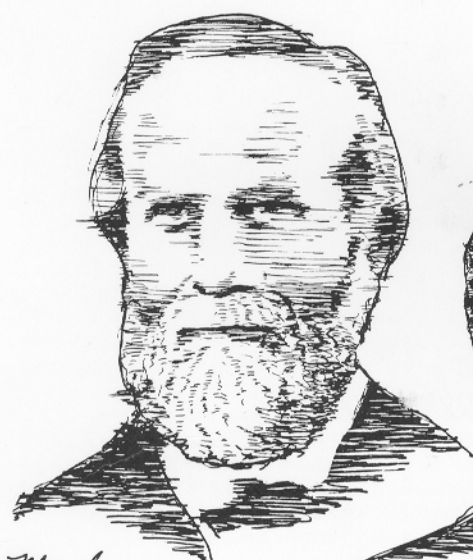


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Mudge



Swallow



Haworth

HISTORY OF GEOLOGY IN KANSAS

PREFACE

This group of papers on the "History of the Geology of Kansas" was presented at the annual meeting of the Kansas Academy of Science at Benedictine College in Atchison on 4 March 1983. They represent only a fraction of the subject matter that could be written on the early geological studies of Kansas, but hopefully they will add to the store of knowledge about a very interesting age in the development of the western United States. The first geological descriptions of present-day Kansas were only cursory and, in fact, side remarks of passersby. The first 'geologist' to make notes on the territory was Edwin James who accompanied the Major Stephen H. Long expedition of 1819-20. James noted a few geological boundaries and facts which were reported in 1823 as related in the article by Dan Merriam. Little geology was accomplished until the mid-1800's when B. F. Mudge undertook the first geological survey of the State as reported by Leroy Page. A second survey was performed by G. C. Swallow in 1865, but it was not until 1889 when the current survey was inaugurated that a systematic inventory of the geology of Kansas was begun. Events leading up to the creation of the third survey are described by Rex Buchanan.

The early work was conducted under great difficulties and hardships; most of it was accomplished on horseback or on foot. Rail lines stopped in the eastern part of the State and only wagon trails lead west, guarded here and there by army outposts with a few cavalry. Even in the 1860's Benjamin Mudge confined his studies to the eastern part of the State because of the general unrest of the Indians in the western part. Much of the work reported on the spectacular - fossil footprints, meteorites, giant sea reptiles, and toothed birds. Completion of the transcontinental railroads changed much of that and transportation now was available for all to see the 'Great American Desert.' The story of building the railroads is told by John Gries.

During the interim between the second and third surveys, geological work was accomplished by hearty individuals, and the results reported in the Transactions of the Kansas Academy of Science, an organization also deeply involved and perhaps largely responsible for formation of the third geological survey. In the mid and late 1800's Kansas yet was only a place to pass through on the way to the West. Roving bands of Indians made settlement and working in the western part of the State dangerous, if not impossible. However, the lure of the fossil beds in the Cretaceous was overwhelming. Stories of some who braved the dangers and difficulties to collect are told by Larry Skelton and Rick Zakrzewski.

The first note on geology in the State was by a Frenchman who explored the Kaw River Valley in the 16th century. He described the quartzite boulders and coal present in the area in his report. Recognition of the boulders, which now are known to be erratics left by the Kansan glaciers in the Pleistocene, and history of glacial geology studies are detailed in the paper by Jim Aber.

A common thread through the papers is the name of Benjamin F. Mudge. Mudge was the first state geologist, first professor of geology (at Kansas State College), an ardent collector of fossils, published the first geological map of the State, and a founder, leading proponent, and first president of the Kansas Academy of Science. He was well liked and zealously described by one of his colleagues and former students as "...loved and revered by the people of Kansas as perhaps no other citizen has ever been." An over exaggeration no doubt, but nevertheless Mudge made many and lasting contributions to the geology of Kansas.

These papers, then, should give the reader a flavor on the development of geology in one particular state in the western U. S. during the 19th century. With a change in names and places, the story could be repeated many times.

I want to thank the contributors to this symposium - their cooperation was appreciated. Jim Underwood of Kansas State University helped organize the symposium and presented a paper on the development of the geology program at K-State, but the written version was not available for publication. Lois Brane of Wichita State University typed and proofread all the manuscripts, and Steve Van Buskirk, also of WSU made the line drawing and designed the cover. Also, I would like to thank especially Wichita State University and the State Geological Survey of Kansas for support of this publication.

D. F. Merriam
The Editor

EDITORIAL

This issue completes our third year of publication. In four years we have come a long way: from a dream, namely the prospect of a journal, to solid achievement of a total of five issues over a three-year span. I want to thank the editors of each special publication for their dedication and the authors for their fine contributions. In June 1984, Hugh Torrens and I met together in the Cotswolds of England in the gardens of a pub to go over the final manuscripts of Torrens' masterly issue on the European history of geology. Sue Friedman, as always, helped us with the mechanics of journal matters.

In September I exhibited our journal at the Department of Geology of the University of Glasgow, Scotland, on the occasion of a joint symposium of the Geological Society of London and the International Geological Correlation Program. Our European issue aroused a special interest because Glasgow authors had contributed and Scottish and English history of geology ran prominently in the pages of this issue.

In the current issue Daniel Merriam put together a symposium on the history of geology of Kansas. This symposium fills only part of an issue; the rest has been filled with volunteer and invited papers. Among the invited papers which have been included is that of Frederick Burkhardt on Charles Darwin. Burkhardt is the official compiler and editor of Darwin's papers which have recently appeared in print. Ellis Yochelson and I invited the contribution by Helmut Flügel which throws interesting new background on Wegener. On a visit to the Geological Survey of Israel in Jerusalem, I invited the paper by Dov Ginzburg which I had heard at the International Geological Congress in Paris in 1980. This paper covers an area of interest which I had not seen previously among similar contributions.

I want to express my special thanks to the members of the editorial committee. Most agreed to serve while our journal was only a dream. With this issue some of these members will be outgoing and others will take their places. Among those outgoing are Donald Fisher of the New York State Geological Survey, now retired, and Michele Aldrich of the American Association for the Advancement of Science. Don Fisher was most supportive in the early stages in establishing our journal and Michele Aldrich has been a pillar of our society and our journal. John Haller of Harvard University, one of the first appointed members of the editorial committee died a few months ago. I recruited him while on a field trip in central Sweden. He provided early support to our efforts to establish this journal and I speak both for the journal and society in expressing our thanks for his contributions and our condolence on his parting.

Incoming members of the editorial board include Stephen Jay Gould of Harvard University, Barry Cooper of the South Australian Department of Mines and Energy, Eastwood, South Australia, and Helmut Flügel of the University of Graz, Austria. My thanks are extended to these incoming members for their willingness to serve. They will be listed in the first issue for 1985.

Lori Parrott served as editorial intern for one issue at no cost to the society and as managing editor for another issue. The current issue has been prepared by Christine Worden who serves as managing editor. Dan Merriam visited us at the Rensselaer Center of Applied Geology to discuss this Kansas issue with us; his visit helped to expedite the current issue.

Sue Friedman staffed the booths displaying our journal at the meeting of the north-eastern section of the Geological Society of America in Providence, Rhode Island, and at the eastern section meeting of the American Association of Petroleum Geologists in Pittsburgh, Pennsylvania. Such displays of our journal stimulate interest.

I want to thank Ellis Yochelson and Sue Friedman for their important contributions to the success of our journal and to the officers of our society for their support.

Gerald M. Friedman
Editor