

Das kulturelle Erbe in der Arthur Lakes Library, Colorado School of Mines, Golden, Colorado, USA

Cultural Heritage Collected at the Arthur Lakes Library, Colorado School of Mines, Golden, Colorado, USA

Von

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with 2 fig.

Schlüsselwörter:

Bibliotheken
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LAKES, Arthur
USA

Abstract:

The "William Green Russell Expedition" of 1858 and the subsequent discovery of gold in the Front Range of the Rocky Mountains brought about the gold rush of 1859. The Right Reverend George M. RANDALL, Bishop of the Episcopal Church, developed plans in 1866 for a University that would include a School of Mines to be located near Golden, Colorado. In 1874, that university was made a territorial institution and in 1876, control passed to the new state of Colorado. In 1877, Arthur LAKES and Captain H. C. BECKWITH discovered the first dinosaur remains in Colorado and inadvertently contributed to the -bone wars between E. D. COPE (University of Pennsylvania) and O. C. MARSH (Yale University Peabody Museum of Natural History). In 1880, Arthur LAKES was appointed Professor of Geology at the Colorado School of Mines and taught geology and drawing, resigning in 1893. The Colorado School of Mines Library was named in LAKES' honor in 1959 and currently holds 130,000 monographs; over 2800 current journal and serial titles; 170,000 topographic, geologic, and mineral resource maps; and 260,000 U. S. Government publications. As a member of CARL (Colorado Alliance of Research Libraries), the Library has access to over 5 million bibliographic records in the regional area.

The collection is considered a working collection and is accessible to the clients of the Library. Some items are considered rare and require special appointment for use such as Georg AGRICOLA's *De Re Metallica* (1556) and other rare books on mining and metallurgy. Mine reports from the late 19th and

early 20th Centuries with hand-drawn maps, many in poor condition, are a preservation concern. Two specialty information centers and one repository are also a part of the service commitment to the information needs of the mining and engineering fields. The centers are the Natural Gas Supply Information Center for the natural gas industries, and the Information Center for Ropeway Studies for the materials tramways and ski industries. The Tell Ertl Oil Shale Repository contains fifteen collections concerning the three boom and bust cycles of the Colorado oil shale industry.

The Arthur LAKES Library is also a repository for the cultural heritage of the Colorado School of Mines, the mining history of Colorado, and in some cases memorabilia of the West. Examples will be shown of the exposition medals, silver diplomas, glass plates (lantern slides), E. S. CURTIS photogravure prints of Native Americans, a Hudson class locomotive, and photographs and stereopticons.

Zusammenfassung:

Die im Jahre 1858 von William Green RUSSELL organisierte Expedition und die darauf folgende Entdeckung von Gold in dem Front Range der Rocky Mountains haben den 'gold rush' von 1859, den Massenandrang von Goldschürfern, zustande gebracht. Der Hochwürdige George M. RANDALL, Bischof der Episkopalkirche, arbeitete 1866 Pläne für eine Universität heraus, die eine in der Nähe von Golden, Colorado, zu erbaute Bergschule umfassen sollte. Diese Universität wurde 1874 zu einer Gebietsanstalt gemacht und kam 1876 unter die Aufsicht des neuen Bundesstaates Colorado. Im Jahre 1877 entdeckten Arthur LAKES und Kapitän H. C. BECKWITH die ersten in Colorado gefundenen Dinosauriergebeine und wurden somit versehentlich an den ersten -bone wars oder -Knochenkriegen zwischen E. D. COPE (University of Pennsylvania) und O. C. MARSH (Yale University Peabody Museum of Natural History) beteiligt. 1880 wurde Arthur LAKES zum Professor der Geologie an der Colorado School of Mines ernannt, wo er Geologie und Zeichnen lehrte, bis er 1893 von seinem Lehramt zurücktrat. Die Bibliothek der Colorado School of Mines wurde 1959 LAKES zu Ehren benannt und umfaßt gegenwärtig 130 000 Monographien, über 2 800 laufende Zeitschriften und Serien, 170 000 topographische, geologische, und mineralogische Karten, sowohl als auch 260 000 Verlagswerken verschiedener Staatsministerien der USA. Als Mitglied von CARL (Colorado Alliance of Research Libraries [Allianz von Forschungsbibliotheken]) hat die Bibliothek Zugang zu über 5 Millionen bibliographische Akten im umliegenden Gebiet. Die Sammlung gilt als Forschungssammlung berücksichtigen und ist zu den Bibliothekskunden zugänglich. Einiges gilt als Seltenheit und darf nur verabredetermaßen gebraucht werden, so z. B. Georg AGRICOLAS *De Re Metallica* (1556) sowie andere seltene Bücher über Bergbau und Hüttenkunde. Bergbauberichte aus dem späten neunzehnten und frühen zwanzigsten Jahrhundert, die handcolorierte Karten enthalten --viele davon in schlechtem Zustand-- veranlassen besondere Aufbewahrungsmaßnahmen. Zwei Auskunftsbüros, die sich mit Spezialgebieten befassen, sowie ein Aufbewahrungsort ermöglichen die Vollziehung unserer Dienstverpflichtung, den Informations-

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bedürfnissen auf den Gebieten des Bergbaues und des Ingenieurwesens gerecht zu werden. Diese zwei Auskunftsbüros sind -*The Natural Gas Supply Information Center*- für die Erdgasindustrie und -*The Information Center for Ropeway Studies*- für die Frachtseilbahn- und Schiindustrie. Der -*Tell Ertl Oil Shale Niederlage*- [Schieferöl-Aufbewahrungsort] umfaßt fünfzehn Sammlungen, die sich mit den drei Perioden von Aufschwung und Flaute in der Colorado Schieferölindustrie befassen.

Die Arthur LAKES Library ist auch ein Aufbewahrungsort für das kulturelle Erbe der Colorado School of Mines, für die Bergbaugeschichte Colorados, und, auf einige Fälle, für Denkwürdigkeiten des [amerikanischen] Westens. Einige Beispiele, die angeführt werden, sind: Ausstellungsmedaillen, Silberdiplome, Glas- Diapositive, Abdrucke von Photographieren der Indianer von E. S. CURTIS, eine Lokomotive der Hudson Klasse, Photographien und Stereoptika. Die Wichtigkeit der Bewahrung sowie des aktiven Sammelns von Sachen, die von historischem Interesse sind, wird immer mehr zur Kenntnis genommen. Es bleibt jedoch schwierig Gelder für Bewahrungszwecke zu finden. Darüber hinaus ist es nicht immer leicht festzustellen gerade welche Bewahrungsmethoden die richtigen sind für die sehr verschiedenen Gegenstände.

The *William Green Russell* expedition of 1858 and the subsequent discovery of gold along the Front Range of the Rocky Mountains brought about the gold rush of 1859. Mining and metallurgical methods were costly and crude. Golden, Colorado situated at the foot of Clear Creek Canyon in the foothills of the Rocky Mountains was ideally located to have a prominent position in the history of Colorado and the history of mining. The Right Reverend George M. RANDALL of Boston, Massachusetts, was consecrated Missionary Bishop of the Episcopal Church of Colorado in 1865. One of his first observations when arriving in Denver in 1866 was the lack of higher educational facilities. He made plans for university which would include a school of mines. Mr. George W. JARVIS of Boston, Massachusetts, provided the funding for the first building, Jarvis Hall, erected on land provided by Mr. Charles C. WELCH. The Territorial Legislature appropriated funds in 1870 for a building to replace the wind-demolished Jarvis Hall. On January 24, 1874, the Honorable Charles C. WELCH introduced a bill in the Colorado Territorial Legislature to deed the School of Mines to the Territory. The bill passed on February 9, 1874 and was signed by Territorial Governor ELBERT. On July 6, 1874, the first Board of Trustees met in Golden with F.A.H. LOVELAND, railroad and empire builder, elected as President and Captain E. L. BERTHOUD, engineer and explorer, was elected secretary (HOYT, 1949). In 1876 the School became a state institution when Colorado achieved statehood. The first diploma was granted in 1882 and the first formal commencement was held in 1883 with two graduates. The Colorado School of Mines (CSM) offers the bachelor of science degree in engineering, mathematics, and the physical sciences. At the master's and doctoral levels, degrees are

offered in mineral economics, engineering, mathematics, and the physical sciences (Colorado School of Mines, 1992). Enrollment has grown to 3,000 students, about one-third of which are graduate students.

Arthur LAKES (Figure 1) was born on December 21, 1844, at Martok, Somersetshire, England, and was educated at Queen's College. He taught in Canada upon graduation and immigrated to the United States in 1862. In 1869, he accepted a teaching position at Jarvis Hall Collegiate School, teaching English and Latin while studying theology at Matthews Hall. In 1877, the Reverend Lakes and his associate, Captain H. C. BECKWITH, United States Navy, discovered a large thigh bone of a -whale lizard and wrote to Othniel Charles MARSH, a prominent paleontologist at Yale. LAKES was not convinced of receiving a reply from MARSH so he also wrote to Edward DRINKER COPE, University of Pennsylvania. As MARSH and COPE were involved in great rivalry, a -bone-war with occasional shots being exchanged by the field parties of both factions, LAKES inadvertently added to this tempest. Lakes resigned his teaching position and assisted in the collection of fossils from the Morrison Quarry for MARSH and is credited with establishing the procedure of placing the plaster of paris jackets or casts on the outside of the bone to protect the fossil from destruction during excavation and transportation.

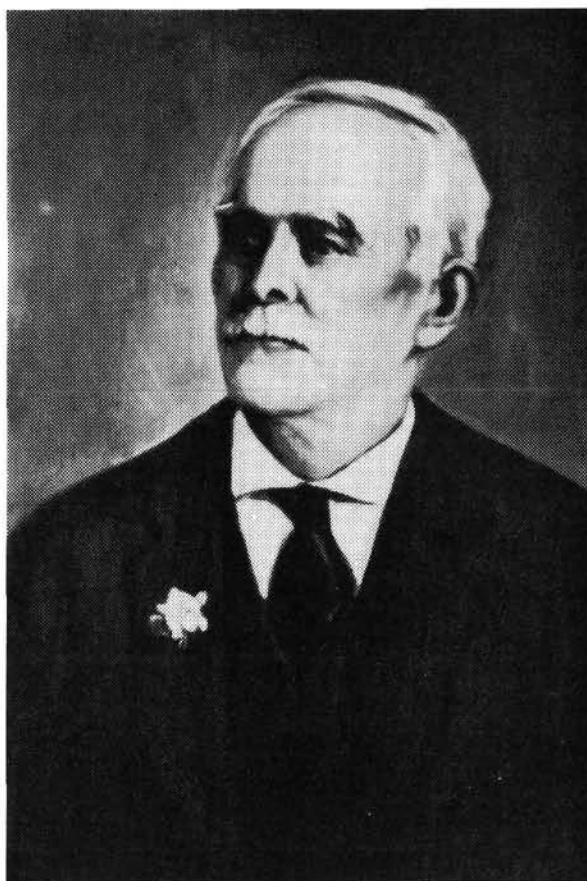


Fig. 1: Arthur LAKES
Father of Colorado geology

In 1880, LAKES assumed the position of Professor of Geology at the State School of Mines, teaching geology and drawing, and conducting Saturday field trips. Lakes resigned from CSM in 1893 and became a mining engineering consultant, sometimes associating with the United States Geological Survey. He was a significant contributor of geological data and mineral deposit surveys, especially for Colorado. He was editor of numerous journals. He died November 21, 1917. He is considered the Father of Colorado geology (JONES, 1989). The CSM Library (Figure 2) was named in his memory in 1959. The portrait of Arthur LAKES and several examples of his technical drawings hang in the Library as well as other Lakes' water colors. The Arthur LAKES Library has 130 000 monographs; over 2 800 current journal and serial titles; 170 00 topographic, geologic, and mineral resource maps; and 260 000 U.S. Government publications. As a member of CARL (Colorado Alliance of Research Libraries), the Library has access to over 5 million bibliographic records in the regional area.

The traditions of our past and the expectations of our students, faculty, and the citizenry of Colorado, insist on an accessible working collection. Most items can be checked out. Some items are considered rare or unique and require special appointment for use. The following list and description are a small sample of our vault material.

1. PARKINSON, James, 1755 - 1824.
Organic remains of a former world: an examination of the mineralized remains of the vegetables and animals of the antediluvian world; generally termed extraneous fossils.
London: Printed by C. WHITTINGHAM and published by J. ROBSON . . . [et al.]. 1804-1811.
3 v.: ill., col. plates; 27 cm.
Includes bibliographical references.
2. PRYCE, William, 1725?-1790 *Mineralogia cornubiensis: a treatise on minerals, mines, and mining: containing the theory and natural history of strata, fissures, and lodes, with the methods of discovering and working of tin, copper, and lead mines, and of cleansing and metalizing their products; shewing each particular process for dressing, assaying and smelting of ores: to which is added, an explanation of the terms and idioms of miners.*
London: Printed and sold for the author by J. PHILLIPS: sold also by B. WHITE and J. ROBSEN, 1778
xiv p., 331 p., [7] leaves of plates: port., plates, map (2 fold.); 39 cm.
Spine title: *Pryce on minerals.*



Fig. 2: The Arthur Lakes Library, Colorado School of Mines, Golden, Colorado, USA

3. *Telluria theoria sacra*. English

The theory of the earth: containing an account of the original of the earth, and of all the general changes which it hath already undergone, or is to undergo, till the consummation of all things.

London: Printed by R. NORTON, for Walter KETTLBY, at the Bishops-Head in St. Paul's Church-Yard, 1684-1690.

2 v.: ill., plates, 2 double maps, port.; 35 cm. Engraved half-title, [v. 2]: *The sacred theory of the earth.*

Additionally, we have several *De Re Metallicas* in various editions. Please find listed below a sample of those volumes.

1. AGRICOLA, Georg. 1494 - 1555. *De ortu & causis subterraneorum, lib. V; De natura eorum quae effluunt ex terra, lib. IIII; De natura fossilium, lib. X; De ueteribus & nouis metallis, lib. II; Bermannus, siue De re metallica dialogus, lib. I; Georgii Agricola. Interpretatio Germanica uocum rei metallica, addito duplici indice, altero rerum, altero locorum,; omnia ab ipso authore, cum haud poenitenda accessione, recens recognita.* Basileae: [Per H. Probenivm et N. Episcopium], 1558.

470, [39]p.; 32 cm.

Vignette (printer's device) on t.-p. and last page; initials.

Imprint date also penciled on t.p.

Book plate on front cover: Ernest RIDLEY DEBENHAM. Strip 1½ - 2 inches removed from bottom of t.p.

Rebound.

2. AGRICOLA, Georg. 1494 - 1555

Georgii Agricolae De re metallica: libri XII. quibus officia, instrumenta, machinae, ac omnia deni ad metallicam apectantia, non modo luculentissime describuntur, sed & per effigies, suis locis insertas, adiunctis latinis, germanicis appellationibus ita ob oculos ponuntur, ut clarius tradi non possint. Eiusdem De animalibus subterraneis liber, ab autore recognitus: cum indicibus diuersis, quicquid in opere tractatum est, pulchre demonstrantibus.

Basileae: [Apvd Hieron Probenivm et Nicolavm Episcopivm], 1556

[12], 538 (i.e. 502), [4] p.: woodcut ill. (part fold.); 32 cm.

Vignette (printer's device) on t.-p. and last page; initials.

DUVEEN, p. 4; cf. FERGUSON, I. 9-10.

3. AGRICOLA, Georg. 1494-1555.

Georgius Agricola De re metallica / tr. from the 1st Latin ed. of 1556, with biographical introduction, annotations and appendices upon the development of mining methods, metallurgical processes, geology, mineralogy & mining law, from the earliest times to the 16th century, by Herbert Clark Hoover and Lou Henry Hoover.

London: The Mining Magazine, 1912.

2 p.l., i, [1], 640 p., 1 l.: ill., fold pl.; 35 cm.

With reproduction of original t.-p.

"Bibliographical notes": p. 599-615.

Of particular interest for the mining history of the American West are mine reports from the late 19th and early 20th centuries with hand-drawn maps, many in poor condition. Microfilming of a large percentage of these reports has been accomplished with assistance from the United States Bureau of Mines for preservation of these documents. Map encapsulation of fragile maps is also a part of our preservation practice.

Two speciality information centers and one repository are part of the service commitment to the information needs of the mining and engineering fields. The Natural Gas Supply Information Center was established as a comprehensive resource for research into coalbed methane, and other types of unconventional gas, specifically in the western United States and Canada. The Center is part of the technology transfer function of the Gas Research Institute (GRI) comprehensive natural gas supply research and development program. The objective is to develop technologies for the benefit of gas ratepayers and the gas industry that can be used to provide competitively priced gaseous fuels in greater quantities than would otherwise be possible, to ensure that these technologies are safe and environmentally benign, and to ensure a secure, long-term supply of gas (GREALY, 1993). This is a full service information center. The Information Center for Ropeway Studies will maintain for access by the public appropriate information relative to the theory, design, and operation of ropeway systems (Information Center for Ropeway Studies, 1991). Ropeway technology has a long history in North America going back to the last century when ropeways were used exclusively for material handling in mining operations. During the last forty to fifty years, however, the major growth of ropeway systems has been generated within the ski/recreational industry (LERUD and HUTTELMAIER, 1993). The Center is the responsibility of the Library and instruction is available for its use. Extraordinary reference service would be available for a fee. The Tell Ertl Oil Shale Repository, established by the Tell Ertl Family Trust, preserves documents of historical significance in the research and development of oil shale and the associated economic cycles. A database, using Personal Librarian Software, provides access at the document level. The grant further provides a subject specialist to determine access points for retrieval.

The Arthur LAKES Library is also a repository for the cultural heritage of the Colorado School of Mines, the mining history of Colorado, and in some cases memorabilia of the West. Examples include:

Medals. --The Library holds several medals for the Colorado School of Mines. These include medals for

1. International Exhibition, Philadelphia, 1876;
2. World's Columbian Exposition In Commemoration of the 400th Anniversary of the Landing of Columbus, 3 medals, To State School of Mines, C. E. BARBER, 1892-1893;
3. Trans-Mississippi and International Exposition, 1898;

4. Universal Exposition, Saint Louis, Grand Prize, Gold Medal, 2 Silver Medals, 1904;
5. LEWIS and CLARK Centennial Exposition, 2 medals, 1905;
6. Tenth International Dry-Farming Congress and International Soil Products Exposition, Blue Ribbon and Gold Medal, 1915;
7. Man's Progress is Dependent on Minerals, Colorado School of Mines 1874-1949, Commemorating Seventy-Five Years of Service in Mineral-Engineering Education and Research, 3 medals, 1949;
8. School of Mines State of Colorado Seals, 3 silver seals and 1 bronze seal; no date given; and
9. To Philip ARGALL 1903 For Meritorious Achievement, Edmond C. VAN DIEST Memorial Award Awarded By the Institution of Mining and Metallurgy, 1903.

Silver Diplomas. --W. Gaylord WARREN, while editor of the Colorado School of Mines newspaper, *The Oredigger*, conceived the idea of the silver diploma. Charles HULL, with the advice and consent of Professor Robert BAXTER formulated the procedure. President M. F. COOLBAUGH wanted Mr. WARREN to have the first silver diploma in 1934. When it was finished the President was not satisfied with the appearance of his signature so he ordered it scrapped. Professor BAXTER suggested that it be kept for its archival value. Other silver diplomas are also held in the archive. Some were not awarded as graduation requirements were not met and some have been returned as estate gifts to the school.

Lantern Slides. --Over the years, a representative collection of lantern slides used as teaching aids in the classroom have been given to the Library. Lantern slides consist of either a positive or negative image captured between two glass plates and sealed. They were used with lanterns lit by kerosene, carbon arc, and later by electricity. The Information Center for Ropeway Studies has a unique collection of lantern slides on materials tramways that date from 1890 through the 1930's and are of considerable historic interest.

E. S. Curtis Photogravure Prints. --Edward S. CURTIS dedicated thirty years of his life to photographing -the vanishing race of the Native American. He is best known for his 20 volume work *North American Indian*; the first two volumes being published in 1907. -Bound with the twenty volumes of text were to be fifteen hundred full-page photogravure illustrations, each volume to consist of 350 or more quarto pages, measuring 9 1/2 by 12 1/2 inches. The printing of the books was by Cambridge Press of Cambridge, Mass[achusetts], the photogravures in books and folios, by John ANDREW and Son of Boston.(ANDREWS, 1962)

Ralph W. ANDREWS (1962) further states -Many of these photographs have the qualities one finds in paintings, qualities obtainable only by the artist educated in composition, in the management of light and shadow masses, and the subordination of undue detail when the spirit of the work demands--combined with the skill of the

competent photographer knowing all that one should know about necessary periods of exposure under different light effects, the secrets of the development of negatives to produce results most desirable, and a knowledge of making prints that are in the highest degree artistic. Hanging in the Arthur LAKES Library are ten of these photogravures, a gift to the school from the Atlantic Richfield Company.

Authentic Model of Railroad Locomotive, Hudson Class J-3a. --From the inscription: - This authentic, working model of the New York Central Railroad's famed Hudson class locomotives is a gift to the Colorado School of Mines by a benefactor of the school, the late Edward FIELD HARRISON of Denver. A mechanical engineer who held a life-long interest in engineering and technology, Mr. HARRISON built model locomotives and railroad equipment as a hobby.The locomotive is a replica of the coal-burning, steam- powered locomotives which pulled the New York Central's high speed passenger trains, including the famous '*20th Century Limited*', in the late 1930s. The Library became the repository of this model when the Engineering Department no longer had display room.

Photographs. --Many photographs are donated to the Library. *The Oredigger*, the student newspaper, and *The Prospector*, the student yearbook, often donate photographs. The Public Relations Office of the Colorado School of Mines will donate photographs when they review their files every three to five years. Photographs are generally a significant portion of personal papers that are placed in the Library archives and give an historical perspective to the life and times of the individual. Photographs may appear singly or be mounted in photograph albums which present certain preservation problems. Other memorabilia are also present in these gifts. Class pins, class rings, team logos, dance programs, and keepsakes are often present.

Stereopairs. --The viewing of stereopairs or stereopticons was popular entertainment around the turn of the century. The special viewer allowed the picture to appear as three-dimensional with geographic vistas being preferred. These were often offered as souvenirs at tourist stops, much as post cards are sold today. Views from early Colorado are very interesting historically.

The Arthur LAKES Library of the Colorado School of Mines is a repository for the cultural heritage of the School of Mines and that relationship with the history of mining in the state of Colorado. Challenges are placed upon the physical space of the Library, the security of the items retained, and the preservation of the varied media. The Library acts as an art gallery, museum, study hall, library, reading room, and social club but it is all part of the same mission. The Arthur LAKES Library not only collects cultural heritage but it in turn is part of the cultural heritage of the region.

Acknowledgements:

Special appreciation goes to Robert SORGENFREI whose responsibilities include the Archives of the Arthur Lakes Library and believes in sharing information about this

cultural heritage. Thank you to Lisa DUNN who edits with a critical eye for clarity and to Linda SOLE who assisted with the German translation. My gratitude is also extended to Derek WILSON and his professionalism with the camera. One picture is indeed worth a thousand words.

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