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Gian-Carlo Rota  
Editor



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## Bibliography of Nathan Jacobson's Books and Papers

*Note:* **Boldface** numbers at the end of each entry denote the volume in which the entry appears.

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- Lectures in Abstract Algebra: Vol. 2, Linear Algebra*, D. Van Nostrand Co. Inc., 1953 (Springer-Verlag reprint, 1975; Chinese translation, 1960).
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(Ore) Skew Polynomial Domains: 1, 2, 5, 8, 16.

Topological Algebra: 3, 6, 13.



*Lie Algebras and General Non-associative Algebras:* 4, 7, 9, 10, 11, 14, 15, 19, 22, 23, 24, 39, 42, 45, 47, 49, 53, 54, 62, 68, 69, 71.

*Galois Theory:* 20, 25, 27, 28, 29, 36, 55.

*General Structure Theory of Rings:* 31, 32, 33, 34, 35, 43, 55, 93, 94, 95.

*Jordan Rings:* 37, 38, 39, 40, 41, 44, 46, 48, 50, 51, 61, 63, 64, 65, 66, 67, 69, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 84, 86, 87, 88, 90, 91, 96.

*Associative Algebras:* 1, 12, 29, 57, 70, 79, 85, 98.

*Miscellaneous:* 17, 18, 21, 26, 30, 60, 92, 97.

# Doctoral Students of Nathan Jacobson

*University of North Carolina*

*Charles L. Carroll, Jr.* Normal simple Lie algebras of type D and order 28 over a field of characteristic zero (1945).

*Yale University*

*Eugene Schenkman* A theory of subinvariant Lie algebras (1950).

*Charles W. Curtis* Additive ideal theory in general rings (1951).

*William G. Lister* A structure theory of Lie triple systems (1951).

*Henry G. Jacob* A theorem on Kronecker products (1953).

*George B. Seligman* Lie algebras of prime characteristic (1954).

*Morris Weisfeld* Derivations in division rings (1954).

*Bruno Harris* Galois theory of Jordan algebras (1956).

*Earl J. Taft* Invariant Wedderburn factors (1956).

*Dallas W. Sasser* On Jordan matrix algebras (1957).

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*Tae-II Suh* On isomorphisms of little projective groups of Cayley planes (1961).

*Herbert F. Kreimer, Jr.* Differential, difference, and related operational rings (1962).

*Charles M. Glennie* Identities in Jordan algebras (1963).

*David A. Smith* On Chevalley's method in the theory of Lie algebras and linear groups of prime characteristic (1963).

*Dominic C. Soda* Groups of type  $D_4$  defined by Jordan algebras (1964).

*Harry P. Allen* Jordan algebras and Lie algebras of type  $D_4$  (1965).

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*Kevin M. McCrimmon* Norms and noncommutative Jordan algebras (1965).

*Joseph C. Ferrar* On Lie algebras of type  $E_6$  (1966).

*Daya-Nand Verma* Structure of certain induced representations of complex semi-simple Lie algebras (1966).

*Lynn Barnes Small* Mapping theorems in simple rings with involution (1967).

*John R. Faulkner* Octonion planes defined by quadratic Jordan algebras (1969).

*Samuel R. Gordon* On the automorphism group of a semi-simple Jordan algebra of characteristic zero (1969).

*Michel Racine* The Arithmetics of quadratic Jordan algebras (1971).

*Jerome M. Katz* Automorphisms of the lattice of inner ideals of certain quadratic Jordan algebras (1972).

*Ronald Infante* Strongly normal difference extensions (1973).

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*David J. Saltman* Azumaya algebras over rings of characteristic  $p$  (1976).

*Robert A. Bix* Separable Jordan algebras over commutative rings (1977).

*Leslie Hogben* Radical classes of Jordan algebras (1978).

*Craig L. Huneke* Determinantal ideals and questions related to factoriality (1978).

## Chronology

September 8, 1910	Born, Warsaw, Poland (U.S. Citizen)
1930	A.B. University of Alabama
1934	Ph.D. Princeton University
1934–1935	Assistant, Institute for Advanced Study
1935–1936	Lecturer, Bryn Mawr College
1936–1937	National Research Council Fellow, University of Chicago
1937–1938	Instructor, University of North Carolina
1938–1940	Assistant Professor, University of North Carolina
1940–1941	Visiting Associate Professor, Johns Hopkins University
1941–1942	Associate Professor, University of North Carolina
1942–1943	Associate Ground School Instructor, University of North Carolina
1943–1947	Associate Professor, Johns Hopkins University
1947–1949	Associate Professor, Yale University
1949–1961	Professor, Yale University
1961–1963	James E. English Professor, Yale University
1963–1981	Henry Ford II Professor, Yale University
1981–	Henry Ford II Professor Emeritus, Yale University
Summer, 1947	Visiting Professor, University of Chicago
1951–1952	Fulbright Scholar, University of Paris
1957–1958	Visiting Professor, University of Paris
Oct. 1964–Jan. 1965	Visiting Professor, University of Chicago
Spring, 1965	Lecturer, Mathematical Society of Japan
Spring, 1969	Visiting Professor, Tata Institute of Fundamental Research
Oct. 1981–Jan. 1982	Visiting Professor, ETH, Zurich
Sept.–Nov. 1983	Visiting Professor, Nanjing University, People's Republic of China
Nov.–Dec. 1983	Visiting Professor, Taiwan National University, Republic of China
Feb.–March 1984	Visitor, Center for Advanced Studies, University of Virginia
Sept.–Oct. 1985	Visiting Professor, Pennsylvania State University
April 1988	John Hasbrouck Van Vleck Distinguished Visiting Professor, Wesleyan University
Visiting Lecturer	Australia, Israel, Italy, People's Republic of China, University of Texas
1951–1952	Guggenheim Fellow
1954	Elected Member of National Academy of Sciences

1960	Elected Member of American Academy of Arts and Sciences
1971–1973	President of American Mathematical Society
1972	Honorary D.Sc., University of Chicago
1972	Honorary Member of London Mathematical Society
1972–1974	Vice President of International Mathematical Union
1981	Sesquicentennial Honorary Professor, University of Alabama

## Preface

This collection contains all my published papers, both research and expository, that were published from 1934 to 1988. The research papers arranged in chronological order appear in Volume I and II and in the first part of Volume III. The expository papers, which are mainly reports presented at conferences, appear in chronological order in the last part of Volume III. Volume I covers the period 1910 to 1947, the year I moved to Yale, Volume II covers the period 1947 to 1965 when I became Chairman of the Department at Yale and Volume III covers the period from 1965 to 1989, which goes beyond my assumption of an emeritus status in 1981. I have divided the time interval covered in each volume into subintervals preceded by an account of my personal history during this period, and a commentary on the research papers published in the period. I have omitted commentaries on the expository papers and have sorted out the commentaries on the research papers according to the principal fields of my research.

The personal history has been based on my recollections, checked against written documentation in my file of letters as well as diaries. One of these was a diary I kept of my trip to the USSR in 1961; the others were diaries Florie (Florence) kept during other major visits abroad. I have also consulted Professor A. W. Tucker on historical details on Princeton during the 1930's.

The material on personal history and commentary has had critical readings by Florie, by George Seligman and by Kevin McCrimmon. I take this opportunity to express my sincere thanks to them for numerous suggestions which have resulted in an improved manuscript.

Nathan Jacobson  
Hamden, Connecticut  
September 25, 1989

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