

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

---

Transactions of the Nebraska Academy of  
Sciences and Affiliated Societies

Nebraska Academy of Sciences

---

1977

## Transactions of the Nebraska Academy of Sciences- Table of Contents and Introduction

Follow this and additional works at: <https://digitalcommons.unl.edu/tnas>

---

"Transactions of the Nebraska Academy of Sciences- Table of Contents and Introduction" (1977).  
*Transactions of the Nebraska Academy of Sciences and Affiliated Societies*. 439.  
<https://digitalcommons.unl.edu/tnas/439>

This Article is brought to you for free and open access by the Nebraska Academy of Sciences at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Transactions of the Nebraska Academy of Sciences and Affiliated Societies by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

LIFE

Q

1

N38

v.4

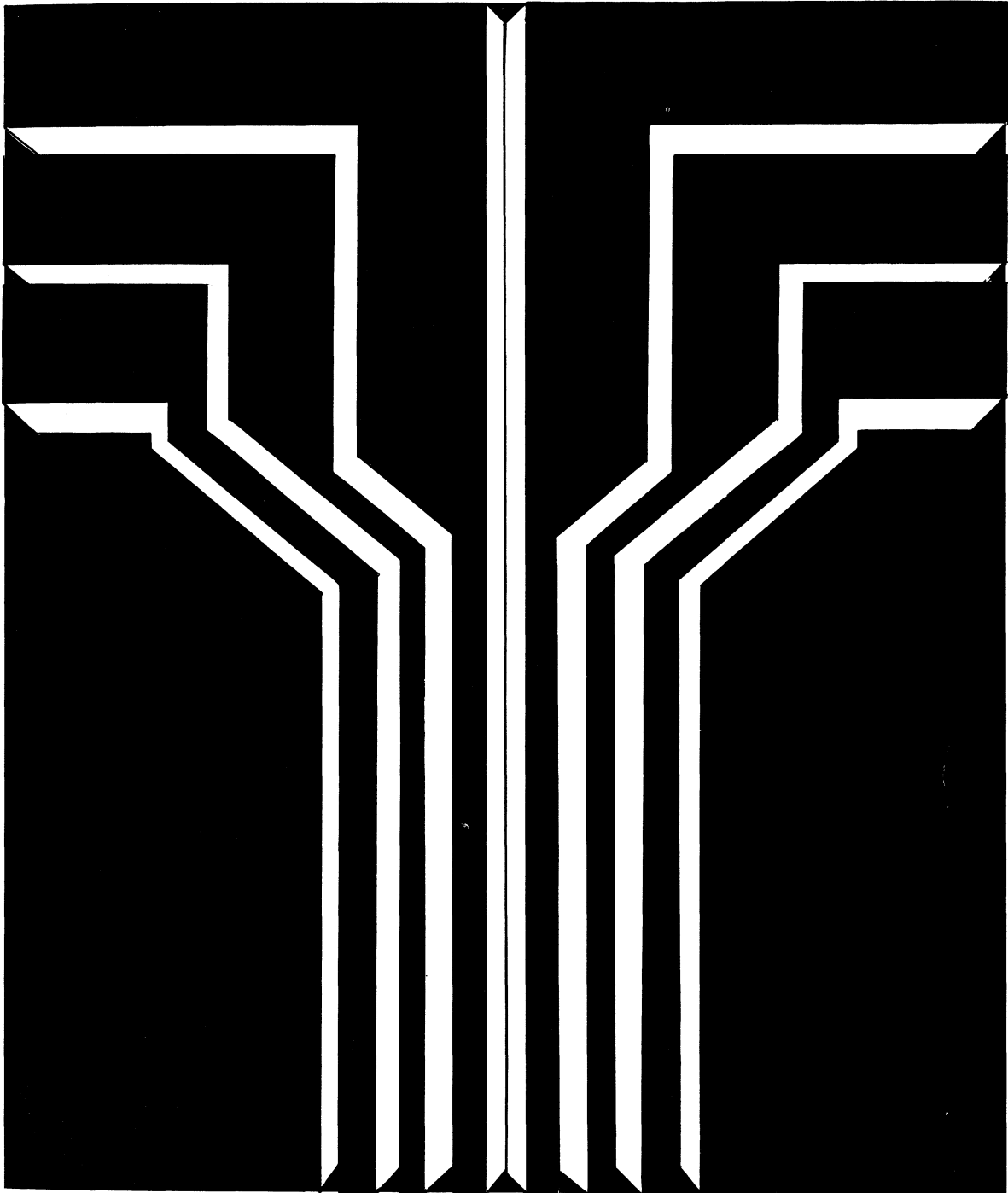
1977

UNIVERSITY OF NEB.  
LIBRARY

SEP 23 1977

# Transactions of the Nebraska Academy of Sciences

AND AFFILIATED SOCIETIES  
VOLUME IV 1977



STATE BOARD OF EDUCATION

AND

STATE BOARD OF VOCATIONAL EDUCATION

Frank E. Landis, President	Lincoln	(District 1)
Dorothy Creigh, Vice President	Hastings	(District 5)
James Monahan	Omaha	(District 2)
Walter M. Thompson	Oakland	(District 3)
Don H. Lienemann	Papillion	(District 4)
Mrs. Margaret Lockwood	Gering	(District 6)
Mrs. Marilyn Fowler	Lexington	(District 7)
Bernard F. Costello, Jr.	Omaha	(District 8)

\* \* \* \*

DEPARTMENT OF EDUCATION

Anne Campbell, Commissioner of Education  
Richard L. Nealy, Director of Information & Publications

Box 94987, 301 Centennial Mall South

Lincoln, Nebraska 68509

1977

\* \* \* \*

ESTABLISHMENT OF THE TRANSACTIONS  
OF THE  
NEBRASKA ACADEMY OF SCIENCES

In 1969, during its eightieth session, the State Legislature of Nebraska passed Legislative Bill 776, which appropriated funds to aid the Nebraska Academy of Sciences in the publication of scientific works submitted by Nebraska scientists. Volumes I and II of the *Transactions* were published under this arrangement, but Volume III was privately financed. Volume IV is being published under the auspices of the Nebraska Department of Education with funds authorized by the State Legislature, supported by the Governor.

\* \* \* \*

This cover was designed by Jill Sack, Nebraska Department of Education, and represents the merging of the disciplines of the biological and social sciences with those of the earth and physical sciences.

\* \* \* \*

Printed by  
THE NEBRASKA DEPARTMENT OF EDUCATION  
Lincoln, Nebraska

*TRANSACTIONS*  
*of the*  
*NEBRASKA ACADEMY*  
*OF SCIENCES*

and Affiliated Societies

*Volume IV*  
*August, 1977*

**AFFILIATED SOCIETIES**

Nebraska Chapter National Council for Geographic Education  
Nebraska Geological Society  
Nebraska Ornithologist Union  
Nebraska Psychological Association  
Nebraska Section Mathematical Association of America  
Institute for Tertiary and Quaternary Studies, TER-QUA

*Membership in the Nebraska Academy of Sciences  
is open to all persons interested in science in Nebraska*

**NEBRASKA ACADEMY OF SCIENCES, INC.**  
**306 Morrill Hall, 14th and U Streets**  
**Lincoln, Nebraska 68588**

**OFFICERS**

President: 1976-77	T. Mylan Stout, University of Nebraska-Lincoln
President: 1977-78	Laddie J. Bicak, Kearney State College
President Elect:	Claire M. Oswald, College of Saint Mary
Executive Director:	C.B. Schultz, University of Nebraska-Lincoln
Treasurer:	Carroll L. Moore, Nebraska Wesleyan University
Corresponding Secretary:	Lloyd G. Tanner, University of Nebraska-Lincoln
Councillors:	
1974-77	Larrie E. Stone, Dana College
1975-78	Theodore J. Urban, Creighton University
1976-79	Clyde C. Sachtleben, Hastings College
1977-80	T. Mylan Stout, University of Nebraska-Lincoln
Collegiate Academy:	Walter R. French, Jr., Nebraska Wesleyan University
	Marvin Bichel, Nebraska Wesleyan University
	David Goss, Nebraska Wesleyan University
Junior Academy:	Donald Woodburn, Nebraska Department of Education
Science Teaching:	J. Bruce Holmquist, ESU No. 3 Science Center, Omaha
	Robert Reeder, Lincoln East High School
AAAS Representative:	Current Year's President
Program Chairman:	Albert W. Zechmann, University of Nebraska-Lincoln

**POLICY COMMITTEE 1976 - 1977**

Bellevue College, Bellevue . . . . .	David M. Thorndike
Central Technical Community College, Hastings . . . . .	Mrs. Norma Suchy
Chadron State College, Chadron . . . . .	Larry Agenbroad
College of Saint Mary, Omaha . . . . .	Claire Oswald
Concordia College, Seward . . . . .	Gilbert Daenzer
Creighton University, Omaha . . . . .	Theodore J. Urban
Dana College, Blair . . . . .	Larrie E. Stone
Doane College, Crete . . . . .	Delbert King
Hastings College, Hastings . . . . .	Clyde C. Sachtleben
Kearney State College, Kearney . . . . .	Donald Kaufman
McCook Community College, McCook . . . . .	Roger Wilson
Metropolitan Technical Community College, Omaha . . . . .	Douglas Jones
Midland Lutheran College, Fremont . . . . .	Donald D. Bruning
Mid-Plains Community College, North Platte . . . . .	Boyd Gentry
Nebraska Wesleyan University, Lincoln . . . . .	Daniel B. Howell
Nebraska Western Community College, Scottsbluff . . . . .	Arthur A. Russell
Northeast Technical Community College, Norfolk . . . . .	James Manning
Peru State College, Peru . . . . .	Lyle McKercher
Platte Technical Community College, Columbus . . . . .	Fred Koerwitz
Southeast Community College, Fairbury . . . . .	Frank Phelps
Southeast Community College, Lincoln . . . . .	Robert Resz
Union College, Lincoln . . . . .	William Hemmerlin
University of Nebraska-Lincoln . . . . .	Walter E. Mientka
University of Nebraska at Omaha . . . . .	John G. McMillan
University of Nebraska Medical Center, Omaha . . . . .	Edward Holyoke
Wayne State College, Wayne . . . . .	Harland Pankratz
York College, York . . . . .	Terence Kite

**TRANSACTIONS**  
*of the*  
**NEBRASKA ACADEMY OF SCIENCES**

Volume 4

August 1977

**C O N T E N T S**

	<b>Page</b>
Nebraska Academy of Science, Officers, Policy Committee, Editorial Board . . . . .	ii
Instructions to Contributors . . . . .	vi
<b>ANTHROPOLOGY</b>	
Calcium carbonate inclusions in pottery: Some cautions for the archaeologist RAYMOND LEICHT . . . . .	1
The group foster home counselor: An anthropological analysis PATRICK F. MC CARTY . . . . .	5
Man-made artifacts from the Red Willow Gravel Pits THOMAS P. MYERS . . . . .	9
<b>BIOLOGICAL AND MEDICAL SCIENCES</b>	
Plant galls of the vicinity of Seward, Nebraska CARL T. BRANDHORST . . . . .	13
<i>Marvinmeyeria lucida</i> (Moore, 1954) a commensal of <i>Helisoma trivolvis</i> (Say) (Mollusca: Gastropoda) in Nebraska DANIEL R. BROOKS and NANCY J. WELCH . . . . .	21
The impact of artificial reduction of light on a eutrophic farm pond EUGENE G. BUGLEWICZ and GARY L. HERGENRADER . . . . .	23
Chromosome analysis of <i>Bidens polylepis</i> and <i>Bidens coronata</i> (Compositae) MERLIN G. BUTLER and RONALD R. WEEDON . . . . .	35
A botanical survey of Cuming County: Part I, the vascular plants STEVEN P. CHURCHILL . . . . .	43
Wood Duck production in the Salt Creek Watershed of Eastern Nebraska CALVIN L. CINK . . . . .	53
Sandhill crane dancing during the spring migration JAMES R. GRAY and THOMAS F. SWEENEY . . . . .	57
A taxonomic investigation of some rhizomatous species of the genus <i>Muhlenbergia</i> (Gramineae) JAMES KURTZ and DAVID M. SUTHERLAND . . . . .	69

	Page
Propranolol: A specific antagonist to cocaine RICHARD T. RAPPOLT, SR., GEORGE R. GAY and DARRYL S. INABA . . . . .	73
<b>EARTH SCIENCES</b>	
A Late Pleistocene-Holocene vertebrate fauna from Red Willow County, Nebraska R. GEORGE CORNER. . . . .	77
Carnivores from the Jamber Local Fauna (Valentinian), Boyd County, Nebraska KAREN KREYCIK MESSENGER and CHARLES L. MESSENGER. . . . .	95
The antiquity of <i>Bison latifrons</i> (Harlan) in the Great Plains of North America C. BERTRAND SCHULTZ and JOHN M. HILLERUD. . . . .	103
Frontiers of Nebraska Geology THOMPSON MYLAN STOUT. . . . .	117
A new species of <i>Diceratherium</i> from the Lower Pliocene (Valentinian) of Boyd County, Nebraska LLOYD G. TANNER. . . . .	121
Fossil moles of Late Hemphillian age from Northeastern Nebraska M.R. VOORHIES . . . . .	129
<b>ENGINEERING</b>	
Indoor wing configurations for Fédération Aéronautique Internationale competition WALTER C. ERBACH. . . . .	139
<b>HISTORY OF SCIENCE</b>	
Hermann Lebert's contributions to the understanding of cancer and cancer genetics ANNE J. KRUSH . . . . .	143
The methodological principles of Plato and Berson MARK C. TIMMONS. . . . .	147
<b>PHILOSOPHY OF SCIENCE</b>	
The general form of the new riddle of induction EDWARD F. BECKER. . . . .	151
<i>Enargeia</i> : A concept for all seasons DENNIS R. BORMANN. . . . .	155
Wittgenstein's "Language-Game"—A tool for cognitive developments ELIZABETH T. CARPENTER. . . . .	161
The future of free and democratic institutions: A critique of Robert L. Heilbroner's <i>An Inquiry into the Human Prospect</i> ROBERT E. DEWEY. . . . .	165
On the status of the concepts of masculinity and femininity SARAH HOAGLAND . . . . .	169
The nature and function of fundamental propositions in accounting theory construction JACK L. KROGSTAD . . . . .	173



	Page
Toward a methodology for auditing JACK L. KROGSTAD .....	177
A linguistic view of Habermas' Theory of Communicative Competence ELISABETH LEINFELLNER .....	181
Kant as internalist: The synthetic a priori proposition of Kant's Ethical Theory NELSON T. POTTER .....	185
Two views of quantification CHARLES W. SAYWARD .....	189

INSTITUTE FOR TERTIARY-QUATERNARY STUDIES (TER-QUA)

Bicentennial Symposium

"Our Changing Climate Since 1776"

Drought and the model of a Quaternary terrace-cycle C. BERTRAND SCHULTZ and THOMPSON MYLAN STOUT .....	191
---	-----

MAIBEN MEMORIAL LECTURES

1975 Lecture

Should we kill the rats or is biological control preferable? R.V. ANDREWS .....	203
--	-----

1976 Lectures

Bicentennial Symposium

"Two Hundred Years of Agriculture in Nebraska"

A review of the evidence for aboriginal agriculture with special reference to the Nebraska area MARVIN F. KIVETT .....	209
The history of agriculture in the United States beginning with the Seventeenth Century ELVIN F. FROLIK .....	213

COLLEGIATE SECTION

Preliminary post-cranial metric analysis of mammoths from the Hot Springs Mammoth Site, South Dakota BARBARA LEE DUTROW .....	223
Some aspects of lithification in chalk NAGARAJA KIRUMAKKI .....	229

## EDITORIAL BOARD

The Editorial Board for Volume IV of the *Transactions* Consists of the Following:

Editor: .....	John Lynch
Managing Editor: .....	C.B. Schultz
Editorial Associate: .....	Anne M. Cognard
Division Editors:	
1) Anthropology: .....	Warren W. Caldwell
2) Biological and Medical Sciences: .....	Nikolaus Hansl and John Lynch
3) Dental Research: .....	Theodore J. Urban
4) Earth Sciences: .....	Russell Smith
5) Engineering: .....	Donald M. Edwards
6) History of Science: .....	Carl E. Georgi
7) Mathematics: .....	Walter Mientka
8) Philosophy of Science: .....	Werner Leinfellner

## EDITOR'S CORNER

Individuals wishing to submit a paper for consideration as a contribution to the *Transactions* should consult the back cover of this volume. Contributors should be members in good standing; presentation of a paper at the annual meetings is not a prerequisite of publication nor a guarantee of publication in the *Transactions*.

Two copies (an original and one carbon) of the manuscript should be sent to the editor or to the appropriate associate editor. Following review by outside reviewers and the editorial board, the author will be notified of the status of his or her paper.

The editor gratefully acknowledges the assistance of the many individuals who reviewed manuscripts submitted for this volume 4.

John D. Lynch, Editor  
School of Life Sciences  
University of Nebraska-Lincoln

## REPRINTS

Reprints may be ordered when galley proof is sent to authors. Purchase of reprints may be made through the Academy office.

C.B. Schultz, Managing Editor