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The SEDIMENTARY Record

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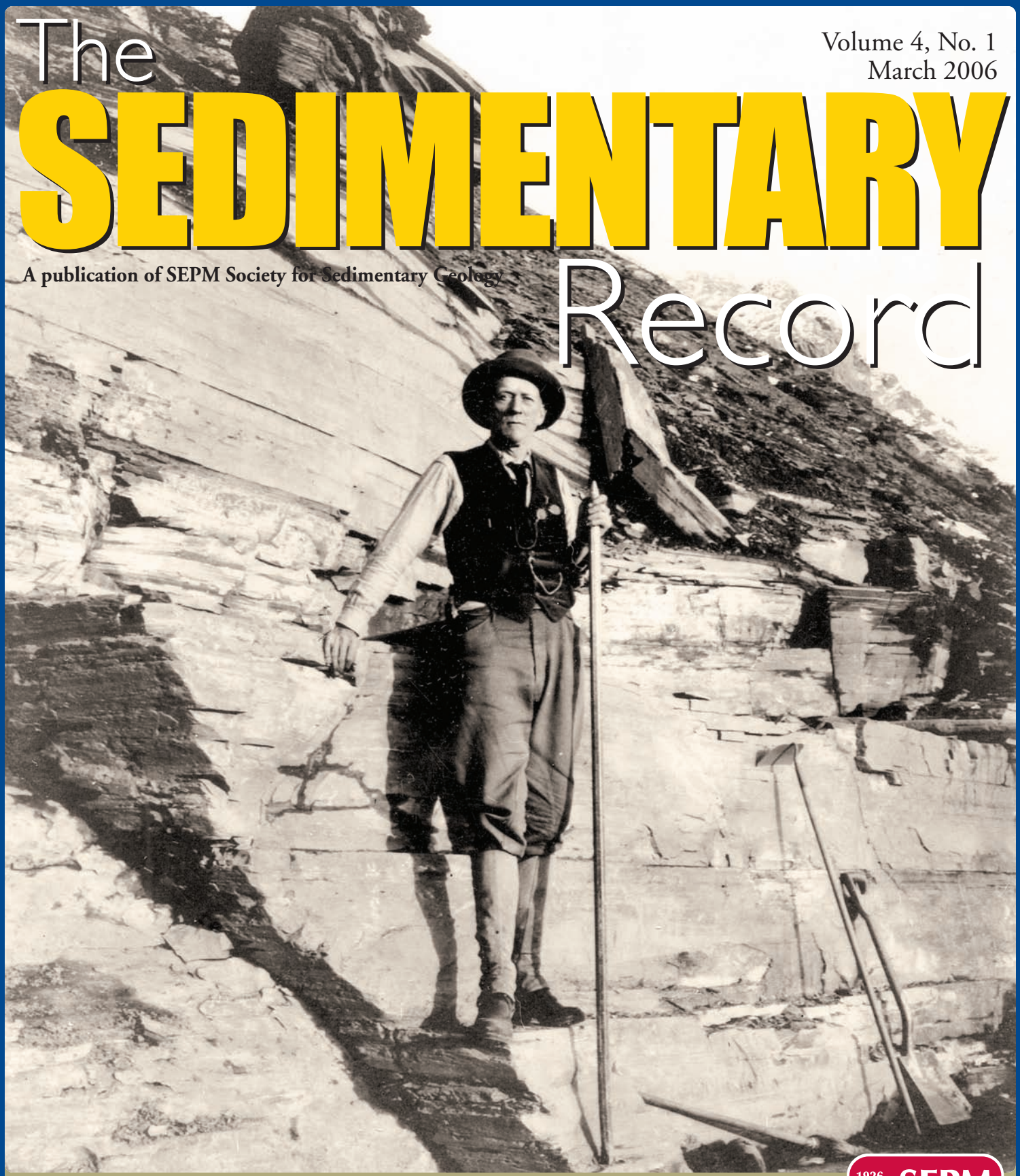


INSIDE: CHARLES D. WALCOTT

PLUS: PRESIDENT'S COMMENTS: PLANNING FOR THE FUTURE OF SEPM
2006 ELECTION RESULTS
PUBLISHING ETHICS

1926 SEPM
Society for Sedimentary Geology

AAPG/SEPM Annual Meeting

April 9—12, 2006 Houston, Texas

SEPM Business Meeting and Luncheon

Tuesday, April 11, 2006
Hilton Americas, 11:30—1:30pm

This year's SEPM Luncheon Speaker is Dr. Gary Parker, University of Illinois. His research interests and work center around morphodynamics of fluid flow including river mechanics and morphology; river engineering; mechanics of two phase solid fluid flow; turbidity currents; oceanic sedimentation; submarine debris flows. The title of Dr. Parker's talk is "Deepwater Turbidity Current Dynamics: Inception, Erosion and Deposition"

SEPM President's Reception and Awards Ceremony

Tuesday, April 11, 2006
Hilton Americas, 7:00—9:00pm

SEPM President William Morgan and his wife, Lori Millet, invite you to an evening of celebration to honor the 2006 award winners of the SEPM Society for Sedimentary Geology. SEPM will also be recognizing the members of the 2006 Local Organizing Committee, student travel grant recipients and student section grant winners.

SEPM 2006 Awardees

Distinguished Service Award
Roderick W. Tillman

Honorary Membership
Gail M. Ashley

Twenhofel Medal
William W. Hay

Shepard Medal
Michael Sarnthein

Pettijohn Medal
Daniel Bernoulli

Moore Medal
Allison R. "Pete" Palmer

Wilson Award
Gerilyn Soreghan

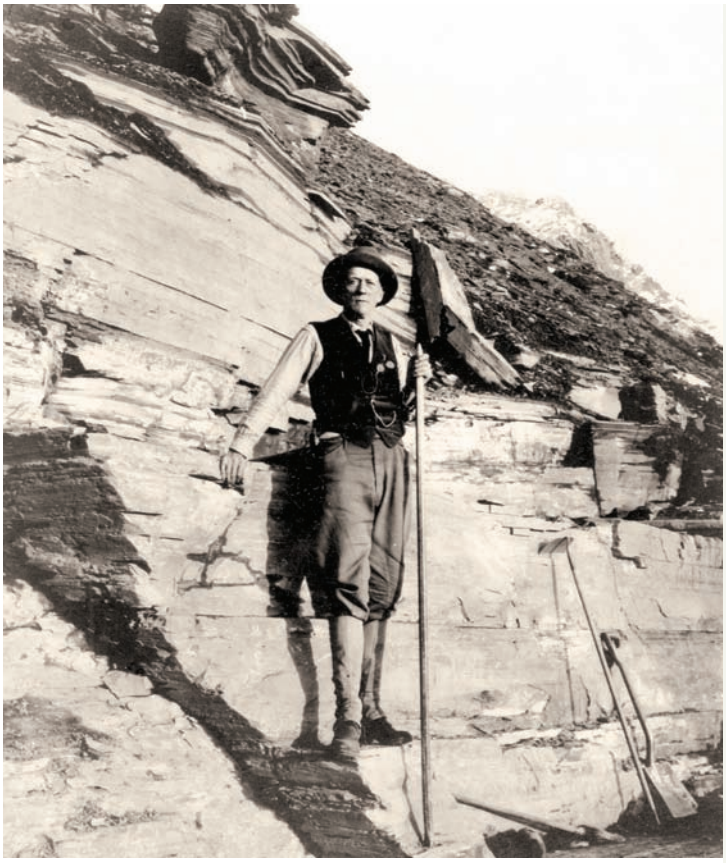
Houston SEPM Short Courses and Field Trips (*http://www.sepm.org/events/eventshome.htm*)

Short Courses

#14 Sequence Stratigraphy for Graduate Students—Vitor Abreu & Jack Neal (ExxonMobil)
#15 3-D Seismic Interpretation for Geologists—Bruce Hart (McGill University)
#16 Core Workshop: Giant Hydrocarbon Reservoirs of the World: From rocks to reservoir characterization and modeling—Mitch Harris (Chevron) & Jim Weber (ExxonMobil)
#18 Applied Ichnology: The use of trace fossils in sequence Stratigraphy, exploration and production geology—George Pemberton (University of Alberta) & James MacEachern (Simon Fraser University)
#19 Quaternary Reefs and Platforms: Bridging the Gap between the Ancient and the Modern—Bill Precht (PBS&J), Mitch Harris (Chevron) & Paul Aronson (Dauphin Isl)

Field Trips

#7 Quaternary Depositional Systems of the East Texas Coast and Shelf—John Anderson (Rice) - Student Field Trip
#8 Mass Transport Complexes and Thin-bedded Turbidites in the Paleocene Chicontepec Formation, northern Mexico– Stephen Cossey (Cossey & Assoc) - **CANCELLED**
#11 Carboniferous Mounds Architecture within a Sequence Stratigraphic Framework: Virgilian Holder Formation and Mississippian Lake Valley Formation, Sacramento Mountains, New Mexico—Xavier Janson (BEG, Texas) and Steve Bachtel (ConocoPhillips) - **CANCELLED**
#12 Quaternary Depositional Systems of the East Texas Coast and Shelf—John Anderson (Rice)
#13 Carbonate Reservoir Heterogeneity Styles within a Sequence Stratigraphic Framework: Albian (Cretaceous), Pecos River Canyon—Charlie Kerans & Laura Zahm (BEG, Texas)



On the Cover: Charles D. Walcott standing on the Burgess Shale quarry with a railroad pry bar, Fossil Ridge, between Mount Wapta and Mount Field, British Columbia, 1912. Photograph from Smithsonian Institution Archives, Record Group 95, Box 24. See article by Yochelson.

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Charles D. Walcott: A Few Comments on Stratigraphy and Sedimentation

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ABSTRACT

Throughout his career, Charles D. Walcott was a prodigious scientist. Although perhaps best known for his contributions to our understanding of the Cambrian System, including discovery of the Burgess Shale Biota, Walcott made other important contributions to stratigraphy and sedimentology that have had a lasting impact. Some contributions seem to have been quite deliberate, whereas others may have been less conscious. Examples of his deliberate scientific efforts are: measuring and describing more than 8250 m (25,000 ft) of strata in Utah and Arizona; interpreting the origin of limestone breccia and conglomerate within a limestone matrix; calculation of geologic time from rates of sedimentary deposition; and consideration of the Ozarkian and Canadian as time periods. An interesting contribution that may have been less obvious is the observation that limestones could form quickly in shallow marine water.

INTRODUCTION

The name Charles Doolittle Walcott (1850-1927) is immortalized in the geologic community as the discoverer of the Burgess Shale in 1910 (Walcott, 1911), a Cambrian deposit of exceptional preservation (Cover Photo, Figures 1, 2) whose study has altered forever the way that paleontologists interpret the fossil record (e.g., Whittington, 1985; Conway Morris, 1989, 1998; Gould, 1989; Briggs et al., 1994; Yochelson, 2001). Paleontologists are aware of the importance of Walcott's description of the Burgess Shale fossils, beginning in 1911 (Walcott, 1911), and also of his numerous and important contributions to the study of early Paleozoic trilobites and brachiopods (see for citations Briggs et al., 1994; Yochelson, 2001). Walcott not only described many of the early Paleozoic trilobite genera and species known from North America up through the 1920s, but also was the first to clearly describe the appendages of trilobites (Walcott, 1876, 1918).

The science of paleontology includes two important components, biostratigraphy and paleobiology. Walcott practiced both, but the emphasis throughout his career was on biostratigraphy. Apart from the Burgess Shale, he collected primarily to interpret the relative ages of rocks in stratigraphic sections that he measured. Furthermore, he identified collections submitted by many others to aid their mapping and structural-geologic interpretations. Taphonomy as a subdiscipline of paleontology had not developed until the latter half of the twentieth century, but Walcott nevertheless developed arguments and conclusions that we could, in retrospect, regard as early taphonomic work (e.g., Walcott, 1898).

Other contributions of Walcott's that had longstanding effects on the science of geology were removal of "the Taconic period" from the geologic column; clarification and correction of what constituted Lower Cambrian and Middle Cambrian rocks in North America; definition of the base of the Cambrian System in North America at the lowest occurrence of the trilobite *Olenellus*; and strengthening of a three-fold division of the Cambrian System (see Yochelson, 2001). The practice of using Lower, Middle, and Upper Cambrian was accepted worldwide for more than a century. Ultimately, the tripartite division of the Cambrian System was abandoned (Geyer and Shergold, 2000; Peng et al., 2004; Babcock et al., 2005), in large part because of the addition to the Cambrian of a thick succession of strata below the first appearance of trilobites (Landing, 1994; Palmer, 1998; Geyer and Shergold, 2000; Peng et al., 2004; Babcock et al., 2005).

In 1902, colleagues thought of Walcott as the third most important geologist in America (behind G. K. Gilbert and T. C. Chamberlin; see Yochelson, 2001). Unfortunately, much of the rationale for that view has disappeared from geologic consciousness. The purpose of this paper is to review some of Walcott's less well remembered contributions to the science of geology in an effort to characterize the man whose work has touched the careers of all sedimentary geologists that have followed him. Walcott's work as a field geologist was impressive, and his field studies are an appropriate place to begin documentation of his importance.

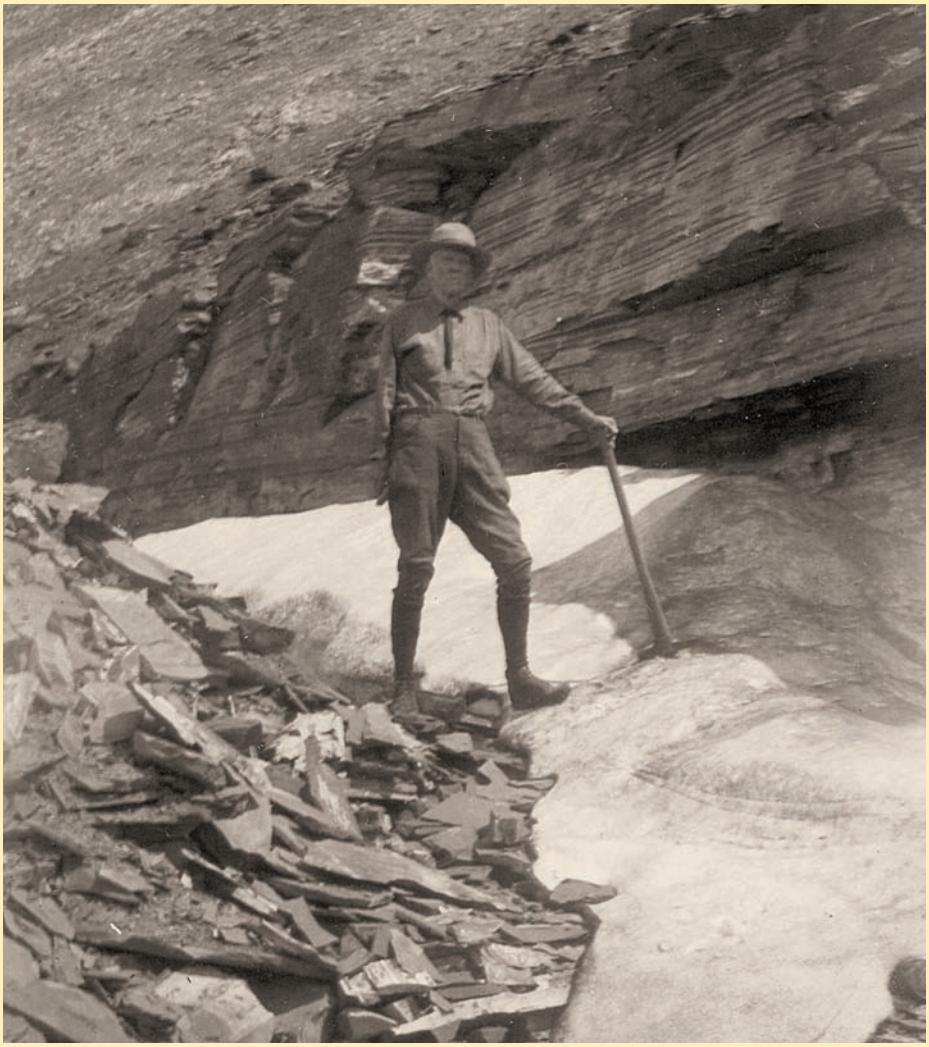

Figure 1: Charles D. Walcott digging snow out of the Burgess Shale quarry. Fossil Ridge, between Mount Wapta and Mount Field, Canadian Rocky Mountains, British Columbia, 1917. Photograph from Smithsonian Institution Archives, Record Group 95, Box 24.

PHANEROZOIC AND OLDER ROCKS

In 1879, during his first season with the U. S. Geological Survey, C. D. Walcott started with Locke Level and barometer in the Paleogene lake beds of the Bryce Canyon region of southwest Utah and measured downward to the Cambrian, which was exposed near the level of the Colorado Canyon at the mouth of Kanab Canyon. This was 4290 m (13,000 ft) of section!

During 1881 and 1882, Walcott measured sections and collected fossils throughout the Paleozoic section in the Eureka, Nevada, mining district. He published descriptions of the fossils in order to date the various units. All the fossils are reasonably well located stratigraphically, but only the descriptions of the fossils were published (Walcott, 1884). Old though it may be, this monograph is one of the principal sources of information on Paleozoic megafossils from the Great Basin.

In 1882-1883, Walcott "offset" his Kanab, Utah, section, about 70 km to the east and went into the Grand Canyon for 79 days. He began measuring downward at the Cambrian and added another 3960 m (12,000 ft) of sedimentary rocks, plus 330 m (1,000 ft) of volcanics, to his section (Yochelson, 1998). So far as I know, Walcott measured more of a continuous stratigraphic section than anyone, and I am unaware of anyone who measured 8 km (5 miles) of section.

Walcott's work in the Grand Canyon (Figure 3) serves as an exemplar of intellectual contributions that slip into sedimentary geology literature almost unnoticed. Based on a few scraps of fossils, primarily stromatolites, Walcott originally dated most of the Grand Canyon section as Cambrian (Walcott, 1883). Within a few years, he reconsidered and termed them "pre-Cambrian" (Walcott, 1886a, 1886b). Previous to this time, Archean was the name used for rocks below the Cambrian. Archean strata were metamorphics and intrusive igneous rocks that looked as though they were ancient and highly altered. That a thick sequence of non-metamorphosed sedimentary rocks, preserving stromatolites, mudcracks, and other features typical of Phanerozoic strata could actually exist below the Cambrian was a novel concept for the developing geologic time scale. Within a few years, the time term "Algonkian" was proposed for a large succession of these pre-Cambrian rocks (see for history Van Hise, 1892). A major philosophical advance marks the difference between references to the pre-Cambrian of the late1880s and the current use of the word Precambrian, but nevertheless Walcott's recognition of a fossiliferous "pre-Cambrian" represented a sea change for the time.

Three less far-reaching examples of Walcott's contribution to sedimentary geology are discussed below. Unfortunately, just as the significance of his use of pre-Cambrian has been overlooked, these examples also have largely faded from the collective memory of geologists.

CONGLOMERATES, BRECCIA, AND LIMESTONE

During 1882 and 1883, Walcott made two, short, intensive trips to examine the Cambrian around York, Pennsylvania (Walcott, 1892). One result was his observation of limestone conglomerates and breccias within the early-middle Cambrian limestone sequence (Walcott, 1894). A prevailing view in stratigraphy at the time was the importance of an unconformity. If an angular unconformity could not be observed, a conglomerate was commonly interpreted as evidence of a significant time break in the geologic history of an area.

By documenting the presence of conglomerates and breccias within a sequence of apparently continuous sedimentation, Walcott was directing caution to interpretation of one of the basic tenets of field geology. Following his publication (Walcott, 1894), there was no obvious discussion either for or against the concept that a conglomerate or breccia necessarily indicates a major unconformity. In part, this may have been because the only mechanism that he could propose for the transport of large blocks was rafting by sea ice, and that long-held concept was falling into decline. Walcott's understanding of limestone conglomerates was more than half a century before the idea of turbidity currents sweeping down continental slopes became an accepted concept.

In regard to the far smaller chips of limestone, Walcott had a simpler mechanism. He observed on a Rhode Island beach that modern sediments could form a hard crust rapidly which would then be broken into pieces and transported by the incoming tide (Walcott, 1895). The implication that limestone could form in exceedingly shallow water, harden rapidly, and be broken and transported was not pursued by him, nor did it register with other geologists of the time. In terms of understanding the formation of limestones, however Walcott's casual observation was decades ahead of its time.

GEOLOGIC TIME

Thanks to the efforts of Lord Kelvin, the age of the Earth was a major concern from the 1860s onward. Kelvin's ever decreasing time scale caused serious problems for the geologic community. Geologists had notions of rates of deposition and erosion, but as an eminent physicist, Kelvin had real numbers and formulas to bolster his arguments. Walcott (1893) approached the problem by considering in detail how much limestone, shale, and sandstone, was deposited in the western United States during the Paleozoic and proceeding from there. The method was not unique, but his analysis was the most sophisticated in this particular line of inquiry. He gave no details on where he obtained data for the Cenozoic and Mesozoic, although it can be assumed that his measurements came from his 1879 work on the Colorado Plateau.

Walcott's (1893) suggested age was a minimum of 25 to 30 million years, and a maximum of 60 to 70 million years for the post-Archean interval. "In conclusion, geologic time is of great but not of indefinite duration. I believe that it can be measured by tens of millions, but not by single millions or hundreds of millions, of years." This seemed to generate no discussion in literature from geologists, and one may assume from this that geologists were generally satisfied with his conclusion. Shortly thereafter, radioactive decay was discovered and, about a decade after Walcott published, the first radiometric dates were being discussed. Apparently his effort was never cited in a textbook and it rapidly faded from view, now being only an historical curiosity.

One aspect of Walcott's exercise, however, should not be ignored. His figures for the duration of the three eras of the Phanerozoic may be treated as a ratio of Paleozoic to Mesozoic to Cenozoic. This ratio (12:5:2) was strikingly different from what was then current in the literature, but is almost identical to that derived from the latest radiometric dates (Yochelson, 1989).

OZARKIAN AND CANADIAN

In 1907, Walcott left the directorship of the U.S. Geological Survey and became Secretary of the Smithsonian Institution. From his position with the Smithsonian, he then proceeded to do field work in western Canada for almost two decades. If one ignores the Burgess Shale and a few other geologic distractions, he basically began study at the base of the Lower Cambrian, systematically measuring sections and documenting fossils. Then he studied Middle Cambrian strata in a similar manner, proceeding on to the Upper Cambrian and then the Ordovician. He just also touched on the Silurian when he died in 1927. Many years later, a team of geologists from the Geological Survey of Canada, with strong logistical support, including helicopters, restudied these rocks. Walcott had gotten to all the best sections and had correctly interpreted the basic stratigraphic framework (J. D. Aitken, personal communication, 1993). About the time that Walcott began work in Canada, E. O. Ulrich began to forcefully push his concept of two new geologic systems, the Ozarkian and Canadian, to fit between more restricted concepts of the Cambrian and Ordovician (Weiss and Yochelson, 1995). Several eminent geologists of the past generation have indicated to me in informal conversations that the Canadian might have been accepted as a system by North American geologists, but Ulrich's insistence on a still older "system" and his attacks on other worker effectively doomed his efforts.

Walcott's was essentially the only prominent geologist who used both of the proposed systems in his publications. One may guess that throughout his career he was attuned to ever finer divisions of geologic time and thus was of an open mind in further dividing the Paleozoic.

One aspect of Ulrichian geology was that it was based on "layer cake" stratigraphy. Strata were presumed to remain essentially unchanged in sedimentary character throughout the length of their outcrop. The notion of a facies change in sedimentation of a stratigraphic unit was not acceptable. In Ulrichs's view, seas from one direction deposited sediment and then withdrew, to be followed by seas from another direction depositing a different type of sediment. It was in this manner that a change along strike from limestone to shale could be explained away. Ulrich's prose was not easy to comprehend. What may be the best exposition of Ulrichian notions is presented in a summary paper by Walcott (1927). Like many of the other examples of Walcott's work given above, one cannot judge what effect, if any, it had at the time, but Ozarkian and Canadian have disappeared as geologic periods.

LEGACY AND CONCLUSIONS

Charles Doolittle Walcott was a workaholic who never paused between manuscripts. In terms of volume of paleontological publication, he probably ranks among the three most productive paleontologists of the nineteenth or twentieth centuries (together with Joachim Barrande and James Hall). His laboratory investigations were closely linked to his field work. In the years since Walcott's work was published, stratigraphic investigations have been refined, with new terms added, but the subdivisions he identified and the thicknesses he measured remain virtually unchanged. Likewise his paleontological work has been closely reexamined, yet the basic structure of his conclusions remain little changed. Despite my investigations, I am still unable to fully explain how he was able to publish so much research of such a high quality.

ACKNOWLEDGMENTS

For about half a century, I have been, off and on, pursuing the life and scientific efforts of C.D. Walcott. I thank Chip Clark for providing the photograph of *Olenoides*, and the Smithsonian Institution Archives for permitting the use of archival photographs of Walcott. Use of the photos was arranged by Ellen Atlers. I also thank the anonymous reviewers and editors for helping to improve the manuscript and prepare it for publication.

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Figure 2: Slab of Burgess Shale (Cambrian) showing two trilobites, **Olenoides serratus** ***Walcott, both retaining their calcified exoskeleton and their nonbiomineralized (originally chitinous) appendages. Exoskeleton of the specimen at lower right = 8 cm. Photograph by Chip Clark.***

Figure 3. Charles D. Walcott standing on Cambrian strata looking into the Inner Gorge of the Grand Canyon, Arizona, 1915. Photograph from Smithsonian Institution Archives, Record Group 95, Box 24.

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SEPM Foundation President: *Timothy Carr, University of Kansas, Lawrence, Kansas*

...and thanks to the outgoing council members for their service

Bill Morgan (ConocoPhillips)
Lesli Wood (BEG, Texas)
Vitor Abreu (ExxonMobil)
Serge Berne (IFREMER)
Christopher Maples (Desert Research Inst)

...and welcome to potential volunteer members

SEPM is always in need of member volunteers for standing committee and ad hoc special assignments.
If you are interested in helping SEPM in its activities please contact:
Robert Dalrymple (2006-2007 SEPM President - dalrymple@geol.queensu.ca) or Howard Harper (SEPM Executive Director - hharper@sepm.org).

PRESIDENT'S COMMENTS

Planning for the Future of SEPM?

SEPM Council and staff have accomplished many goals this past year. Council made the online versions of JSR and Palaios the versions of record and requested that members subscribe to the online versions, if feasible. Headquarters added two new staff members, Bob Clarke and Edythe Ellis. A new website design that is nearing completion will provide more up-to-date information on SEPM activities and have a web forum discussion page. In addition to these non-recurring activities, there were the regular activities and events to which members are long accustomed - the publication of journals and Special Publications, and the convening of the Annual Meeting and several Research Conferences. Discussing and acting on these activities required a considerable amount of time and energy on the part of the staff and Council, leaving little opportunity to discuss longer range issues at the two Council meetings held during the year.

Given the pace of change today, a periodic look at the direction and future issues affecting the Society is crucial to effective planning and setting of long-range goals for the SEPM staff. The last SEPM strategy meeting was organized by Peter McCabe and Dag Nummedal in February 2002. Because most of the key issues identified in that meeting had been addressed (including the establishment of a Society magazine, *The Sedimentary Record*), the time was right to hold another strategy meeting to plan for the future of the Society. In January, I convened a two-day meeting at the Bureau of Economic Geology in Austin Texas. Howard Harper, Theresa Scott, and other staff members helped considerably with organizing the meeting and collecting background information on the Society's activities and membership base. Use of the BEG's facilities was facilitated by Lesli Wood and graciously provided by Scott Tinker, the Bureau's director and a long-time member and supporter of SEPM.

The two main topics of discussion were: 1.) increasing our membership base and 2.) defining the future objectives of the Society's publications.

The Society faces several challenges with regard to its membership. Approximately 75% of the membership is over 40. The staff has made recruitment of student members a priority and has been very successful over the past two years, but retaining those members when they become eligible for full membership is difficult. Retaining the Society's older members who may want to maintain ties to SEPM but in a less active role is also a challenge. Another priority is increasing the membership base from outside the U.S. Here are just a few of the recommendations put forward at the meeting to address membership concerns.

- Establish a "ramped" fee for student members after they graduate, as a transition to the cost of full membership.
- Encourage student involvement in Society activities by appointing at least one student to each of the Society's committees.
- To retain older members, establish a lower cost membership category that would not include a subscription to one of the Society's journals, but would include a subscription to *The Sedimentary Record* and other benefits.
- Utilize Sustaining Members as an advisory body for Council.
- Remove the requirement for two references for full membership, which is a hindrance for potential international members.
- Investigate the financial feasibility of linking the cost of membership for those in developing nations to the World Bank cost of living index.
- As part of the new website, offer a web-forum on sedimentary geology as a service to the membership and to attract interest in SEPM.

SEPM's publications are the public face of the Society, and their reputation is a significant reason that SEPM is held in such high esteem by the community of sedimentary geologists. Continuing a record of scientific excellence is, therefore, essential to the Society's long-term standing as a leader in advancing the science. At the same time, the Society must manage costs associated with online and print publications. To address these issues, participants at the strategy meeting made several recommendations, including the following.

- Establish publications subcommittees that would proactively identify topics and potential authors for the Society's various publications. Examples include:
  - Identify topics suitable for graduate level text books for the "Concepts" series.
  - Establish a field-trip guide series.
  - Identify topics in sedimentary geology that have declined in prominence in SEPM publications (e.g., paleo-oceanography and glaciology).
- Assign session chairs at the Annual Meeting the responsibility for identifying talks or posters which have potential as journal articles.
- Establish an e-publications transition committee to monitor the Society's e-publishing business plan and advise Council on the rapidly changing developments in e-publishing.

Many additional topics were addressed at the meeting, but there was considerable enthusiasm for enhancing member knowledge-sharing opportunities by organizing an annual research conference ("Twenhofel Conference") with a theme broad enough to attract a larger audience (100- 300 registrants) than the typical research conference and holding a "field festival" in an area conducive to multiple field trips.

Some of the recommendations stemming from the strategy meeting are being carried out now; others must be further studied by Council and Staff and are likely to be implemented in the near future; a few, if approved by Council, will require a vote of the membership. Taken together, they provide SEPM with a direction for the next several years that will continue the Society's preeminence in the field of sedimentary geology.

My thanks to those who participated in the meeting (listed below). Their enthusiasm for the mission of SEPM and their willingness to give of their time have helped to ensure a bright future for the Society.

Vitor Abreu	Don McNeill
Brad Prather	Edie Taylor
John Anderson	Bill Morgan
Rick Sarg	Lesli Wood
Bob Dalrymple	Colin North
Theresa Scott	Laura Zahm
Howard Harper	Judy Parish
Ron Steel	

If you have thoughts on the future direction of the Society, Council would be pleased to hear from you.

Bill Morgan
President, Society for Sedimentary Geology (SEPM)
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2006 SEPM Sustaining Members

John B. Anderson
Sue Bilbey
Timothy Lawton
Thomas E. Ewing
Werner Buggisch
Benedikt L. Lehner
Alexander Nagy
Cynthia Venn
Dominic Yap
Robert Lander
David L. Rodland
Vitor Abreu
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George H. Keil
Jutta Winsemann
Alan Bressler
Julie Therien
Richard G. Bromley
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Kenneth W. Ciriacks
David Eby
Robert N. Ginsburg
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James Markello
William A. Morgan
Dag Nummedal
Edward B. Picou
Walter C. Pusey
J. Frederick Sarg
Jon L. Thompson
Peter R. Vail
John R. Suter
Edward L. Simpson
John D. Bloch
Donald F. McNeill
Christopher G. Maples
Neil A. H. Pickard
Wladyslaw P. Karpeta

COUNCIL COMMENTS

Publishing Ethics

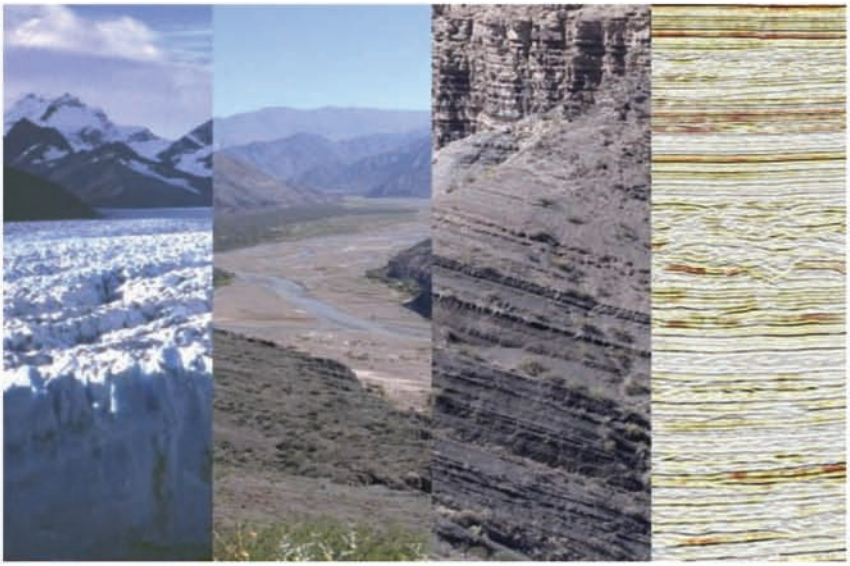
SEPM is fortunate to receive a large number of high-quality submissions to its journals. This is because authors recognize that science published in SEPM's journals receives extensive critical review that strives to select only the best cutting-edge science for publication. However, a recent instance in which an article which appeared in another major publication was largely reprinted in JSR has alerted the SEPM community that not all authors are willing to abide by the widely-accepted conventions for submitting manuscripts to the Society's journals.

Scientific publishing is an expensive undertaking. Not only in the fiscal sense of the cost of production and mailing, but also in the sense of the huge, mostly volunteer effort that goes into manuscript handling and review. For non-profit society publishers such as SEPM, the fiscal costs of publishing represent the single largest expense shouldered by the organization. Because it is in the Society's interest to extract the maximum value for this expense, it is absolutely essential that our limited resources support only the most high-value science. To identify the most worthy science results, SEPM publications are founded on the practice of peer review, entailing the efforts of editors, associate editors, reviewers, and ultimately, readers (who are sometimes compelled to write discussions!). A typical paper in JSR for example has been scrutinized by at least four individuals. The reviewers provide detailed commentary on the significance of the work, the quality of the data, and its presentation. An associate editor also reviews the manuscript and reviews the work of the reviewers. An editor evaluates the full package of material and makes the decision to publish, or not. No paper appears in JSR without at least one round of revisions in response to reviewer comments. It is not unusual for the review package to approach or exceed the length of the manuscript itself, representing many hours of labor founded upon years of scholarship. The value of such a time-consuming filter is that it promotes selection of the most compelling science, increases the quality of that science and its presentation, and provides to the reader a level of trust in the material. Readers choose journals that practice peer review because they have confidence that the material has a high probability of being new, valuable, and worthy of the time they will invest in reading it.

Obviously, in the system described above it is the expectation that authors will only submit previously unpublished material and material that is not under simultaneous consideration by other publishers. To do otherwise would place unjustified burdens on the limited resources of the scientific publishing world and would be a breach of that community's trust. All authors submitting papers to SEPM publications must attest explicitly that they are following these rules.

Authors who violate SEPM's stated submission policies, in essence, divert resources that could have been directed to publishing truly new results. Publishing duplicated materials also has the potential to place the Society in the uncomfortable position of having printed (even if unwittingly) another publisher's copyrighted material. Re-use of previously published figures and verbatim text without citation, even by the original author, is a form of plagiarism that risks sanctions. Lesser forms of duplication such as shingling (publishing highly overlapping papers) also detract from the value of publication outlets and must be avoided. Readers should know that SEPM is unwavering in its intention to only publish new results that pass the rigorous scrutiny of peer-review. Fortunately, the vast majority of participants in the publishing process understands and supports this honor system. Otherwise the system could not function. Abuse of this system is a drain on SEPM's resources and does the membership a disservice.

Kitty Milliken & Colin North,
Co-editors, JSR



2006 SEPM/GSL Joint Research Conference

External Controls on Deep-Water Depositional Systems: Climate, Sea-Level, and Sediment Flux

March 27—29, 2006
Burlington House, London, UK

Deep marine clastic environments represent the planet's ultimate sediment sink. The deep marine system thus contains a record of external controls that is more complete than that of any other depositional environment. Moreover, it extends into the distant geological past, providing a record of climate change on time scales that are two orders of magnitude greater than those of the Pleistocene, and including records of a very different Earth from that of today. This three day meeting will explore all of this potential with a mix of keynote presentations, and submitted oral and poster contributions.

Confirmed Keynote Speakers
Mike Blum (Louisiana State University)
Tim Bralower (Penn State University)
Kurt Lambeck (Australian National University)
Mark Maslin (University College London)
Chris Paola (University of Minnesota)
John Suter (ConocoPhillips)
Paul Valdes (University of Bristol)

Technical Convenors
Ben Kneller (University of Aberdeen)
Ole Martinsen (Norsk Hydro)
Bill McCaffrey (University of Leeds)
Henry Posamentier (Anadarko Canada)

Register at the GSL website
http://www.geolsoc.org.uk/template.cfm?name=Deep_Water

2006 SEPM/GSL Joint Research Conference

The Application of Earth System Modeling to Exploration

July 11—13, 2006
Snowbird Resort, Utah

Model results courtesy of Professor Paul Valdes (University of Bristol)

Bringing together the leading experts in the fields of Earth Systems Modelling and Frontier Exploration, in order to assess their current status, facilitate inter-disciplinary and Industry-Academia collaboration, and help identify and define the direction of future developments in the application of modelling to exploration, especially risk reduction in frontier areas. Earth Systems models are more than the past-future climate models, they integrate more than just the atmospheric dynamical state, including surface hydrology, vegetation, ice, and the oceans.

Convenors:
Paul Markwick (GETECH, University of Leeds)
Joe Curiale (Unocal Corporation)
John Suter (ConocoPhillips)

Registration is OPEN
http://www.sepm.org/events/researchconferences/earth%20systems/Earth%20Sys%20Res%20Conf.htm

For more information about SEPM Research Conferences go to:

www.sepm.org/events/researchconferences/rconferencehome.htm