

Zoologist Studies Local Paddlefish

... May Have Rare

Electrical Equipment

A renowned authority from Cambridge University has come to Nebraska to have a look at the snout-nosed Missouri river paddlefish.

The authority, Dr. Hans W. Lissmann, zoologist, chose Nebraska as the result of correspondence with University Professor Thomas B. Thorson, a zoologist whose piscatorial interests run more to sharks than to paddlefish.

Lissmann is investigating the paddlefish because it just might be one of the relatively few creatures which have rare electrical equipment.

Lissmann and a lot of other scientists can prove that many fishes, including catfish, transmit electric charges, some of which are known to be put to practical use.

Take, for instance, Professor Lissmann's Gymnarchus Niloticus—you have to take it scientific title and all because nobody has ever given it a common name. A liberal translation, however, is that

it is a naked-tailed fish found originally in the River Nile.

Gymnarchus transmits from its tail and receives in its head a constant stream of tiny electric charges and in the process establishes about itself an electrical field, or pattern, very useful in survival. When Gymnarchus gets close to materials which interfere with his normal electrical pattern, he gets the message and acts accordingly, maybe going on with his business or leaving.

Use of the electrical system enables Gymnarchus to go out to eat at night in comparative safety. In darkness most aquatic predators are inactive because they can't see. Gymnarchus can't see much either but with his electrical apparatus operating he doesn't need to. During the day he rests in places the predators can't reach.

In a sense, the Gymnarchus electrical system is better than radar which relies on the reflected "bounce" of an electric signal. Gymnarchus doesn't have to fool around with bounces; he gets the message direct when his pattern is disturbed.

Lissmann is the scientist who first proved the abilities of the Gymnarchus by a series of laboratory experiments with a specimen he has kept in a tank for more than 13 years.

The scientist says he is now certain that some other fishes and perhaps some amphibians make use of built-in equipment similar to that owned by Gymnarchus.

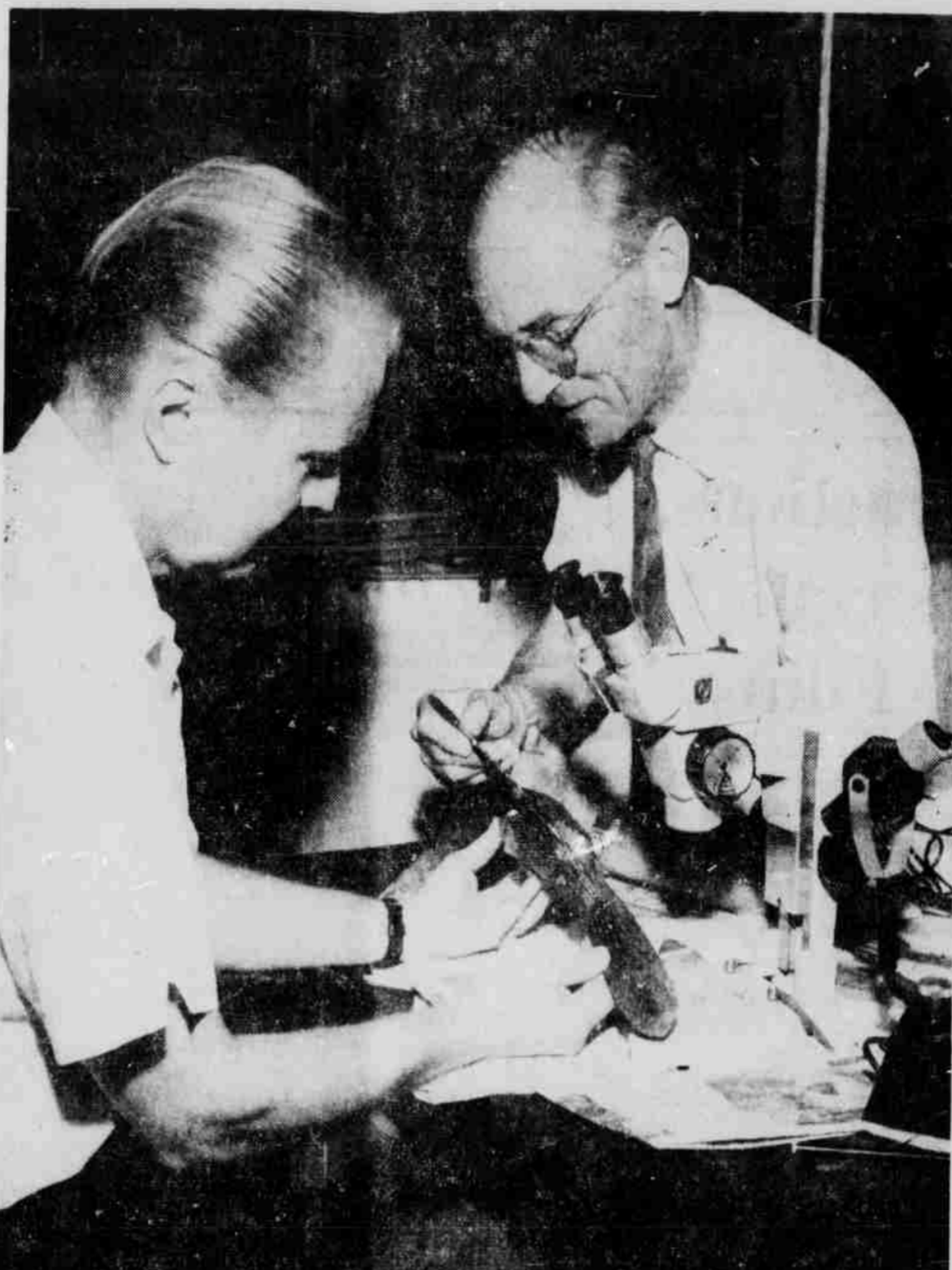
The paddlefish, because it has certain physical characteristics common to some of the electrical specialists found in Africa and South America, aroused his interest — and that's why he came to Nebraska. Paddlefish are believed to be found mainly in the Mississippi and Missouri rivers and not in very many other places.

After inspecting the brain mechanism of a preserved paddlefish in the University's zoological laboratory, Lissmann and Thorson went to the Gretna fish hatchery where Superintendent Gerhard Lenz provided a live paddlefish for inspection and "real life" electrical tests. The game commission habitually displays a pair of paddlefish at the state fair.

Lissmann's interest in electric fishes began years ago when he wondered why some few kinds of fishes swim in a rigid position without swishing their tails.

He has found out why Gymnarchus swims that way: his rigid, torpedo-like position is necessary for the effective operation of his electrical equipment.

What did Lissmann find out about the paddlefish? He said, "I got all I came for and more, really." But further laboratory studies are necessary before any conclusions can be reached.



SNOUT-NOSED PADDLEFISH — Dr. Hans W. Lissmann (right) of Cambridge University and Dr. Thomas B. Thorson of the University of Nebraska Examine the brain area of a paddlefish in search of electrical equipment.

Love Library Staff Prepares Supplementary Book List

Humanities Reading Room

Colette, **THE BLUE LANTERN**. This charming collection of reminiscences by the beloved French author gives the reader an insight into the personal likes and dislikes, and the always observant and slightly wistful view of life held by Colette.

Bejeman, John, **JOHN PIPER**. A brief biographical sketch is the introduction to John Piper, a well-known English painter. The chief appeal of this small book, however, lies in the sequence of plates which more than any text, illustrate the artistic development of Mr. Piper.

James, Henry, **FRENCH WRITERS AND AMERICAN WOMEN**; Essays. With the exception of only one essay in this collection, none of the pieces by James have been published in book form before. The scope of the essays is implied from the title and should prove of interest to any student of literature who wishes to gain further insight into James' opinions and views.

Science Reading Room

Shelford, Victor E., **THE ECOLOGY OF NORTH AMERICA**. Written by the foremost authority on the subject, this book is a general introduction to the biotic communities of America. It is well documented and illustrated with fine habitat pictures and

maps. Advanced and lay readers will turn to it again and again for information on all areas of this continent. The purist might consider it as a starting point for collecting material pertinent to vacationing plans.

Van Wormer, Joe, **THE WORLD OF THE BOBCAT**. A delightful collection of photographs of the bobcat in a wide range of moods and activities. The photos tell more than the text in this book, for some of the statements are vague and some are said to be incorrect by qualified reviewers of the work. However, it is still a valuable addition to wildlife literature, for little is known of this wild American cat.

Social Studies Reading Room

May, Edgar, **THE WASTED AMERICANS**; Cost of Our Welfare Dilemma. The author, a Pulitzer prize-winning newspaper reporter, wrote this book after masquerading for more than six months as a

welfare worker in Buffalo, N.Y. He attempts to excite Americans about the large group of people receiving public welfare.

Weyl, Nathaniel, **THE GEOGRAPHY OF INTELLECT**. Concerned with the distribution of brain-power in space and time. Gives interesting explanations for the differences in intellectual potential of the various races, peoples and regional groupings of mankind. Asserts that genetic factors play a major role in the rise and fall of civilizations. Controversial and engrossing.

Wilkins, B. Hughel, ed. **THE ECONOMISTS OF THE NEW FRONTIER**; An Anthology. A collection of articles by twelve economists, most of whom have made significant contributions to post-Keynesian economic thought. An excellent introduction to current economic theory and policy by men who see economics as operational in a mixed public-private economy.

KUON-TV To Produce Show On Beef Prices

The University's educational television station, KUON-TV, is one of seven stations in the nation selected to produce a program on a local issue of national importance, "The Cattle Crisis."

The program, a look at the decline in cattle and beef prices paid to producers, is being produced in cooperation with National Educational Television. It will be shown over 90 NET stations during the month of September.

Bob Dudley and Jerry DePruener of the KUON-TV staff are producing the program which will include the problems of lower prices paid to cattlemen and feeders, the cause of this problem, its effects on the producers and the total community, and possible solutions.

The program will include interviews with ranchers, feeders, bankers, senators, meat packers, economists, representatives of livestock and feeder organizations, University faculty members, and U. S. Department of Agriculture officials. Many of the interviews will be made in Nebraska.

This week's KUON-TV schedule:

- TODAY
 - 5:30 Fashion Sewing
 - 6:00 The Kyle Rote World
 - 6:30 We Care: Vocational aspects of rehabilitation
 - 7:00 Cultures and Continents: "A Far and Distant Land"
 - 7:30 The Indian Experiment: "Seven Hundred Thousand Villages" How does a man who lives in a small village keep in step with the 20th century? The Indian farmer tries. His life
- MONDAY, AUGUST 10
 - 5:30 Portrait: Polar Expedition: "Antarctica: The Geology"
 - 6:00 Music From Ohio State
 - 6:30 News in Perspective
 - 7:00 Backyard Farmer
 - 7:30 Flaherty Features: "Nanook of the North"

is bound by age old tradition, but his mind is eager to know what's happening today.

8:00 Antiques: "Pewter"

8:30 Portrait: Polar Expedition: "Antarctica: The Geology"

8:00 The Great Rivals

WEDNESDAY, AUGUST 5

6:30 The Indian Experiment

6:00 Eastern Wisdom and Modern Life: "Zen in Painting"

6:30 What In The World? It's a quiz game on ET-TV! The subject: archaeology

7:00 At Issue

7:30 This World Of Credit: "Credit Facts About You"

8:00 Jazz Casual: "Woody Herman and His Swingin' Herd"

8:30 Of People and Politics: "The Vice President" Of People and Politics surveys how the office of the vice-presidency has radically changed from one of inconspicuousness to active importance. The program also includes a discussion on the law of presidential succession.

9:00 Courtship: Whether father or daughter does the choosing, Courtship is an appealing subject to young and old alike. The story of courting customs around the world is told as N.E.T. travels to Sicily, Canada, Iran and India.

THURSDAY, AUGUST 6

5:30 Cultures and Continents: "Enameling and Silver Painting"

6:00 Science Reporter: "The Quieting Probe"

6:30 Antiques: "Empire and Victorian Furniture"

7:00 Paths: "The Pathway of Society: The Cities of Egypt"

7:30 Eastern Wisdom and Modern Life: "Zen in Painting"

FRIDAY, AUGUST 7

6:30 Courtship

6:45 Social Security In Action

7:00 Music From Ohio State

7:30 Science Reporter

8:00 Jazz Casual

8:30 Of People and Politics: "Nanook of the North" Films by the great Robert Flaherty illustrate his belief that "a camera left to itself can see better than the eye."

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