

A BIBLIOGRAPHY OF GEORGE POULETT SCROPE, GEOLOGIST, ECONOMIST AND LOCAL HISTORIAN, by Paul Sturges, 1984. Number 24 in the Kress Library of Business and Economics Publications Series, published by Baker Library, Harvard Business School, 85 p.

Available from the Publications Office, Baker Library, Harvard Business School, Soldiers Field, Boston, MA 02163. Cost: \$8.00 plus \$1.50 postage and handling. Prepayment is required on all orders under \$10.00. In Europe it is also available from the Wiltshire Archaeological and Natural History Society, The Museum, 41 Long Street, Devizes, Wilts. SN10 1NS, England, for 8.00 plus postage.

The problems facing the historian are legion. Locating original sources is one obstacle and the difficulties of analysing historical figures who espoused a very much greater breadth of interest than one's own is another.

In this fine Bibliography Paul Sturges has put us all in his debt by tackling both of these problems as they relate to G. P. Scrope, (1797-1876). The basic Bibliography lists 175 items with Periodical Articles separately analysed from Books and Pamphlets year by year from 1822 to 175. This occupies 38 pages with a complete title index of an additional 7 pages. It is a model Bibliography identifying a number of previously unascrbed anonymous items, which had earned their author the sobriquet 'Pamphlet' Scrope. Complete collations and locations culled from 5 British and 4 American libraries are given; with additional different Chicago locations for the two items not in any of these nine. Many of the items are further annotated with notes on the content and significance of each. There are also copies of two likenesses of Scrope, and reproductions of two title-pages and of two views of Castle Combe, Scrope's English base in Wiltshire for many years. All this is beautifully type-set and carefully presented.

The Bibliography is preceded by a biographical sketch of Scrope pointing out his multi-faceted career as a writer and thinker across politics, economics, local history and geology. Paul Sturges advances our knowledge of a man who has never attracted a full biography, and notes the changes in his name which have confused previous authors. Occasionally our appetite is merely whetted when for instance we are told that the migration of Scrope (as he was later to call himself) from Oxford University to Cambridge University in 1816 was likely to have been "in search of intellectual stimulus". This needs substantiation. Similarly one would like more information as to the influences which drew Scrope to the study of geology. Although those of his teachers at Cambridge are clear we have still to learn what influence W.T. Brande (1788-1866) may have been to whom

Scrope's first publication was addressed and to whose lectures at the London Royal Institution Scrope was an Annual Subscriber early in 1821, before his marriage and adoption of the name Scrope.

Sturges documents both Scrope's important and significant role as a reviewer and the connection between his economic and geological philosophies, to which Martin Rudwick has previously drawn attention. Sturges also provides a fascinating insight into Scrope's illicit relationship with a London actress who bore him a son!

Paul Sturges is well known as a local historian and a bibliographer of economics but perhaps his judgement on geological matters can be questioned a little at times. He claims of item 126 on the Geology of Wiltshire of 1859 that it is "a fine paper....an orderly synthesis of local geological knowledge" and which "sets standards". He also records that this was reprinted (item 130) as a pamphlet in the same year with a geological map added. Yet this map also formed part of the original publication and was also available as a separate publication (and until 1948!) This could constitute an additional item for the bibliography if maps are considered. More significantly this map was a revised version of the map originally issued as far back as 1819 by William Smith and we need clarification of what exactly Scrope's revision comprises.

Sturges calls Scrope's work in geology his greatest achievement adding that "only in geology did he achieve a position of quite the highest eminence". Basing his judgement largely on Scrope's books of 1825 and 1827 on volcanoes, Sturges seems to have followed an Anglocentric tradition which gives him this high eminence. French views of this could be different for some have complained of Scrope's unconcern for matters of biographical and bibliographic accuracy, especially concerning earlier French students of volcanoes. Such inattention to accuracy cannot be found in this bibliography, which gives us a firm foundation from which to assess Scrope's many contributions, and is a major addition to bibliography.

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METROPOLIS AND PROVINCE, SCIENCE IN BRITISH CULTURE, 1780-1850, edited by Ian Inkster and Jack Morrell, 1983, published by Hutchinson and Co. Ltd. 288 p. Price: 17.50.

Studies in the social history of science, documenting the interactions of scientists in and out of science, are on the increase at last and this is nowhere better

demonstrated for British science during part of the first industrial revolution than in this useful volume. The book contains the following nine essays, with general and name indices:

1. Introduction: Aspects of the history of science and science culture in Britain, 1780-1850 and beyond Ian Inkster.
2. Whigs and savants: reflections on the reform movement in the Royal Society, 1830-48, Roy M. MacLeod.
3. The London lecturing empire, 1800-50, J. N. Hays.
4. The British Mineralogical Society: a case study in science and social improvement, Paul Weindling.
5. 'Nibbling at the teats of science': Edinburgh and the diffusion of science in the 1830's, Steven Shapin.
6. Science in a commercial city: Bristol 1820-60, Michael Neve.
7. Rational dissent and provincial science: William Turner and the Newcastle Literary and Philosophical Society, Derek Orange.
8. Economic and ornamental geology: the Geological and Polytechnic Society of the West Riding of Yorkshire, 1837-53, Jack Morrell.
9. Medical elites, the general practitioner and patient power in Britain during the cholera epidemic of 1831-32, Michael Durey.

Only two relate directly to the earth sciences, namely essay four on the long neglected British Mineralogical Society (BMS) which "flourished" from 1799 and whose history is properly documented here for the first time; and essay eight on the later Geological and Polytechnic Society (GPS) of the West Riding of Yorkshire over 1837-1853. Both demonstrate that much of the basis for geological activity in this whole period was motivated from a practical and economically oriented base.

Weindling's fine study places the BMS in its contemporary London context and provides a useful biographical dictionary of its members (pp. 138-142). But he does not list all the provincial corresponding members which is a missed opportunity. He carefully analyzes the activities of the contemporary Askesian Society which shared some BMS members and shows that the latter was not a specialized group of the former. Paul Weindling also takes issue with the 'marginal men' thesis of one of his editors by which it was claimed that members would secure social legitimation and heightened status in associating with such societies. He makes the additional point that at the time of the BMS it was now becoming possible to earn a living as a practitioner of science, whether by writing,

lecturing or analysing samples. The economic significance of the Society was thus at two levels, in helping members advance their careers and in advancing the exploitation of mineral resources owned by those who approached them.

In December 1806 the BMS amalgamated with the Askesian Society and the surviving MSS minutes of the former cease. Weindling is clearly, for this reason, uncertain about the demise of the BMS which he gives as circa 1806. There is clear evidence that it continued, for in June 1807 the BMS issued a testimonial in favour of James Ryan's patent strata-boring device which was also very economically motivated. Another source speaks of the new amalgamated Society as apparently still in existence in 1811. Previously it has been assumed that the BMS grew into the Geological Society of London founded in 1807 but this needs proof. These difficulties reinforce the point made by Weindling who (p. 122) notes the real "lack of knowledge of London's cultural and social structure".

Jack Morrell's equally painstaking analysis suffers less from such problems as the GPS was a later creation when printing was cheaper and printed records of the GPS available. But Morrell has been assiduous in seeking archival sources to penetrate behind this printed face presented by the Society. This Society was formed when geology was nationally on the ascendant, to fill a gap in the study of Yorkshire geology by concentrating on the Yorkshire coalfield in hopes of improving the knowledge of its stratigraphy and the technology of its mining. But after a healthy start, as Jack Morrell so well chronicles, the Society could not sustain this programme and succumbed in 1853 for reasons which are also well explored.

The other papers here include a study of the medical profession during the cholera epidemic of 1831-32, a study of the reform movement in the Royal Society over 1830-1848, at a time when the Geological Society was held up as a model metropolitan society, and a study of the London lecturing empire of 1800-1850 which sadly hardly mentions the increasing popularity of geological lectures like those of Robert Bakewell from 1810. Instead it concentrates on institutional activities in the field and the provision of medical and technical lectures.

The remaining papers apart from the valuable if complex and at times obscure overview by Ian Inkster deal with science in the provinces. Michael Neve covers Bristol over 1820-60. Derek Orange covers Newcastle-on-Tyne from 1793 and if the Scots will allow a provincial tag, Steve Shapin on Edinburgh in the 1830's. In fact as Shapin shows Edinburgh was a metropolis for Northern Britain where a very active and long lasting science culture was supported. The complex politics of this in the 1830's are here examined in detail.

The Newcastle study revolves around the Literary and Philosophical Society there and William Turner, a corresponding member of

both the BMS (1800) and the Geological Society of London (1807). This study by Derek Orange shows the vitality of provincial science, and how much the economic importance of the nearby coal and metal mines encourages the study of geology in the early years of this Society. Bristol is examined in the context of the formation of the Bristol Institution in 1823. Neve calls the scientific culture of Bristol slighter and more conservative and more merely imitative of the metropolitan than other areas. This will be debated.

The volume is a very valuable addition to the literature and should encourage us to give more consideration to the context of the science whose history we study. But it should not blind us to the fact that such studies are only just beginning and that we will need to dig much deeper before we really know what that context was.

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Voltaire's Attitude Toward Geology, Societe de Physique et d'Histoire Naturelle, by Marquerite Carozzi, 1984, 146 pp. May be obtained by writing: Societe de Physique et d'Histoire naturelle, Museum de Geneve, case postale 434, CH-1211 Geneve 6.

This monograph constitutes the published version of a doctoral dissertation presented to the University of Illinois in 1981. The object of the research was an examination of all of Voltaire's writings pertaining to Earth science, with a view to counter the prevailing view that he had a negative attitude towards the subject, arising partly from prejudice and ignorance and partly from his deism, which supposedly precluded his admission of the possibility of significant past changes to the surface of the Earth.

For most historians of science, Voltaire's geological ideas may be summed up in his satirical suggestion that the marine fossil shells found high in the Alps had been dropped there by pilgrims returning from the East. But, as Carozzi shows, there was much more to it than that. When he first made this suggestion, Voltaire was not greatly interested in geological phenomena, and was unwilling to accept some of the elaborate theories of the Earth then available in the literature, seemingly based on the evidence of a few humble shells. During the latter part of his life he considered the question more deeply, and began to gather his own empirical evidence. He took particular issue with the theories of de Maillet and Buffon, which suggested that (somehow) mountains might be formed by the heaping up of material under the sea, and then by the drying up of the seas (de Maillet), or by a continuous movement of waters round the globe (Buffon). Thereby, it was supposed, mountains might be exposed, revealing marine fossil contents. Voltaire, an early student of Newton, rightly protested that such schemes were mechanically

(or hydrostatically) impossible, and he found himself driven to adopt the conclusion of Kricher that mountain chains were primordial features of the Earth's surface.

But what of the problem of the shells? Carozzi's researches now reveal the considerable extent of Voltaire's writings on geology in his later life, in scattered pamphlets, and also as components of more substantial works. More particularly, she shows that he undertook some personal investigations of the fossil shells in his home district near Geneva, which, by making comparison with modern terrestrial shells, he rightly showed were of non-marine origin. Voltaire also had rock samples sent to him from the Touraine in France, and claimed that some of these contained the remains of fresh-water shells, which argued against a marine inundation in that region. Carozzi shows that both sets of observations were compatible with modern opinion (though in fact criteria for distinguishing between marine and fresh-water shells were not sufficiently established in the eighteenth century). However, when Voltaire sought to account for the ammonite remains in the Jura Mountains he was baffled. He knew of no modern analogues and simply had to regard them as "petrified stones".

As a young man, Voltaire looked for a general synthetic system that would make clear all natural phenomena. If some humble shells should stand in the way of such a grand explanatory synthesis, then it was too bad for the shells. They could be dismissed with a deft ironical stroke of the eminent writer's pen. As the philosophe aged, he came to realise that it was necessary to take all possible evidence into account, even if that meant foregoing the luxury of grand intellectual synthesis and explanatory system. Thus we have the publication in 1768 of Les Singularites de la Nature, which included many matters pertaining to Earth science. By this time, Voltaire had made geological observations of his own, such as those briefly described above (which was not the case when he made up his pilgrim story), and the magnitude of the task of preparing an adequate "theory of the Earth" had come to be recognized. This is a matter of some importance, for it should serve as a caution to those who might wish to characterize Enlightenment thinkers as supposing that all problems were essentially soluble, given the right methods and the removal of obscurantist thinking. To be sure, Voltaire remained an opponent of obscurantism until the end of his life, but as he advanced in years the problems of science seemed to grow more complex, rather than displaying a progressive simplification.

The particular strength of Carozzi's text is its examination of (so far as I can judge) the full range of Voltaire's thinking and writing on matters pertaining to Earth science considering archival material as well as published works. Thereby, light is thrown on some hitherto little-known features of "geological" thinking in the eighteenth century, with some new insights into the public reception of works such as those of de Maillet, Robinet, Buffon, Bertrand, etc. (regarding Voltaire as a "public receiver"). On the

other hand, it must be acknowledged that Voltaire's own contributions to "geological" thought were very minor, so reading this text will tell us much more about the philosophe's life and work than about the history of geology.

The text shows its origins as a doctoral dissertation rather more clearly than one might wish, and might have benefited from some stylistic revision prior to publication. In particular, the provision of English translations of the numerous French quotations, and the placement of the latter in the footnotes, would have been worthwhile. However, so far as I am able to judge, the text is largely accurate in points of detail, though there seems to be some confusion with respect to the publication of the first printed version of Leibniz's Protogaea. To my knowledge, this appeared in the form of a one-page summary in the Leipzig Acta Eruditorum in 1693. Presumably it was circulating in manuscript at that time, so that Fontenelle could give a review of the work in the Histoire of the Academy of Sciences in 1706, providing more detail than was available in the Leipzig summary. However, Carozzi has apparently used the 1859 French translation of the full 1749 Latin version for her account of Leibniz's views, and consequently she assumes that certain ideas of Leibniz's on Earth science were published in 1693, which was not the case. However, this does not mean that Leibniz did not hold such views at the end of the seventeenth century, so Carozzi's argument is not invalidated by her use of the nineteenth-century edition. A little more caution would have been advisable on this point.

The monograph concludes with a facsimile edition of a very rare pamphlet that Voltaire published in Italian in 1746: Saggio Intorno ai Cambiamenti Avvenuti su'l Globo della Terra.

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A History of the Oklahoma Geological Survey 1908-1983 by Elizabeth A. Ham, 1983. Oklahoma Geological Survey Special Publication, 83-2, pp. 63. (Available from Oklahoma Geological Survey, 830 Van Vleet Oval, Rm. 163, Norman, OK 73069.)

The Oklahoma Geological Survey is unique among U.S. state geological surveys in that it was created by a directive in the state's original constitution. It is arguable, therefore, that the Survey was brought into being in the year of Oklahoma's statehood, 1907; but in practice it began to operate one year later, in 1908. Its effective founder and first (and fourth) Director of Oklahoma's Department of Geology. The innovative approaches adopted by Gould set the pattern for an organization whose subsequent achievements have placed it at the very forefront of U.S. state surveys and, indeed, of geological surveys world-wide.

Nevertheless, the history of the Survey has been by no means tranquil. Twice its appropriation has been cancelled; in the first instance briefly, in 1923-1924, by State Governor Jack Walton (subsequently to be impeached and convicted for his other misdoings) and in the second instance more lengthily, between 1931-1935, by State Governor "Alfalfa Bill" Murray. After that long hiatus, Robert H. Dott took over as Director in the heart of the Depression. During his long period of service (1935-1952), Dott re-established the Survey in the regard of the Oklahoma public, so completely that it has never since been menaced by politicians. The State Mineral Survey, which Dott brought into being, was indeed to prove one of the greatest public achievements of the Depression years.

After the brief service of William E. Ham, who was prevented from developing many of his projects by having been appointed only Acting Director, an a period of coasting along under Carl Colton Branson's unforceful leadership (1954-1967), the Oklahoma Survey was given a new dynamism by the appointment of Charles J. Mankin as Director. His reign has lasted twenty years now and its achievements may be perceived by perusing any of the high-quality maps and publications that have appeared in profusion during these years.

Mrs. Ham's account follows the pattern of official histories in that it skates over the difficult times and sedulously avoids commenting upon the motivations and misdoings of politicians, even when baneful to the Survey (though sometimes her failure to comment positively, or at all, can carry its own message to the perceptive reader!) Nevertheless, it breaks away from that pattern in that, unlike the generality of such histories, it is not dull. Her writing style is lively, lucid and idiosyncratic; the proof-checking has been meticulous; and the illustration and general production of this little book are quite up to the high standards one has come to expect in any Oklahoma Geological Survey publication. Though a more searching and analytical history is to be hoped for in the future, this one will do very well in the meantime.

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Agriculture in America, 1622-1860: Printed Works in the Collections of the American Philosophical Society, the Historical Society of Pennsylvania, and the Library Company of Philadelphia by Andrea J. Eucher. New York and London: Garland Publishing, 1984. XIII-212 pp.

Anyone even remotely interested in the history of American agriculture would probably suppose that these three libraries would hold collections of agricultural works. This bibliography proves that they indeed do.

Anyone, professional historian or amateur antiquarian, may want to use the printed materials but will surely not need the bibliography as a guide. The simple existence of the bibliography, however, may keep librarians from declaring that their collection contains no works on agriculture.

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SHEETS OF MANY COLOURS: THE MAPPING OF IRELAND'S ROCKS, 1750-1890 (Royal Dublin Society, Historical Studies in Irish Science and Technology, 4) by Gordon L. Herries Davies. 242 p. Available from Dr. R. Charles Mollan, Science Officer, Royal Dublin Society, Thomas Prior House, Ballsbridge, Dublin 4, Ireland for IR-15.00 + IR-1.50 postage and package.

This book is the fourth volume in the Royal Dublin Society's series of historical studies in Irish science and technology. This series began publication in 1980 to draw attention to the achievements of Ireland's scientists of the past.

Although its title suggests a cartographic study the book is biographical. Author Harries Davis is an established contributor in the history of geology being the author of "The Earth in Decay: A History of British Geomorphology, 1578 to 1878" (McDonald, London, England, 1969). He serves as Chairman of the National Committee for the History and Philosophy of Science of the Royal Irish Academy. Davis is a professor at Trinity College, Dublin, Ireland, where one of the fathers of modern geology, William Smith, received his only degree. Smith's classical 1815 Map and Memoir of England and Wales are held up as the hallmark in the history of early geological cartography. Why would an Irish college present an honorary degree to Smith when English and Welsh institutions did not see fit to do so? This book in a sense, explains why. Geological mapping and cartography were appreciated in Ireland early on. Whereas Ireland has been commonly represented as a geological backwater of little concern to the historian of the geological map, in actuality the reverse holds true. Ireland nurtured notable pioneers of geological cartography and possessed an official geological survey ten years before the establishment of a similar geological survey in England. Far from being a backwater, from 1750 on Ireland was a scene of vigorous innovation in geological cartography. During the early 1840's the future of geologic mapping in the British Isles depended on events in Ireland.

The history of Ireland's mapping is traced in this book in seven chapters in which an emphasis is placed on the key personalities, including Richard Griffith (1784-1878) known as the father of Irish geology, Joseph Beete Jukes, (1811-1869), Sir Roderick Impey Murchison, Director General of the Geological Survey of Great Britain and Ireland from 1855 until his death in 1871, Sir

Andrew C. Ramsay, Director General of the Geological Survey from 1872 to 1881, and Sir Archibald Geikie, Director General from 1882 to 1901, to name just a few.

Photographs, both in black and white and in color, make this book an attractive volume. I enjoyed author Davis' anecdotes and stories, and his skill in relating the scope of geological discovery and the excitement it engendered. It is a highly readable account.

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GUIDE TO THE CHARLES D. WALCOTT COLLECTION, 1851-1940 by William R. Massa, Jr., 1984, Washington, D.C.: Smithsonian Institution Press, 1984, illustrations, index, p. v + 80, paperback.

This volume is the second in an occasional series of guides to collections in the Smithsonian Archives. The first volume Guide to the Papers of Waldo LaSalle Schmitt was published in 1983. Also available in 1983 was a revised Guide to the Smithsonian Archives containing summary descriptions of the Archives processed collections.

Charles D. Walcott, a paleontologist, began Federal service as an Assistant Geologist with the United States Geological Survey in 1879, the same year the agency was established. Steady advancement in the Survey culminated in his appointment as its third Director in 1894, a position he held until 1907. From 1892-1907 Walcott also served as honorary curator of invertebrate Paleozoic fossils at the United States National Museum. In 1907 he was appointed Secretary of the Smithsonian Institution. Walcott was active in numerous professional organizations and prominent in the development of a national science policy.

The Charles D. Walcott Collection documents his official, professional, and private family life. The contents of the collection are organized and described in the Guide in 20 divisions according to type of document or subject. The divisions include personal and family correspondence, diaries, scrapbooks and clippings, speeches, Geological Survey materials, manuscripts, field notes and drawings, professional society materials, photographs, and publications. The records comprising each division are summarized in a descriptive statement. A folder list follows each statement. The individual folder content information, consisting of type of record and/or subject and date span, is detailed enough to enable a researcher to make an informed selection of records for review directly from the Guide.

In addition to the thoughtful organization and presentation of a complex collection, the Guide also includes an informative biographical sketch, a chronology of events in Walcott's professional and personal life, and illustrations.

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MEMOIRS OF A UNREPENTANT FIELD GEOLOGIST - A CANDID PROFILE OF SOME GEOLOGISTS AND THEIR SCIENCE, 1921-1981, by Francis J. Pettijohn, 1984, The University of Chicago Press, Chicago, Illinois 60637, 260 p., \$25.00, (hard-bound).

This bold, stimulating and nostalgic book shows by example that the history of geology, to be successful, must be integrated with the cultural and social milieu. It does not live in a vacuum, it is a product of its time. American geology in the interim between the two world wars was a period of consolidation and geology departments lived largely on their past laurels. In the late 1940's a new era erupted which saw tremendous expansion in the fringe areas of the earth sciences, including geophysics and geochemistry, meteorology, and oceanography. As Pettijohn puts it "these developments infused new life, new techniques, and new ideas into a discipline grown stale." Radioactive isotopes provided a new clock, stable isotopes a thermometer, magnetometer, scintillometer, seismic techniques and remote sensing a new look at the earth, oceans, and atmosphere, paleomagnetism and other sciences revolutionized geology through continental drift and plate tectonics. Such overwhelming results changed the face of geology, including that of sedimentary deposits, and the concomitant establishment of sedimentology as a subdiscipline of geology. Pettijohn was in the midst of these developments and knew the principal players. Hence this book is not strictly an autobiography; it reflects largely on the development of sedimentary geology as we know it today and on the actors involved.

Francis John Pettijohn in the first chapter traces his origins in mid-America of the early part of this century, including his field excursions which led to his interest in geology. At the University of Minnesota he found that his original decision to major in geology was correct. As the field assistant to Frank F. Grout who also served as this reviewer's Ph.D. advisor in 1951 and 1952, Pettijohn found his mark. In his second chapter Pettijohn explains his environment in the Department of Geology at the University of Minnesota and evaluates his peers. In subsequent chapters he relates his experience at Oberlin College, a small liberal arts college in Ohio, his canoe voyage through northwestern Ontario, Canada in 1927, and his year of graduate school at Berkeley. Three following chapters form the core of the book: Pettijohn's studies of Precambrian

rocks, his long tenure (23 years) at the University of Chicago, and his work, since 1952, at John Hopkins University. The book concludes with reflections on sedimentology, on field geology, and on academia.

Pettijohn observes geological faculties, including and especially chairmen. His candidness in describing the work, personalities, and traits of his colleagues and students makes this book fascinating, even gossip, reading.

Much useful advice pervades the pages. Among these: put on your field boots, take hammer in hand, and meet the rocks in exposures.

I would like to differ with Pettijohn on Frank Grout. Pettijohn calls Grout's book Petrology and Petrography a failure and that Grout "never received the acclaim due him." When I studied petrology at Columbia University, S. James Shand, one of the most renowned petrologists in his time, took early retirement. The Columbia University geology faculty was at the time the most prestigious in the United States and invited Grout who was acclaimed as "the petrologist of most stature in America" to join its faculty to replace Shand. Thus I had close contact with Grout and appreciated his contributions to the science. His textbook was widely used, including by my students at the University of Cincinnati. My colleagues at Cincinnati, Gordon Rittenhouse, distinguished sedimentologist and M. Gordon Frey, distinguished geophysicist were Grout's students and considered him likewise at the forefront of petrology. I was a bit shocked at Pettijohn's evaluation of Grout. Needless to say this is a minor criticism of a book that has spunk.

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THE COMPASS OF SIGMA GAMMA EPSILON, 1984, V. 61, No. 4, D. F. Merriam, ed., 830 Van Vleet Oval, Room 163, The University of Oklahoma, Norman, OK 73019, p. 153-248, \$3.00 (paper).

This is not so much a review as it is an announcement; indeed in some quarters this might well be viewed as a commercial. Nevertheless, I will proceed! The 1984 National Convention of Sigma Gamma Epsilon was held at the Rensselaer Center of Applied Geology in Troy, New York, run by Gerald M. Friedman, under the auspices of SGE President Gerald M. Friedman. The issue of The Compass prepared for the occasion contains four articles on geology, one by Friedman and three others with Friedman as one of the authors. The material covered focuses on the eastern New York area.

The emphasis in the articles is on the geology of the region, not directly on the history of the geologic investigations. However, some historical data are included. In this region rocks of two different environments occur. One is the stable platform, the other the subsiding basin. Those who wish to get a quick notion of the concept of the geosyncline, could read this issue with profit. In addition, this is the area of the "Taconic controversy" or controversies. Just what has happened in the Taconic Mountains has occupied geologists for nearly two centuries, and has provoked conflicts which continue to be analyzed by historians. Neither the investigations of the rocks or analysis of the egos has been completed. The articles are clear and well written, as is much of the material which appears in this journal. It deserves to be more widely read.

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NOW AVAILABLE IN PAPER

GEOLOGY IN THE NINETEENTH CENTURY: CHANGING VIEWS OF A CHANGING WORLD by Mott T. Greene. 328 p., 14 black-and-white illustrations. Publication date: March 1, 1985. Cost: \$12.95. Available from Cornell University Press, 124 Roberts Place, P.O. Box 250, Ithaca, NY 14850. For more information, please call Claudia Fuchs, (607) 257-7000.

Green traces the history of geology in nineteenth century Europe and America in this first treatment of the topic since 1900. His book is a clear and comprehensive introduction to geological thought of the period and a long-needed reexamination of its history.

Greene asserts that the standard accounts of nineteenth century geology, which dwell on the work of Anglo-American scientists, have obscured the important contributions of Continental geologists; he balances this traditional emphasis with a close study of the innovations of the French, German, Austro-Hungarian, and Swiss geologists whose comprehensive theory of earth history actually dominated geological thought of the time.

"A coherent intellectual history that will impress the geologists by its mastery of technical materials, the professional historian by its scope, and the general reader by its accessibility and pace....This book deserves serious attention not only from geologists and historians of geology but from all those who are interested in the evolution of science."--Science

"As a history of tectonic thinking this is a major--sure footed in handling complexities, astute in its attention to both theory and practice, ideas and individuals; international in scope; proficient in its geology yet alert to the impact of wider intellectual currents and other sciences....This book will deservedly take its place as a milestone in the history of geology."--Nature

CORRECTION

Edmund Berkeley has pointed out an error in my review of "American Science in the Age of Jefferson" (Earth Sciences History, V. 3, No. 2, p. 188-190). George William Featherstonhaugh, not William Cooper, was the publisher of The Monthly American Journal of Geology and Natural Science.

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INTERESTING PUBLICATIONS

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NEW JOURNAL

QUIPU, Revista Latino Americana de Historia de las Ciencias y la Tecnologia, V. 1, No. 1, Otono 1983. Apartado Postal 21873, C. P. 04000 Mexico, D. F., Mexico, Precio: \$5.00 Dis. Subscripciones: Individual (1 año): \$12.00 Dis., Institucional: (1 año): \$25.00 Dis. Nota: En Mexico el equivalente en moneda nacional.

CALENDAR OF EVENTS

1-8 August - International Union on History and Philosophy of Science, Berkeley, California. (Michelle Aldrich, AAAS, 1976 Massachusetts Avenue, NW, Washington, D.C. 20036).

Tentative speaker list for geology:

Bruce Bolt	"Development of Earthquake Seismology in the USA Western United States"
Douglas Basset England	"Frederick John North, Interpreter and Historian of Geology"

INHIGEO's XIIth Symposium, "The Influence of Scientific Organizations on the Development of Geology," formed part of the fourth meeting of European Geological Societies (MEGS 4) held at the University of Edinburgh during April, 1985. Gordon Craig (Edinburgh) and Gordon Herries-Davies (Dublin) co-chaired the 14-paper symposium on April 11-12. These papers will be published in the Royal Society of Edinburgh's *Transactions*. MEGS 4 and INHIGEO participants were the guests of Her Majesty's Government at evening receptions held at the Royal Scottish Museum, which displayed an exhibit and color brochure on "Geology Serves the Nation: 150 Years of the British Geological Survey," and the BGS' Murchison House.

To mark its own sesquicentennial, the Edinburgh Geological Society and other organizations arranged for a facsimile reprint of the 1939 printing of the manuscript color geologic map of Scotland (1808) by Louis Necker (1786-1861), who used Thomas Kitchin's 1:800,000-scale map as a base. Copies of the facsimile of Necker's map are available for £2.50 (plus postage and packing) from the EGS' Publications Sales Officer, Kings Buildings Centre Library, West Mains Road, Edinburgh, EH9 3JF. R. B. Wilson's single-volume history of the BGS will be printed by the Scottish Academic Press later in 1985.

For 20-plus historian-geologists who had attended the symposium, Craig arranged a 4-day excursion during April 12-15 to "Some Classical Geological Localities in Scotland," including several of the outcrops that Hutton visited in the 1780's to gather evidence for his *Theory of the Earth* (1795). These places included the famed unconformity at Siccar Point and key intrusive and related features at Salisbury Crags and in the Southern Highlands. The localities were chosen "to show Hutton's power of observation (aided and abetted by the artistic hand of John Clerk of Eldin) and demonstrate that the Earth indeed is a machine fired by heat." Referring at these sites to Hutton's and Playfair's descriptions, and to Clerk's drawings published in 1798, enabled participants to see through their eyes vital evidence for the Huttonian Theory. The excursion also included an excellent evening buffet at the RES, and a tour of its portraits, books and manuscripts, and, at Kinnordy House in Angus, a superb buffet luncheon hosted by the present Right Honourable Lady Lyell who opened Sir Charles Lyell's library and some of his manuscripts to the participants.

The XIIIth INHIGEO Symposium, on topics in the history of stratigraphy and paleontology, will be held in Pisa, just before MEGS 5 at Dubrovnik in September, 1987.

In early April, memorial services were held for George W. White who passed away this past February.

Dr. White was born July 8, 1903 at North Lawrence, Ohio. He graduated from Otterbein College, Westerville, Ohio, in 1921 and received a master's degree in 1925 and a doctoral degree in 1933 from Ohio State University.

He became an instructor in geology at the University of Tennessee in 1925 and served on the faculty of the University of New Hampshire from 1926 to 1941. He was a professor of geology at Ohio State University from 1941 to 1947, when he went to the University of Illinois as professor of geology and department head, a post he held for 17 years. He was research professor at the UI from 1965 to 1971, when he became research professor emeritus.

His research in glacial geology and its application to engineering groundwater and general environmental geology was supported by appointments to the U.S. Geological Survey from 1942 to 1946 and from 1949 to 1969, and by appointments as a consultant to the Ohio Geological Survey from 1973 to 1981. Numerous papers, bulletins and maps were published by these organizations as a result of his work.

Dr. White began work on the history of geology about 1950. He was the U.S. representative to the organizational meeting of the International Committee for the History of Geology at Yerevan, Armenia, USSR in 1967. He was elected vice president for North America at the meeting. He was chairman of the U.S. National Committee for History of Geology, which was established in 1970. In 1982 he received the first Geological Society of America Award for distinguished contributions to the history of geology. The History of Earth Sciences Society dedicated the first 1983 issue of their journal, *Earth Sciences History* to George White for his support in the establishment of the Society. Dr. White served on the Editorial Board for *Earth Sciences History* from its inception in 1982 through 1984.

He was an honorary life member of the Society for the bibliography of Natural History and was a fellow of the Geological Society of America, the Geological Society of London and other professional bodies.

He lectured at various European and American universities and holds honorary degrees in science from Otterbein College, the University of New Hampshire and Bowling Green State University. He received awards from the Ohio Department of Natural Resources and the Orton Award in Geology from Ohio State. The Geology Library at the UI was named in his honor.

Michel T. Halbouty
USA

"Petroleum Exploration
in the United States:
Trends Across Time"

Martin Guntau
East Germany

Bernard Von Cotta (1808-
1879) and his Teaching
of Geological Knowledge"

Susan Schultz
USA

"Geological Education
and National Parks in
the United States, 1870-
1970"

W. K. Wood
Canada

"Petroleum Exploration
in Canada"

Sh. F. Mekhtiev
USSR

"History of Oil Explora-
tion in Azerbajdzan"

Walter Kupsch
Canada

"Before Leduc: The
Search for Petroleum in
Western and Northwestern
Canada, 1789-1943"

Martin Rudwick
England

"Training for Mining
Engineers or Natural
History for Gentlemen:
Geological Education in
19th Century Europe"

Andre Cailleux
France

"Geological Education in
France, 1910-1938"

St. Czarniecki
Poland

"Polish Geologists and
Oil Exploration before
1918"

V. V. Tikhomirov
USSR

"History of Seismology
in Russia, 19th and 20th
Centuries"

Wang Yangchi
People's Republic
of China

"Petroleum Exploration
in China, 1880-1980"

Qi Shigin
People's Republic
of China

"History of Chinese
Seismology I"

Ma Zongjin
People's Republic
of China

"History of Chinese
Seismology II"

J. M. Lopez de Acoma
Spain

"History of Geological
Education in Spain, 19th
and 20th Centuries"

Georgi K. Georgiev
Bulgaria

"Contributed paper:
Oremining and Metallurgy
in the Epoch of the
Thracians"

Trevor Ford
United Kingdom

"Contributed paper:
17th and 18th Century
Lead Mining in Derby-
shire, England"

October 31-November 3 - History of Science
Society meetings, Bloomington, Indiana.

Scheduled for 1985:

Sesquicentennial Virginia Division of Mineral
Resources (Robert Milici, Director, VDMR, Box
3667, Charlottesville, VA 22903). Events are
being planned for 1985.

Sesquicentennial Institute of Geological Scie-
nces (Brian Kelk, IGS).

1986

June 1-6 - Third International Conference on
Geoscience Information, Adelaide, Australia,
For further information: Secretary, Organiz-
ing Committee 3IGGI, Australian Mineral Found-
ation, PB97, Glenside, South Australia 5065.

August 27-31 - 12th International Sedimento-
logical Congress (Canberra, Australia). This
Congress will include a session devoted to the
historical and philosophical aspects of sedi-
mentology. Interested individuals may con-
tact: Dr. E. Yochelson, Room E-501, U.S.
National Museum, Washington, D.C. 20560 of
Dr. Barry Cooper, c/o - S.A. Dept. of Mines
and Energy, P. O. Box 151, Eastwood, South
Australia 5063.

1987

September - IV International Congress on the
History of Oceanography, Hamburg, West
Germany. The following topics are proposed:

1. History of international cooperation.
2. Experiences in interdisciplinary
research.
3. Economic aspects in and their influence
on marine research.
4. Scientific and technical assistance in
marine research.

Further suggestions are welcome.

(Deutsche Gesellschaft für Meeresforschung, -
ICHO-IV-, Bundesstrasse 55, D-2000, Hamburg
13, FRG).

(Please send items to R. Laudan, Center for
the Study of Sciences in Society, VPI & SU,
Blacksburg, VA 24061, USA.)

NOTICES

The attention of members is drawn to the
planned publication of a new volume in the
Van Nostrand-Reinhold series of encyclopedias
of earth sciences. It will be The Encyclope-
dia of the History of Earth Science to be
completed during 1985-86. It will have about
700 pages, with about 800 words per page in
two columns. There will be two parts: Part
A, Subjects (disciplines, problems), and Part
B, Biographies (about 600 names, at c. 200
words each).

Any member who would like more informa-
tion about it should contact Emeritus Profes-
sor Fairbridge (Columbia University) at his
home address:

Dr. R. W. Fairbridge
420 Riverside Dr., 2B
New York, NY 10025

TABLE OF CONTENTS

Preface - History of Geology and Geological Education in the Southern and Border States <i>James X. Corgan</i>	1
Report of the Secretary for 1984 <i>Ellis L. Yochelson</i>	2
Report of the Treasurer for 1984 <i>Ellis L. Yochelson</i>	2
Early Survey Work and the Roots of Geological Education in the Carolinas <i>Markes E. Johnson</i>	3
Early Medical Dissertation Research on Tennessee Geology <i>James X. Corgan</i>	10
Geological Education in Georgia Before 1861 <i>Howard Ross Cramer</i>	17
Eugene W. Hilgard and Scientific Education in Mississippi <i>Walter E. Pittman, Jr.</i>	25
The Career of Clarence King <i>D. Stanley Tarbell and Ann T. Tarbell</i>	31
James Merrill Safford <i>Richard G. Stearns</i>	37
From Apprenticeship to Profession, Nathaniel Shaler and the First Summer School of Geology <i>Ivan L. Zabilka</i>	48
Educational Service of the Tennessee Division of Geology, 1831-Present <i>Edward T. Luther</i>	53
The Geological Survey of Alabama and the University of Alabama: A Coordinate History <i>Betty Morere Wilson</i>	58
A State-Wide Earth Science Institute in Missouri <i>Clayton H. Johnson</i>	62
History of the Earth Sciences at Southeast Missouri State University <i>Louis Unfer, Jr.</i>	68
The Earth Sciences in a Small University <i>James X. Corgan</i>	71
John Leonard Riddell: From Rensselaer to New Orleans (1827-1865) <i>Hubert C. Skinner and Karlem Riess</i>	74
Book Reviews	80
Interesting Publications	86
Calendar of Events	87
Notices	88