month sabbatical leave the first seven of thirteen chapters had been completed in draft form and work started on the remaining six chapters, Wiley Interscience having granted an extension to the end of 1992 for the final manuscript. The latter chapters constituted the bulk of the material contributed by Professor Pikaev and required editing to convert the somewhat-Slavic English of Professor Pikaev to American English, and to unite the material in style and form with the earlier chapters.

The first three and a half months of the sabbatical leave were spent editing the material from Professor Pikaev and then editing the entire manuscript to reduce the length to something close to the 450-500 printed pages requested by the publisher.

Communication with Professor Pikaev proved a problem at times in the sense that two of about twelve packages of manuscript sent by registered mail (Chapter 13, July 2, 1992 and Chapter 4, August 19, 1992) failed to be delivered to him, while fax from Saskatoon to Moscow usually required repeated resubmission over several days. Both mail and fax in the other direction, from Moscow to Saskatoon, were generally successful. In the end delivery by hand proved the most reliable method of sending material to Moscow, although this was not always possible to arrange.

⁹ This document was compiled as a WordPerfect 6.0a for Windows file, updated to, and printed on, March 4, 2020. The WordPerfect file is: RJWoodsfunds.wpd.

Professor Pikaev and I were able to go over the final chapter drafts in detail during a one-week visit I made to Moscow in mid-October 1992. This proved invaluable and was made possible by a sabbatical travel grant. It is doubtful whether the project would have met the contract deadline (December 1992) without the week in Russia. The final manuscript was sent to John Wiley in mid-December 1992.

COMPUTER AND SOFTWARE

Initial work on the manuscript was carried out using the computer and software described in the previous section on the third edition of AN INTRODUCTION TO RADIATION CHEMISTRY. The computer was relatively slow but had two 20 MB hard disks that provided adequate storage for the software and several versions of each chapter - older versions of the chapters were stored on 3.5" disks in case problems developed with the more recent drafts. The computer could only handle DOS and the main software program used was WordPerfect 5.1 for DOS. Chapter drafts were printed on a Hewlett Packard DeskJet printer at home and on a Hewlett Packard LaserJet II in the Chemistry Department. Both printers had Prestige Elite cartridges and this 12-point font was used for the drafts.

In May 1992 a new computer, printer, and software were purchased and used from that point on for all draft and final versions of the text. The new computer was a 486DX-50 Mhz machine with a 256 kB cache, 16 MB RAM, two 120-MB hard disks, 120 MB tape backup, 1 MB SVGA monitor, and a modem. The printer was a Hewlett Packard LaserJet IIIP with 2 Mb memory. Software purchased at the same time included DOS 5.0, Windows 3.1, WordPerfect 5.1 for Windows, and WinFax Pro 2.0. Both DOS and Windows versions of WordPerfect were used in 1992-1993 since writing went more rapidly with the familiar DOS program, though the Windows version was a more powerful formatting tool so that the final manuscript was printed from Windows. Material was fax'd directly to Moscow using the WinFax Pro 2.0 program, but was received back via the fax machine in the Chemistry Department since it was difficult to ensure that the home computer would be available to receive fax'd material at all times.

Thus, the text was prepared using first DOS and then Windows versions of WordPerfect using a CG Times 11-point font, the change from DOS to Windows requiring a certain amount of relearning and experimentation. Attempts to convert text files from the software used by Professor Pikaev (Chiwriter) to WordPerfect were only marginally successful and the Russian material was eventually re-entered manually, though the Russian references were scanned using a Scanman 256 scanner and the associated OCR software used to produce a starting list of references. Scanning was used primarily to try and ensure that the spelling of the unfamiliar Russian names was correct, it was too laborious and uncertain to use with the bulk of the textual material received from Professor Pikaev. A computer-graphics program (DrawPerfect) was used to prepare the simpler figures, while a number of graphs were generated using PlanPerfect and Lotus 1-2-3. References to pertinent papers and books were stored with WordPerfect's DataPerfect 2.1 program.

Comments at the head of the word-processing files for each chapter list the software used and give the dates that various versions were completed and sent to Professor Pikaev. For example, the comments at the head of chapters 1 and 12 read:

<p>Pikaev-Woods. Applied Radiation Chemistry. First Draft, June 5, 1990. Version "Chap1.10" to AKP, October 18, 1990. Version "Chap1.11" to AKP, July 12, 1991.</p>
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Version "Chap1.12" to AKP (Moscow), December 16, 1991; amended by AKP/RJW in Moscow, Oct 1992.

Version "Chap1.13" to AKP by hand, November, 1992. Version "Chap1.MMS" master manuscript to Wiley, Dec. 1992.

Material compiled using WordPerfect Version 5.1 (4/17/90).

Equations, except chemical equations, set using "equation" graphics option and printed as text (not graphics).

Pikaev-Woods. Applied Radiation Chemistry. Material received from AKP, July 12, 1991; version "Chap12.1" commenced, July 21, 1991.

Version Chap12.2 to AKP, October 11, 1991, discussed with AKP in Moscow, October 1992.

Material compiled using WordPerfect Version 5.1 (4/17/90).

Tables employ WordPerfect 5.1 TABLE option, equations the graphics EQUATION option.

Figures prepared using DrawPerfect Version 1.1 and imported as WordPerfect graphics files (*.WPG).

Chapter versions are labelled ChapX.Y where X is the chapter number and Y the version number; the version numbers run sequentially. Material from Professor Pikaev went through fewer versions than the chapters originating in Saskatoon, in part because it seemed wise to backup work on the Saskatoon chapters every day or two as they were being written. The Russian chapters came in one piece and transcribing and editing them was faster than putting new material together.

A. K. PIKAEV¹⁰

Aleksei Konstantinovich Pikaev was born in 1930 at Kovrov, near Vladimir some 250 km east of Moscow in the Soviet Union, graduating in 1953 from the Chemistry Department of the Moscow State University. He started life as an inorganic chemist working on the coordination compounds

¹⁰ The main reasons for asking Professor Pikaev to be a co-author were:

1. He was an established author in the field of radiation chemistry.
2. Much innovative work was being carried out in the Soviet Union and Eastern Europe.
3. He was a regional editor of *Radiation Physics and Chemistry*, the journal in which most of the current work on applied radiation chemistry was being published.
4. He travelled widely, attending several international conferences on radiation chemistry and radiation processing each year, and consequently had a broad knowledge of the fields and an large number of friends and contacts. In terms of travel, Professor Pikaev's record was impressive in the Soviet scheme where most scientists appeared to be fortunate to be able to travel overseas once or twice in their careers.
5. He was an old acquaintance.

of uranium, but within a few years (1956) joined the group of radiation chemists working at the Institute of Physical Chemistry of the U.S.S.R., Moscow, under a good friend of Dr. Spinks, the late Professor Spitzyn. Dr. Pikaev is a Doctor of Chemical Sciences and Professor of Radiation Chemistry and is currently (1994) the Deputy Director of the Institute, now the Russian Institute of Physical Chemistry. He is Editor-in-Chief of the Russian journal *High Energy Chemistry*, Russian editor of the international journal *Radiation Physics and Chemistry* (Pergamon Press, Oxford), and a member of the editorial advisor board of the international journal *Isotopenpraxis*. He is the author of many scientific papers and reviews, and also twelve monographs and books. The latter include the first textbook on radiation chemistry (I. V. Vereshchinskii and A. K. Pikaev, *Vvedenie V Radiatsionnuyu Khimiyu*, Moscow, 1963) and a recent three-volume set, A. K. Pikaev, *Modern Radiation Chemistry*, Nauka, Moscow. Vol. 1 (Main Regularities, Experimental Methods and Techniques), 1985; Vol. 2 (Radiolysis of Gases and Liquids), 1986; Vol. 3 (Solids and Polymers. Applied Aspects), 1987 (in Russian).

Professor Pikaev's scientific interests cover the radiolysis of liquid systems, pulse radiolysis, the radiation chemistry of the actinides, radiation processing, and radiation dosimetry.

The first items in the "Correspondence" file are a brief autobiography and list of monographs provided by A. K. Pikaev.

SCHEDULE

Date	Action
February, 1990	Woods and Pikaev meet in Saskatoon and discuss joint authorship of a book on applied radiation chemistry and radiation processing.
April, 1990	Theodore P. Hoffman, Senior Editor at Wiley Interscience expresses interest in publishing a book on applied radiation chemistry.
May, 1990	Detailed proposal for a book on applied radiation chemistry sent to Wiley Interscience and sent by the publisher for review.
July, 1990	Woods spends a week in Moscow. Woods and Pikaev agree on a detailed outline of the book (chapter headings and sub-headings) and the division of labour.
July, 1990	Publishing contract received from Wiley Interscience for a 450-page book on Applied Radiation Chemistry (Radiation Processing) by Woods and Pikaev, the final manuscript to be submitted by July 15, 1992.
July, 1991	Pikaev attends a conference in Toronto and follows this with a week in Saskatoon to go over drafts of the first seven chapters. The visit to Saskatoon is supported by a grant from External Affairs, Canada. Pikaev brings drafts of three additional chapters.
October, 1992	Woods spends a week in Moscow to go over the final chapter drafts with Pikaev and prepares the final manuscript and figures on return to Saskatoon.
December, 1992	Final, or Master, manuscript, figures, and permissions sent to Wiley-Interscience.
April, 1993	Copyedited manuscript returned to authors for review.
July, 1993	Page proofs received for review and index prepared.
December 1993	Bound copies of the book received in Saskatoon.

Date	Action
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WRITING RESPONSIBILITIES

Chapter	Responsibility
1	Proposed: AKP & RJW Actual: RJW
2	RJW (AKP: part of electron accelerators)
3	RJW
4	RJW (AKP: part of chemical dosimetry)
5	RJW
6	Proposed: AKP & RJW Actual: RJW
7	RJW
8	AKP
9	AKP
10	AKP
11	AKP (RJW: chemical changes in food components)
12	AKP
13	AKP
Appendix	Proposed: AKP & RJW Actual: RJW
Index	RJW

LETTERS and OTHER DOCUMENTS (mostly originals, in two file folders)

Date	From/To	Subject/Comments
		Biography and list of published monographs and books by A. K. Pikaev.
		A very early list of contents for a book on applied radiation chemistry and two or three pages of an introductory chapter printed on a dot-matrix printer (RJW 198?).
		Information on the book production process taken from <i>A Guide for Wiley-Interscience Authors</i> , Wiley, New York, 1974, and two pages given to Wiley Authors with their contract, "Preparing a Manuscript" and "Checklist for Authors."
January 11, 1990	Pikaev/Woods	(Telex) Query regarding travel between Montreal and Saskatoon for Spinks Lecture.
February 9, 1990	Pikaev/Woods	Invitation to RJW to visit the U.S.S.R. to deliver lectures in April-May, 1990. <i>(English and Russian versions)</i>
March 20, 1990	Woods/Hoffman (Senior Editor, Wiley Interscience, John Wiley & Sons, New York)	Queries publishers interest in a book on applied radiation chemistry. <i>(This is reproduced from a word-processor file. An original copy of the letter is included under the 3rd edition material.)</i>
April 19, 1990	Hoffman/Woods	Wiley interested in a book on applied radiation chemistry. <i>(This letter is also included in the 3rd edition material.)</i>
Early May, 1990	Woods-Pikaev	Table of contents prepared by RJW and modified during discussions with AKP in Moscow. Table shows the sections to be written by each author (this was modified slightly in practice).
May 24, 1990	Woods/Hoffman	Tentative outline for book and division of labour between RJW and AKP.
May 31, 1990	Wend (Editorial Assistant to Dr. Hoffman)/Woods	Book proposal received; will be sent out for review.
July 9, 1990	Hoffman/Woods	Publication contract received from

Date	From/To	Subject/Comments
		publisher. (A photocopy of the contract is included with the July 18 letter to Pikaev))
July 18, 1990	Wood/Pikaev	Copies of the contract sent to Pikaev who was visiting the National Institute of Standards & Technology, Washington. (Although sent by courier the contracts took five days between Saskatoon and Washington and arrived after Pikaev had returned to Moscow)
July 24/1990	Woods/Pikaev	(Fax) Contract will be forwarded to AKP by Bill McLaughlin, NIST, Washington. (A copy of the contract was also sent with this fax)
July 31, 1990	Hoffman/Woods	Contracts miss AKP in Washington and are being forwarded to him in Moscow.
July 31, 1990	Woods/Pikaev	(Fax) Note that contracts are being forwarded to AKP from Washington.
September 13, 1990	Woods/Pikaev	(Fax) Contracts received in Moscow? (Attempts to send the fax over several days were not successful, a Telex was sent instead)
September 18, 1990	Woods/Pikaev	(Telex) Contract received in Moscow?
September 17, 1990	Pikaev/Woods	Contracts received and signed. AKP attending conference in Toronto, July, 1991, would like to visit Saskatoon.
September 24, 1990	Pikaev/Woods	(Telex) Contracts received, signed, and returned to RJW.
October 1, 1990	Woods/Hoffman	Signed contract returned to publisher. (A copy of the signed contract is attached)
October 16, 1990	Wood/Pikaev	Contracts received and copy forwarded to publisher. Drafts of chapters 1-3 sent for comment. (At this time problems were included at the end of each chapter. These dropped in later versions in order to save space.)
November 19, 1990	Pikaev/Woods	Chapters 1-3 received (not yet read).

Date	From/To	Subject/Comments
December 1, 1990	Woods/La Rochelle (Dept. External Affairs)	Request for a grant to bring AKP to Saskatoon following his July 1991 conference in Toronto.
February 8, 1991	Woods/Hoffman	Update on writing progress. Query about using material from the 3rd edition of Spinks & Woods.
February 20, 1991	Hoffman/Woods	Update received. Free to use material from Spinks & Woods.
February 20, 1991	La Rochelle/Woods	Note accompanying cheque for Pikaev travel from Dept. External Affairs, Ottawa.
February, 1991	Woods/Pikaev	(Telex) Funding for visit to Saskatoon arranged.
March 6, 1991	Woods/Hoffman	Query regarding translation of 3rd edition of Spinks & Woods with letter from AKP (February 17, 1991)
March 11, 1991	Pikaev/Woods	Request for official invitation to visit Saskatoon.
March 25, 1991	Woods/Pikaev	Invitation to visit the U. of S.
April 10, 1991	Woods/Pikaev	Travel information Toronto-Saskatoon.
April 24, 1991	Pikaev/Woods	(Telex) Change in AKP travel plans.
May 2, 1991	Woods/Pikaev	(Telex) Note re AKP visit to AECL.
May 21, 1991	Pikaev/Woods	(Telex) Note re AKP ticket.
May 27, 1991	Woods/Pikaev	Drafts for chapters 4, 5, and 6 to Moscow. Flights for AKP and ticket-pickup arrangements.
May 28, 1991	Woods/Hoffman	Query regarding Russian translations of 3rd edition of Spinks & Woods.
June 7, 1991	Gonzalez (Supervisor, International Rights, John Wiley)/Pikaev	Regret that Wiley cannot grant translation rights for the 3rd edition of Spinks & Woods free of charge.
September 25, 1991	Pikaev/Woods	Figures for chapters 8, 9, and 12.
September 26, 1991	Woods/La Rochelle	Thank you for grant from Dept. External Affairs.
		Unexpended funds returned to the Dept.

Date	From/To	Subject/Comments
September 26, 1991	Woods/La Rochelle	External Affairs.
October 11, 1991	Woods/Pikaev	Drafts of chapters 8, 9, and 12 to Moscow,
October 21, 1991	Woods/Hoffman	Update on writing progress. Queries regarding materials for figures.
November 1, 1991	Pikaev/Woods	Drafts for chapters 8, 9, and 12 received. Institute now part of Russian rather than U.S.S.R. Academy of Sciences.
November 19, 1991	Hoffman/Woods	Figure material OK. Information on the permissions required to reproduce copyright material. Suggestion that 3rd edition Spinks & Woods be translated into Russian forwarded to international rights department of Wiley.
November 22, 1991	La Rochelle/Woods	Report and returned funds received.
December 10, 1991	Woods/Pikaev	Revised versions of chapters 1 - 7 will be sent in December, 1991, and early January, 1992.
December, 1991		<i>Note in the December 14, 1991, issue of the New Scientist describes the change from U.S.S.R. to Russian Academy of Sciences.</i>
December 16, 1991	Woods/Pikaev	Revised versions of chapters 1-4 incorporating changes discussed in July sent to Moscow. Units changed from SI to "conventional."
January 14, 1992	Pikaev/Woods	Revised chapters received in Moscow. Invitation to visit AKP's Institute in June 1992 for two weeks.
January 20, 1992	Woods/Pikaev	Revised versions of chapters 5 and 6 sent to Moscow. Offer by RJW to write AKP's sections of chapter 6.
February 5, 1992	Pikaev/Woods	Remaining revised chapters received in Moscow. RJW can write AKP's sections of chapters 4 and 6 but AKP will then add some material. Manuscript for chap. 10 sent to RJW. <i>(The chapter manuscripts received from AKP are bundled in a separate folder)</i>

Date	From/To	Subject/Comments
February 18, 1992	Woods/La Rochelle	Enquiry regarding travel funds.
February 19, 1992	Pikaev/Woods	Manuscript for chapter 11.
February 25, 1992	Woods/Pikaev	(Fax ?) Chapter 10 received. Can visit to Moscow be delayed until September of October?
March 3, 1992	Pikaev/Woods	(Fax) OK to visit Moscow in Sept./Oct.
March 3, 1992	La Rochelle/Woods	No funds available because of spending freeze and budget uncertainty.
March 16, 1992	Pikaev/Woods	Modifications to chapter 2.
March 23, 1992	Woods/Pikaev	Drafts of chapter 10 and revised chapter 7 sent to Moscow.
May 25, 1992	Pikaev/Woods	Manuscript for chapter 13.
June 15, 1992	Woods/Pikaev	Manuscript for chapters 2 and 11 to Moscow. Schedule for remaining chapter drafts.
July 2, 1992	Woods/Pikaev	Manuscript for chapter 13. (This package never arrived in Moscow.)
July 6, 1992	Pikaev/Woods	Manuscript for chapters 2 and 11 received. Figures for chapter 10 sent.
July 23, 1992	Woods/Pikaev	Thanks for figures for chapter 10 and new fax number - difficulties with old number.
July 30, 1992	Woods/Pikaev	Revised manuscript for chapter 6 to Moscow.
August 19, 1992	Pikaev/Woods	July 30 package received. Table for chapter 4 (chemical dosimeters).
August 19, 1992	Woods/Pikaev	Revised version of chapter 4 to Moscow. This package never arrived in Moscow.
August 23, 1992	Woods/Pikaev	(Fax) RJW travel plans.
August 27, 1992	Pikaev/Woods	(Fax) Invitation to visit Moscow.
August 28, 1992	Woods/Hoffman	Update on progress with the manuscript.
September 2, 1992	Woods/Pikaev	(Fax) RJW travel plans.
September 2, 1992	Woods/Pergamon Press	Request to reproduce copyright material

Date	From/To	Subject/Comments
		(figures) from the Pergamon journal <i>Radiation Physics and Chemistry</i> .
		<i>A copy of the letter was returned several weeks later with the required permission on the back. The second copy of the letter shows this on the back of the page.</i>
October 2, 1992	Takehisa (Radia Industry Co. Ltd.)/Pikaev	Permission to reproduce figures showing equipment at Radia Industry Co. Ltd.
October 21, 1992	Woods/International Atomic Energy Agency	Request to reproduce copyright material (figures) from IAEA publications.
October 21, 1992	Nablo (Energy Sciences, Inc.)/Woods	Request for material for a figure and permission to use it.
October 22, 1992	Pikaev/Woods	Manuscript got chapter 13.
October 28, 1992	D'Agnese (Copyright Dept., John Wiley & Sons)/Woods	Copyright of 1964 edition of Spinks & Woods to be renewed in the names of Spinks & Woods.
November 3, 1992	Woods/Kunstadt (Nordion International Inc, Kanata, Ontario)	(Fax) Manuscript to be taken to Moscow sent by courier to Peter Kunstadt.
November 3, 1992	Woods/Pikaev	(Fax) Final version of the book manuscript will be carried to AKP in Moscow by Peter Kunstadt of AECL. Permission to use copyrighted material from the journal <i>Radiation Physics and Chemistry</i> given by Pergamon Press.
November 4, 1992	Woods/D'Agnese	Information to renew copyright on the first edition of Spinks & Woods.
November 5, 1992	Woods/Fraser (Nordion International Inc.)	Request for permission to use figures from Nordion publications.
November 6, 1992	Woods/Pikaev	Note with final version book manuscript.
November 6, 1992	Woods/Kunstadt (Nordion International)	Thanks to Peter Kunstadt for carrying the manuscript to Moscow.
November 6, 1992	Woods/Sakamoto (Nissin-High Voltage Co., Ltd.)	Request to for a photograph of equipment at Nissin-High Voltage.
November 12, 1992	Pikaev/Woods	(Fax and letter) Postal mix up with chapter 13 manuscript,

Date	From/To	Subject/Comments
		which will be brought to Canada by Peter Kunstadt.
November 16, 1992	Covington (Permission Assistant, John Wiley & Sons)/Woods	Procedure to obtain permission to reproduce material from the 3rd edition of <i>An Introduction to Radiation Chemistry</i> by Spinks & Woods (1990).
November 18, 1992	Kelleher (IAEA)/Woods	Permission to reproduce the material requested 21 October, 1992.
November 23, 1992	Tabata (RadTech Japan)/Pikaev	Permission to reproduce copyright material (figures).
November 24, 1992	Woods/Covington	Request for permission to reproduce a table and a number of figures from the 3rd edition of Spinks and Woods (<i>see also the folder referred to above</i>)
November 25, 1992	Woods/Covington	(Fax) Notification that the permission request is on its way by courier.
November 26, 1992	Woods/Nablo	A second request for a photograph of a piece of equipment we wanted to show. (<i>We never did hear from Nablo</i>)
November 26, 1992	Marcotte (Nordion International Inc.)/Woods	Permission to use figures from Nordion publications.
November 27, 1992	Marcotte/Woods	Corrections to a table dealing with Nordion gamma sterilizers.
November 29, 1992	Woods/Takehisa	(Fax) Are black & white photographs of Radia equipment available?
November 30, 1992	Kerlike/Woods	Photograph of IMPELA electron accelerator for inclusion in book.
November 30, 1992	Covington/Woods	Permission to use the requested copyright-protected material from the 3rd edition of Woods and Spinks. (<i>The version included here is a photocopy since we may need the permission statement in the event of a future edition. Each page of the original is stamped as an Addendum to permission grant of Dec 01 1992.</i>)
November 26, 1992	Pikaev/Woods	Corrections and minor changes to chapters

Date	From/To	Subject/Comments
		1-7 and a permission letter.
December 2, 1992	Pikaev/Woods	Corrections and minor changes to chapters 8-12, and some permission letters.
December 2, 1992	Takehisa/Woods	Sending black & white photographs. Difficulties in contacting Pikaev.
December 3, 1992	Woods/Marcotte	Thank you for materials for figures. Query regarding proposed sewage-sludge irradiation facility in Canada.
December 3, 1992	Pikaev/Woods	Permission from "Nauka," and request for preface and chapter 13 to check.
December 4, 1992	Marcotte/Woods	Paper on sewage-sludge irradiation facilities, but decline to identify Canadian city involved. (<i>It was Edmonton</i>)
December 11, 1992	Marcotte/Woods	Will send slide of Vindicator gamma-irradiation plant in Mulberry, Florida.
December 11, 1992	Request to reproduce copyright material (figures) from Woods/Hoffman	The final (Master) manuscript is sent to the publisher.
December 13, 1992	Woods/Kerluke	Thank you for photograph of IMPELA electron accelerator.
December 15, 1992	Pikaev/Woods	(Fax) Request that arrival of the corrected manuscript pages be confirmed.
December 15, 1992	Woods/Pikaev	(Fax) Corrections to chapters 1-7 received and the changes made to the master manuscript. The corrections to later chapters can be made later on the edited manuscript.
December 16, 1992	Woods/Hoffman	Permission materials sent to publisher.
December 17, 1992	Woods/Pikaev	(Fax) Corrections to chapters 8-12 received. A copy of the chapter 13 manuscript will be sent to Moscow.
December 17, 1992	Sherritze (Assistant to Dr. Hoffman, Wiley-Interscience)/Woods	Manuscript received by publisher. Author's questionnaire enclosed for completion.
December 18, 1992	Woods/Pikaev	Revised version of chapter 13 sent to Moscow.

Date	From/To	Subject/Comments
December 20, 1992	Woods/Hoffman	The final permissions and figures received and will be sent to publisher in the new year.
December 30, 1992	Sherritze/Woods	Need preface, table of contents, and title page.
January 10, 1993	Woods/Pikaev	(Fax) Preface for checking and approval.
January 11, 1993	Woods/Sherritze	Front matter and a few changes to the manuscript and figures.
January 11, 1993	Woods/Sherritze	(Fax) Front matter sent by courier.
January 19, 1993	Woods/Sherritze	Author's Questionnaire returned. <i>(The answers to the questions asked are attached as printed out using the word processor, also the original questionnaire)</i>
January 25, 1993	Pikaev/Woods	(Fax) Preface OK.
February 2, 1993	Farkas(Production Editor, Wiley-Interscience)/Woods	(Fax) Problems with the numbering of the figures in chapter 2.
February 2, 1993	Woods/Farkas	(Fax) One of the figures in chapter 2 was unavailable, upsetting the numbering. Correct numbers sent and information on some updated figure.
February 3, 1993	Woods/Farkas	Updated version of figure captions, word-processing files on disk, etc.
April 22, 1993	Farkas/Woods	Copyedited manuscript returned for review and approval, Disks OK, but footnotes should be grouped. No decision on colour insert requested. <i>(A style sheet compiled by the copy editor is attached)</i>
April 29, 1993	Pikaev/Woods	(Fax) Asking about progress and asking for a final version of the manuscript.
May 9, 1993	Woods/Pikaev	(Fax) Copyedited manuscript returned to Wiley incorporating corrections and changes suggested by AKP. Page proofs will be checked in Saskatoon with a copy to AKP. RJW will prepare the index.
May 9, 1993	Woods/Farkas	Copyedited manuscript returned to

Date	From/To	Subject/Comments
		publisher with the word-processing files on disk.
May 11, 1993	Pikaev/Woods	(Fax) Thank you for information. Prof. Ha Hongfei, Peking University, interested in translating book into Chinese. <i>(A copy of the book was given by RJW to Prof. Hongfei in Istanbul in September, 1994, as a possible prelude to translation)</i>
May 11/26, 1993	Canada Post/Woods	Canada Post pays \$40 for each of two registered mail packages lost before delivery in Moscow (the packages were mailed to Professor Pikaev July 2 and August 19, 1992)(<i>Letters from Canada Post re lost packages are included here. Also included here are two pink "Acknowledgement of Receipt of a Registered Item" cards for two successful deliveries. These were sent with the registered mail and served to confirm that the material had been received in Moscow.</i>)
May 17, 1993	Woods/Farkas	Copy of AKP's fax indicating interest in a Chinese translation.
May 17, 1993	Woods/Pikaev	(Fax) Offer to assist in Chinese and/or Russian translations if asked.
May 23, 1993	Woods/Farkas	(Fax) Answer to a query regarding a reference.
June 5, 1993	Woods/Farkas	(Fax) Dedication.
July 2, 1993	Farkas/Woods	First batch of page proofs with instructions for handling proofs and index.
July 13, 1993	Woods/Farkas	First batch of page proofs (chapters 1-6) returned to publisher.
		Second batch of proofs sent to RJW.
July 13, 1993	Woods/Farkas	(Fax) Two minor corrections to the first batch of proofs.
July 18, 1993	Woods/Farkas	Second batch of page proofs (chapters 7-10) returned to publisher.
July 18, 1993	Woods/Pikaev	(Fax) Report on progress with proofs.

Date	From/To	Subject/Comments
July 27, 1993	Woods/Farkas	Third batch of page proofs (chapters 11 and 12) returned to publisher. Pikaev corrections to chapters 1-12 just received - how to handle? <i>(Photocopies of the fax'd pages of corrections from Pikaev are included here, they were received between July 27 and August 23, 1993. The original pages are marked in red pen to show the corrections made on the proofs and those that remain to be made - some corrections await a second edition. The red markings did not xerox well, or at all.)</i>
July 27, 1993	Woods/Pikaev	(Fax) Corrections for chapters 1-12 received, will be sent to Wiley.
August 6, 1993	Woods/Farkas	Final batch of page proofs (chapter 13 and Appendix) returned to publisher. Index copy sent to Wiley as a paper copy and on disk. Reminded Farkas that Hoffman had asked whether the authors could be changed from Pikaev & Woods to Woods & Pikaev.
August 11, 1993	Woods/Farkas	Final batch of corrections from AKP sent to publisher.
September 21, 1993	Woods/Farkas	(Fax) Further minor corrections.
September 23, 1993	Farkas/Woods	Sample of material for binding the book and text for cover for approval.
September 27, 1993	Woods/Farkas	(Fax) Cover material and text OK. Check that dedication included.
September 27, 1993	Farkas/Woods	Dedication included with front matter.
September 29, 1993	Finkelstein (Manager, Administration, John Wiley & Sons)/Woods	Asks how the royalties will be shared.
October 3, 1993	Woods/Pikaev	(Fax) Report on progress with comment that Wiley had changed the order of the authors.
October 6, 1993	Pikaev/Woods	AKP not happy with reversing the order of

Date	From/To	Subject/Comments
		the authors from P&W to W&P.
October 6, 1993	Woods/Finkelstein	Royalties should be divided equally between the two authors.
October 7, 1993	Woods/Farkas	(Fax) Pikaev's fax of October 6 forwarded to Wiley with comment that RJW is easy about the order of the authors.
October 10, 1993	Woods/Pikaev	(Fax) The order of the authors less important than getting the book out.
October 14, 1993	Hoffman/Woods & Pikaev	Outlines reasons for putting RJW before AKP on the book.
October 21, 1993	Finkelstein/Woods	Royalty Department advised to divide the royalties equally between RJW & AKP.
November 11, 1993	Woods/Hoffman	(Fax) Thanks for a first copy of the book.
November 11, 1993	Woods/La Rochelle	Follow-up on External Affairs grant.
November 12, 1993	Woods/Fraser	Preface to book includes acknowledgement to Nordion.
November 12, 1992	Woods/Kerluke	Preface to book includes acknowledgement to AECL Accelerators.
November 15, 1993	Woods/Pikaev	(Fax) Note that the book has been published.
November 17, 1993	Woods/Dmytriw (AECL, Pinawa, Manitoba)	Preface to book includes acknowledgement to AECL.
November 17, 1993	Pikaev/Woods	(Fax) Pikaev fax to Hoffman complaining that he did not give his consent to changing the order of the authors and that RJW has 18 lines on the cover to AKP's 4 lines. <i>(Pikaev did not seem to be bothered by these matters when I saw him in Istanbul in September, 1994 - RJW)</i>
November 30, 1993	Getoff/Woods	Seasons greetings and thanks for a complimentary copy of the book. <i>(Professor Getoff knows Pikaev quite well and should have spelled his name correctly)</i>
December 20, 1993	Sherritze/Woods	Final price of the book set at US\$74.95.
June 16, 1994	Sherritze/Woods	Suggestion that we take some advertising

Date	From/To	Subject/Comments
		literature to the 9th International Meeting on Radiation Processing (IMRP) in Istanbul in September, 1994.
June 17, 1994	Pikaev/Woods	(Fax) AKP reports royalty cheque stolen in Moscow.
June 19, 1994	Woods/Hoffman	(Fax) Suggestion that Wiley replace AKP's lost royalty cheque.
June 21, 1994	Sherritze/Woods	(Fax & letter) Hoffman away from office for two weeks but will ask if he can help when he returns.
June 24, 1994	Woods/Pikaev	(Fax) Copy of the June 21 fax from Sherritze to AKP.
September 19, 1994	Woods/Hoffman	Asking that review copies of the book be sent to the editors of <i>Radiation Chemistry & Physics</i> and <i>Applied Radiation & Isotopes</i> .
October 4, 1994	Pikaev/Woods	(Fax) Stolen cheque replaced, asks that royalties be transferred directly to his account in Moscow.
November 6, 1994	Ha Hongfei (Pekin University/Woods)	Starting work on a Chinese translation of the book but still must find a publisher. (Professor Ha Hongfei was at the 9th IMRP in Istanbul and we discussed the possibility of a translation. RJW gave him a copy of the book to take back to China.)
November 10, 1994	Woods/Miller (Editor, <i>Radiation Physics and Chemistry</i>)	Asking whether he had received a review copy of the book.
November 10, 1994	Woods/McLaughlin (Editor, <i>Applied Radiation and Isotopes</i>)	Asking whether he received review copies of the applied radiation chemistry book and the 3rd edition of Spinks & Woods. (A review of the applied radiation chemistry book appeared soon after the letter was sent.)
	Review	Review of <i>Applied Radiation Chemistry: Radiation Processing in Applied Radiation and Isotopes</i> , 45 (no. 10), 1053 (1994) by David M. Taylor, University of Wales, Cardiff.

Date	From/To	Subject/Comments
November 23, 1994	Miller/Woods	(Fax) Book received and sent to Arthur Charlesby for review.
	Wiley 1994 catalogue	Listed as a new book, no price.
	Wiley flier (1994 ?)	Price given as CAN\$104.95. (Both fliers show a 1993 publication date, this is incorrect, it should be 1994)
	Advertisement in the February 1994 issue of <i>Chemistry in Britain</i> .	Price shown as , 62.00/\$86.50. (US\$)
	Article on Food Irradiation, <i>Endeavour</i> , 18 (no. 3), 104 (1994).	<i>Figures 3 and 4 in the article are two that we wished to include in the book as colour plates.</i>
February 1995	Book review	<i>Review of Applied Radiation Chemistry: radiation processing</i> in <i>Nuclear Technology</i> Vol. 109 (Feb. 1995). P. 306.

OTHER MATERIALS

1. Chapter Drafts from Pikaev (one file folder)

These are the original materials received from Pikaev. The chapters were transferred to word-processing files and edited so as to be consistent in style with the earlier chapters. The package includes some material that was sent to Pikaev and corrected by him (for example, chapter 13), and two folders with pages with corrections or changes. The second of these packages arrived in December 1992 too late to be added to the Master Manuscript. Most of the latter alterations were made on the copyedited manuscript. A final group of alterations were received by fax when Pikaev had the page proofs - the fax's are included in the "Correspondence" file.

2. Draft version of chapters

Box 14

The draft chapters were taken to Moscow in October 1992 to be reviewed with Professor Pikaev, they contain the notes and changes made at that time. The changes were made to the word-processing files on return to Saskatoon and the files were then modified (the main change was to go from single to double line spacing) and used to print the final, or "Master," manuscript sent to the publisher in December 1992. The problems and list of radiation-synthesis patents shown as appendices were eventually left out in order to keep the size of the manuscript down. The headers to the even-numbered

pages give the name of the word-processing file (chapter number and version number), while the odd-numbered headers give the date on which the pages were printed.

3. Master manuscript

This is a Xerox copy of the pages sent to the publisher to be edited and set in type. A number of pages were reprinted as a result of changes proposed by Professor Pikaev; the uncorrected versions of the pages are in a folder at the front of the manuscript. A xerox copy of the edited manuscript is also available and will be added to the deposited material at a later date.¹¹ The copyedited manuscript is marked with instructions to the compositor regarding format, spacing, etc., and queries to the authors where their intention were not clear or should be changed.

The index was compiled after the page proofs had been received and approved. Words and phrases to be included in the index were highlighted on this duplicate copy of the master manuscript and on the page proofs and then marked on the word-processor files using the WordPerfect 5.1 for Windows "Mark Text – Index" command. This was done for each chapter and the marked text in the chapter files used to generate a complete index via the WordPerfect for Windows "Master Document" option.

4. Material for Figures (one file folder)

The folder contains reduced Xerox copies of the figures received from Moscow and examples of the materials produced by the DrawPerfect and PlanPerfect software programs.

5. Figure Captions (one file folder)

There are two sets of captions for the figures, one meant for the typesetter and one for the art department. The captions were set in type from the first (narrower - portrait) set and the figures themselves copied, modified if necessary, with the aid of the information in the second (wider - landscape) set. The second set includes the captions for the figures but also additional information to help the art department produce the desired effect. For example, the figures from Pikaev were often hand-lettered and needed to have text set in type. We tried to persuade Wiley to include one or two plates in colour in chapter 11, but without success (the final article in the Correspondence file is an article on food irradiation with two of the four colour photographs we had suggested using).

6. Corrected Page Proofs

Box 15

These are available but are not included in the deposited materials at the present time.¹²

¹¹ The edited manuscript and page proofs may be required later if the book is reprinted or a second edition commissioned. If so, the editing changes and any corrections will be transferred to the original word-processing files and these will then be used as the starting point for the revision.

¹² See previous footnote.

7. **Copy APPLIED RADIATION CHEMISTRY: RADIATION PROCESSING by R.J. Woods and A. K. Pikaev, Wiley-Interscience, New York, NY, 1994. Pages: 535.**

8. **Word-Processing Files (3 disks)**

The files were compiled using WordPerfect Version 5.1, originally using the DOS version and later the Windows version or the program.

There are three disks containing the final version of the manuscript (the files used to print the "Master" manuscript), and three disks with a number of draft versions of the first three chapters. The various drafts show how the chapters developed and any cuts that were made to reduce their length in the final stages of writing. As always, the authors ended up with a longer book than the publishers asked for so that some editing was necessary to produce a manuscript we thought they would accept. Some of the draft chapters may be flawed. For example, drafts labelled A generally indicate problems that required recovering backup files (the A files may, or may not, be good). The flaws are generally in the form of garbage characters that causes the word processor to crash.

APPENDIX

(Preface to APPLIED RADIATION CHEMISTRY: RADIATION PROCESSING, R. J. Woods and A. K. Pikaev, Wiley-Interscience, New York, NY, 1994)

PREFACE

In the 1950s and 1960s it was widely believed that nuclear energy heralded the dawn of a new age of cheap and abundant power. Sciences associated with the nuclear industry, such as radiation chemistry, were also viewed as beneficial and as sources of new and exotic materials and products. After several decades it is possible to reassess these early aspirations and identify the areas where positive results have been achieved, and the probable direction of future advances. Two early applications of radiation processing, radiation-induced cross-linking of polymers and radiation sterilization of medical products, have developed into substantial industries, while food irradiation is widely accepted for some products such as spices and is gaining ground with others, often as an alternative to treatment with toxic chemicals. Radiation-initiated polymerization is also widely accepted for the high-speed curing of inks and industrial coatings and the production of composite materials. Irradiation of contaminated water and of industrial waste products for biological decontamination and to eliminate chemical pollutants

have been extensively studied and successfully demonstrated on the pilot-plant and small industrial scale. Radiation-initiated chemical synthesis, which excited the imagination of many radiation chemists, has not developed to the extent anticipated in the early days. While we describe a range of radiation syntheses taken from the large number reported in the literature, most of these can be initiated by more conventional means so that the advantages of radiation initiation may not outweigh the drawbacks of an unconventional and somewhat controversial energy source.

In the early chapters we have attempted to give an overview of the sources of gamma and electron radiation, the types of ionizing radiation generally used in radiation processing applications, and the manner in which they interact with matter. Radiation dosimetry, necessary to control the radiation dose delivered to the irradiated material, is reviewed in Chapter 4. Bibliographies following chapters 1 and 6, and extensive references to all chapters, give readers the opportunity to delve deeper into their special areas of interest. Chapter 7 deals with radiation-initiated chemical syntheses which, for the most part, are laboratory or potential commercial processes, rather than processes in operation at the present time. Pilot- scale and commercially realized applications of radiation processing are the subjects of much of the material in the remaining chapters, which deal with polymerization (curing), polymer modification, radiation-sterilization, food irradiation, the application of irradiation in waste management, and a variety of other applications that involve radiation chemistry and radiation physics. Attention is also paid in the latter chapters to areas of current research that promise to become important applications of radiation processing in the future.

The units used in the book are "conventional" rather than SI units, in particular G values are given in units of molecules/100 eV rather than radiation-chemical yields (also denoted by the symbol G) in $\mu\text{mol/J}$ since the bulk of the data in the literature is reported in this way. However, SI units are coming into more general use and are regularly employed by many international regulatory bodies; conversion factors between SI and other units are given in the Appendix.

The authors are indebted to the many colleagues and organizations who have provided advice and material for figures, and to the publishers who have given permission to reproduce copyright material. Particular thanks are due to Pergamon Press for permission to reproduce numerous tables and figures from their journal *Radiation Physics and Chemistry*, and to Atomic Energy of Canada Limited and its daughter companies, Nordion International Inc. and AECL Accelerators, for illustrative materials and

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June 1993

ARCHIVAL MATERIAL - ROBERT JAMES WOODS

Period covered: 1955-1995

ADDITIONAL MATERIALS

The three files included here were missed when collecting material related to the first two editions (1964 and 1976) of AN INTRODUCTION TO RADIATION CHEMISTRY by J.W.T. Spinks and R. J. Woods.

1. First Drafts of Chapters 1-10 (1964 Edition)

These are the first drafts of the first ten chapters of the book. The early chapters show extensive changes since these were written a year or more earlier than the later chapters and during this time in new information became available and better ways of presenting the material occurred to us.

2. Edited Master Manuscript (First edition, 1964)

Box 16

This is the manuscript sent to the publisher and subsequently edited, returned to the authors for comments, and then returned to the publisher and used by the typesetter to set the material in type. It was returned to us once the book was published. The edited manuscript represented the last chance for the authors to make any substantive changes and corrections although we did not, in fact, make many changes.

3. Edited Master Manuscript (Second edition, 1976)

The comments under section 2 apply here also.