

BUNNETT PAPERS
JOSEPH F. BUNNETT PAPERS

Provenance: Joseph F. Bunnett presented these papers to the library on April 24, 2007; more papers were received from his family in early 2017, following his death in 2015.

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Date: June, 2007; Spring 2017

Biography

Joseph Bunnett was born in Portland, Oregon, on November 26, 1921. He attended Wilkes Grade School and Washington High School. He graduated with a BA in chemistry from Reed College in 1942, obtaining his Ph.D. in organic chemistry from the University of Rochester in 1945.

During his career, Bunnett first worked as a Research Chemist for Western Pine Association, 1945-46. From 1946 through 1952, he taught at Reed College, then at the University of North Carolina, Chapel Hill, from 1952 to 58, Brown University from 1958 to 1966, and finally at the University of California, Santa Cruz, 1966 through 1991, where he is an emeritus professor.

One of Bunnett's fields of interest is the destruction or detection of chemical warfare agents. While a professor, Bunnett was appointed to many national and international bodies dealing with the political aftermath of the break-up of the Soviet Union and its military arsenal. He served as Chairman of the IUPAC Task Force on Scientific Aspects of the Destruction of Chemical Warfare Agents, 1991-95, as a member of the Defense Science Board Task Force on Persian Gulf War Health Effects, 1993-94, and as co-editor of *Arsenic and Old Mustard: Chemical Problems in the Destruction of Old Arsenical and "Mustard" Munitions* (Kluwer Academic Publishers, 1998). Bunnett is also a member of

the “Temporary Working Group” on Chemical Weapons Destruction, reporting to the Scientific Advisory Board of the Organization for the Prohibition of Chemical Weapons (OPCW), 1999-.

Bunnett served on the editorial advisory boards of many journals, including: *Journal of Chemical Education*, *Journal of Organic Chemistry*, and *Accounts of Chemical Research*.

Bunnett has received many awards and honors, including election to Phi Beta Kappa in 1942 (Reed College), election to the American Academy of Arts and Sciences in 1959, and the Rochester Distinguished Scholar Medal, University of Rochester, 1995. Bunnett died May 22, 2015.

Scope and Contents

The Joseph F. Bunnett Papers include documents and publications relating to the study of the destruction of chemical warfare agents. There are also files of correspondence, primarily to scientific and governmental agencies responsible for various aspects of chemical weapons and the study of their destruction.

Box Index

Reports, Notebooks, Pamphlets, Books, Papers

BOX 1 – Bound Materials

Armaments, disarmament and international security. Chemical and biological arms Control. Oxford University Press, 1995. Offprint. Pamphlet

Berg, Dorothy *et al.*

Proceedings of the 1993 ERDEC Scientific Conference on Chemical Defense Research. 16-19 November 1993. ERDEC-SP-024. August 1994. Bound

Berg, Dorothy *et al.*

Proceedings of the 1994 ERDEC Scientific Conference on Chemical and Biological Defense Research. 15-18 November 1994. ERDEC-SP-036. May 1996. Bound

Berg, Dorothy *et al.*

Proceedings of the 1995 ERDEC Scientific Conference on Chemical and Biological Defense Research. 14-17 November 1995. ERDEC-SP-043. July 1996. Bound

Bozheyeva, Gulbarshyn *et al.*

Former Soviet Biological Weapons Facilities in Kazakhstan: past, present, and future.
Monterey Institute of International Studies. Center for Nonproliferation Studies.
Chemical and Biological Weapons Nonproliferation Project. Occasional Paper No. 1

Brooks, Marguerite *et al.*

Operation Safe Removal: Spring Valley, Washington D.C. Analytical Results.
January – February 1993. Edgewood Research, Development & Engineering Center.
ERDEC-SP-008. July 1993. Stapled

Chemical and Biological Defense Establishment.

Annual Report and Accounts 1992/93. London: HMSO, 26 July 1993. Bound

CBIAC Newsletter. (Chemical & Biological Defense Information Analysis Center)

Vol. 3:2, spring 1997.

Vol. 4:1, winter 2003.

Vol. 6:1, winter 2005.

Vol. 6:2, spring 2005.

Vol. 6:3, summer 2005.

Vol. 7:1, 2006.

Vol. 7:2, 2006.

Vol. 8:1, 2007.

Chemical Research, Development & Engineering Center.

Cooper, William A. Literature Search on Persistent CW Agents on Terrain (U).
November 1991, stapled.

Durst, H. DuPont *et. al.* Support for the Delisting of Decontaminated Liquid
Chemical Surety Materials as Listed Hazardous Waste from Specific Sources (State)
FMD02 in Comar 10.51.02.16-1.

Penski, Walker, Szafraniec, Ellzy, Mitchell, Janes. Evaporation of Agents from Saudi
Arabian Soils. I. Mustard. July 1992, stapled.

Penski, Walker, Szafraniec, Ellzy, Mitchell, Janes. Evaporation of Agents from Saudi
Arabian Soils. II. G-agents. July 1992, stapled.

Support for the Delisting of Decontaminated Liquid Chemical Surety Materials.
November 1988. Bound

Penski, Elwin. Surface Evaporation, Penetration, Hydrolysis, and Degradation of
Hazardous Chemicals Under a Variety of Conditions. III. Literature Review and
Analysis of Agent Persistence on Soils. August 1990, Stapled.

Sage, G. W. and Howard, P. H. Environmental Fate Assessments of Chemical Agents
HD and VX. June 1989. Stapled.

Chemical Stockpile Disposal Program.

Analysis of Existing Hazardous Material Containers for Transporting Chemical
Munitions. SAPEO-CDE-18-87011. June 12, 1987. Stapled

Chemical Weapons Movement. Chemical Agent and Munition Disposal.
Summary of the U.S. Army's Experience. SAPEO-CDE-IS-87005. September 21,
1987. Stapled

Chemical Weapons Convention Bulletin. No. 25. September, 1994. Bound

Chemical Weapons Movement: History Compilation. SAPEO-CDE-18-87661. Stapled

China. Chinese Provincial Universities Development Project.
Specialist Reporting Guidelines & Financial and Administrative Guidelines for
Project Specialists. [And support material & articles.] Notebook

Defense Nuclear Agency. Russian Chemical Weapons Destruction Support Program.
Joint Evaluation Support Contract. Contract: DNA001-95-C-0058.
Russian-American Experiments. Annotated Report. Phase I & II. (Sarin, Soman &
VX). JES053 and JES054. November 15, 1995. [In Russian and English] Notebook

Defense Nuclear Agency. Russian Chemical Weapons Destruction Support Program.
Joint Evaluation Support Contract. Contract: DNA001-95-C-0058.
Russian-American Experiments. NMR Spectroscopy of Organophosphorus Chemical
Agents. JES051 and JES052. December 19, 1995. Notebook

BOX 2 – Bound Materials

Defense Science Board.
Task force on Gulf War Health Effects. December 21-22, 1993. Papers

Defense Special Weapons Agency. Final Joint Evaluation of the Russian Two-Stage
Chemical Agent Destruction Process.
Final Joint Evaluation Technical Report. March 1996. Notebook

Defense Special Weapons Agency. Final Joint Evaluation of the Russian Two-Stage
Chemical Agent Destruction Process.
Final Joint Evaluation Technical Report – Revised. July 1996. Notebook

Defense Special Weapons Agency. Joint Evaluation Support contract. Peer Review
Committee.
Final Report. CTR. JES055. [by Bechtel National Inc.], June 1996. Notebook

Department of the Army. Program Executive Officer. Program Manager.
Chemical Stockpile Disposal Program for Chemical Demilitarization. Final
Programmatic Environmental Impact Statement. Jan. 1988. 3 vols. Stapled

Department of the Army. Program Manager for Chemical Demilitarization.

U.S. Army's Alternative Demilitarization Technology. Report for congress. April 11, 1994. Stapled

Department of Commerce. U.S. Arms Control and Disarmament Agency. Chemical Weapons Convention. Seminars for the U.S. Chemical Industry: Supplemental Materials. April-May 1995. Spiral bound

DRES. Project Swiftsure. Final Report. Destruction of Chemical Agent Waste. May 1995. Spiral bound

Federal Armed Forces Scientific Institute for Protection Technologies and NBC-Protection. Munster, n.d. English translation of WIS. Pamphlet

Garrett's Glossary. An annotated guide to chemical warfare agent terminology. N.p., n.d. Spiral bound

Hart, John
Chemical Industry Inspections under the Chemical Weapons Convention. Verification Matters: VERTIC Research Reports, no. 1, October 2001. Bound

Hart, John and Cynthia D. Miller, eds.
Chemical Weapon Destruction in Russia: Political, Legal and Technical Aspects. SIPRI Chemical & Biological Warfare Studies, no. 17. SIPRI and BICC. Oxford University Press, 1998. Bound

Infield, Glenn B.
Disaster at Bari. New York: Macmillan, 1971. Bound

BOX 3 – Bound Materials

IUPAC. Pure and Applied Chemistry. Vol. 74:12, December 2002. Bound

MacNaughton, Michael G. and Joseph Brewer
Environmental Chemistry and Fate of Chemical Warfare Agents. Southwest Research Institute, March 3, 1994. Stapled

Macrae, Scott R. *et al.*
Evaluation of the VX Rocket Test: Johnston Atoll Chemical Agent Disposal System Operational Verification Testing. McLean, VA: MITRE, November 1992. 2 copies. Stapled

MEDEA
Ocean Dumping of Chemical Munitions: Environmental Effects in Arctic Seas. May 1997. Bound

- National Academy of Sciences.
Alternative Technologies Forum. June 30, 1993. Notebook
- National Academy of Sciences. Workshop. Committee on Alternative Chemical Demilitarization Technologies. 1992.
Biological Destruction Technologies. Guest Speaker Presentations, June 3-5, 1992. Notebook
- National Academy of Sciences. Workshop. Committee on Alternative Chemical Demilitarization Technologies. 1992.
Chemical Destruction Technologies. Guest speaker Presentations, June 3-5, 1992. Notebook
- National Academy of Sciences. Workshop. Committee on Alternative Chemical Demilitarization Technologies. 1992.
Medium Temperature Destruction Technologies. Guest Speaker Presentations. Workshop, June 3-5, 1992. Notebook
- National Academy of Sciences. Workshop. Committee on Alternative Chemical Demilitarization Technologies. 1992.
Transcription: Biological/Chemical Sessions, June 3-5, 1992. Notebook
- National Academy of Sciences. Workshop. Committee on Alternative Chemical Demilitarization Technologies. 1992.
Transcription: Medium/High Temperature Sessions, June 3-5, 1992. Notebook
- National Research Council.
Recommendations for the disposal of Chemical Agents and Munitions. Washington, D.C.: National Academy Press, 1994. 3 copies: 1 bound, 2 stapled
- National Research Council.
Review and Evaluation of Alternative Chemical Disposal Technologies. Washington: National Academy Press, 1996. Bound
- NATO Advanced Research Workshop.
Chemical Problems Associated with Old Arsenical and 'Mustard' Munitions. Arsenic and Old Mustard, authored by David Bunnnett, son of Joe Bunnnett. Lodz, Poland: 17-19 March, 1996. [JB a co-organizer]
- Nonproliferation Review. Vol. 7:2, Summer 2000. Bound
- Northwestern University Law Review. Vol. 89:2, Winter 1995
On "dismantling excess weapons." Reprint. Pamphlet

Old Chemical Weapons Reference Guide. Abingdon, MD: Scientific Technical Services, Inc., May 1998. Stapled

BOX 4 – Bound Materials

Organisation for the Prohibition of Chemical Weapons. Preparatory Commission. Provisional Technical Secretariat. Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction. N.d. Stapled

Organisation for the Prohibition of Chemical Weapons. (OPCW) Synthesis. 5th Anniversary of Entry into Force. Spring/March 2002. Bound

Pearson, Graham S. and Richard Magee. A Critical Evaluation of Proven Chemical Weapons Destruction Technologies. IUIPAC Technology Report, December 2001. [JB member of Working Group] Folder

RAJEP. Russian American Joint Evaluation Program. Phase I. Draft Report. Sections 1-3. Notebook

RAJEP. Russian American Joint Evaluation Program. Phase I. Draft Report. Sections 4-5. Notebook

Russian-Provided Technical Documents for Joint Evaluation Support. Contract DNA001-95-0058. Vol. I & Vol. II. JES001-JES014. Notebook

Schulte, Nancy Turtle, ed. Dismantlement and Destruction of Chemical, Nuclear and Conventional Weapons. Dordrecht: Kluwer Academic Publishers, 1997. J.Bunnett a participant. Bound

Scientific Conference on Chemical and Biological Defense Research. Abstract Digest. U.S. Army Edgewood Research, Development & Engineering Center. Bound

SERDP Information Bulletin. No. 27. Spring 2006.

Sims, Nicholas The Evolution of Biological Disarmament. SIPRI Chemical and Biological Warfare Studies, no. 19. Stockholm International Peace Research Institute. Oxford University Press, 2001.

SIPRI Yearbooks. 1995.

Chemical and Biological Weapons: Developments and Destruction. Oxford University Press, 1995. Offprint. Pamphlet

Smithson, Amy

The U.S. Chemical Weapons Destruction Program: Views, Analysis, and Recommendations. Henry L. Stimson Center. Report No. 13, September 1994. Stapled

BOX 5 – Bound Materials

U.S. Army.

Chemical Stockpile Disposal Program. SAPEO-CDE-IS-87003. June 30, 1987. Stapled

U.S. Army.

Chemical Stockpile Disposal Program. SAPEO-CDE-IS-87012. August 1987. Stapled

U.S. Army.

Modernization Plan. Vol. II. Annex M. Nuclear, Biological and Chemical. January 1993. Pamphlet

U.S. Army. Chemical Materiel Destruction Agency. Non-Stockpile Chemical Materiel Program.

Survey and Analysis Report. November 1993. Bound

U.S./Russian Joint Evaluation Program.

Standard Operating Procedures. Sections I & II. For chemical Agent/RDTE Solution Operations in Support. CDRL No. 16. (Battelle & Bechtell National Inc.) Notebook

VERTIC. Verification Research, Training and Information Centre.

Getting Verification Right. Proposals for enhancing implementation of the Chemical Weapons Convention. London: VERTIC, 2002. 3 copies. Pamphlet

WIS Wehrwissenschaftliches Institut für Schutztechnologien – ABC – Schutz. Munster, n.d. Pamphlet

Zanders, Jean Pascal et al.

Non-Compliance with the chemical Weapons Convention. Lessons from and for Iraq. SIPRI Policy Paper, no. 5. October 2003. Pamphlet

BOX 6 - Folders and Papers

Accounts of Chemical Research Editorials

Army - Correspondence

Army Hermiston Forum – Oregon 13 July 1993 & Tooele Citizens Advisory Meetings –
Utah 22 Sept. 1993

“Benzyl Chlorides Nucleo. Toward London Forces” Calculations

Biographical Information

Biological Weapons

Bunnett, Greizerstein, McLennan and Shiragian Manuscript

Bunnett, Greizerstein, McLennan and Shiragian Manuscript Notes

“Carcinogens in Food” Notes and Research

CDCW – Berlin 1999

CDCW Members - Correspondence

CDCW – Geneva

Chemical Demilitarization – Canada

Chemical Demilitarization – Citizens Advisory Commission, Anniston, AL 17-19 April
1994

Chemical Demilitarization – Citizens Advisory Commission, Hermiston, OR 29-30 June
1994

Chemical Demilitarization Books

Chemical Demilitarization Conferences (old)

Chemical Demilitarization Lectures – Transparencies

Chemical Demilitarization Technologies

Chemical Demilitarization Technologies – Miscellaneous

Aqueous Oxidation methods

Arsencrete

Biodegradation

Biological warfare weapons

By-Product Conversion Process

Cement Kiln destruction

Decontamination of CW agents

Doyle - Transport of CW Agents

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Explosives

Hazard Zone for Technogenic Pollution

Hydrogenolysis

Incineration

Incineration Plans

Integrated NaOH; $H_2O_2 + hv$

Medical Effects of CW Agents

Molton salt process

Non Destructive Assessment

Pool Technology

Pyrolysis

Scrubber Brines

Sea Dumping of CW

Transport of Chemical Weapons

Wet Oxidation Methods

Chemical Demilitarization UPDATE (Newsletter)

BOX 7 – Folders and Papers

Chemical Munitions Lectures
Chemical Terrorism
Chemical Warfare Notes
Chemical Waste Disposal Talk 1993
Chemical Weapons – Drawings for slides
Chemical Weapons – Notes & Clippings
Chemical Weapons Convention
Chemical Weapons Convention Bulletin
Chemical Weapons Demilitarization – Foreign
Chemical Weapons Transparencies
Chemistry of Chemical Warfare Agents
 CerOx Process
 Chemical Warfare Agent Chemistry – Reviews
 Neutron Activation Analysis of Chemical Munitions
 GB, etc. – Reprints
 GB, etc. – Biological effects
 Lewisite – Reprints, etc.
 Military Chemistry and Chemical Compounds
 Mustard, etc. – Reprints
 Organophosphates
 Pyridostigmine Bromide
 VX, etc.— Reprints

Comparative Mobility of Halogens (written in iambic pentameter)
Correspondence-General
CRDEC Report- Support for the Delisting of Decontaminated Liquid Chemical Surety
 Materials
The Culture of Chemistry: A Graduate Course
Federov, Lev
Fragmentation of Radical Anions
Global Green
Gulf War – Exposure of U.S. Forces to Chemical Warfare Agents
Gulf War Health Effects – Information
Hazard Zone for Technogenic Pollution

BOX 8 – Folders and Pamphlets

International Agreements – Publicity
International Conference on Dismantlement and Destruction of Nuclear, Chemical and
Conventional Weapons – Bonn 1996
IUPAC – Administrative
IUPAC – Fund raising
IUPAC – Personnel
IUPAC – Reprint mail list
IUPAC Chemical Demilitarization
IUPAC Task Force – 2nd Meeting Recommendations
IUPAC Task Force – Financial Reports: MacArthur Foundation
IUPAC Task Force – General
IUPAC Task Force – MacArthur Foundation Grant
IUPAC Tax Status Letters (US IRS)
IUPAC/OPCW Cooperation
Japanese Munitions in China
Joint Evaluation of the Russian Two-stage Chemical Agent Destruction Process
Kniphausen Papers
MacArthur Foundation – Application [Joseph Bunnett]
Monitoring of CW Agents
Monterey Institute – Programs
Mulbry Working Party
NATO Bulletins
News clippings on Chemical Demilitarization (by JFB)
NIH Guidelines for the Laboratory Use of Chemical Carcinogens
Non-Stockpiled Agent – Chemical Demilitarization
Notes on J. Boeseken and Students
Notes on the Role of the Research Supervisor
NRC Report Review
NRC Stockpile Committee

BOX 9- Folders and Pamphlets

OPCW (Organisation for the Prohibition of Chemical Weapons)
OPCW Brochure
OPCW Working Group
Pearson – Manuscript
Pearson – Slide Drawings, Porton Down, 1993
Pearson Working Party
Pearson Working Party Report
Political Contacts and Press
Properties of CW Agents
Public Protest of Incineration
Publicity
Quality and Resource Development in Industrial Research Notes

Radical-Induced Deiodination of Aryl Iodides in Alkaline Methanol
Reed Alumni
Reed Article on Chemical Demilitarization
Reed College- Chem 21 Lecture Notes
Reed College- Chem 31 Lecture Notes
Reed College- Chem 247 Notes
Reed College- Student Information
Reed College- Teaching
Report of the DSB Task Force on Persian Gulf War Health Effects
Russian –American Joint Evaluation Program – Peer Review
SERDP and ESTCP Information Bulletin
Single Step Reaction Rates in Aromatic SRN1 Reactions by an Organic Chemist's
Approach with Daniel R. Palleros
State Department
Tomaselli Research
Trouble, Deep Trouble and More Trouble: Lecture on Troublesome Discoveries
Tucker Russia Project
UC Toxic Substances Research and Teaching Program
U.K. Chemical Demilitarization
U.S. Army Chemical Weapons Demilitarization
University of Rochester
Unpublished Manuscripts

UXO Fort Ord Conference – July 18-20, 1994
Western Pine Association Research
Which Orbital Receives the Transferred Electron in the Radical-Induced Reiodination of
Aryl Iodides by Methoxide Ion?