GEOLOGICAL SOCIETY NEWS LETTER

Volume 10, 1944

Subject Index for Volume 10, 1944

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GEOLOGICAL SOCIETY OF THE OREGON COUNTRY

Author Index for Volume 10, 1944

GEOLOGICAL NEWS LETTER

OFFICIAL PUBLICATION OF THE

VOL. 10 NO. 1 PORTLAND, OREGON January 10, 1944

GEOLOGICAL NEWS-LETTER
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THE GEOLOGICAL NEWS - LETTER
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MEMBERSHIP APPLICATION
GEOLOGICAL SOCIETY OF THE OREGON COUNTRY

Qualifications and Dues: Applicant must be sponsored by a member and recommended by the Membership Committee. A knowledge of geology is not a requisite. There is no initiation fee. A Member shall be over 21 years of age; or a husband and wife and all children under 18 years of age. The dues are $3.50 per year, payable in advance, which includes one subscription to the Geological News-Letter. A Junior is an individual between the ages of 18 and 21. Dues are $1.50 per year, payable in advance, and include one subscription to the Geological News-Letter.

Date . . . . . .

I, ... (please print full name) do hereby apply for membership (junior membership) in the Geological Society of the Oregon Country, subject to the provisions of the By-Laws.

Home address. . . . . Phone . . . . . .

Business address. . . . . Phone . . . . . .

Occupation. . . . . Hobbies . . . . . .

I am particularly interested in the following branches of geology:. . . . . .

. . . . . .

I enclose $ . . . for the year's dues, March 1 to March 1. (Checks payable to the Society).

. . . . . Sponsored by. . . . . .
(signature) (member)

Portland, Oregon January 10, 1944

SOCIETY ACTIVITIES

LECTURES: On the 2nd and 4th Fridays of each month at the Auditorium (3rd floor) of the Public Service Building, 920 SW. 6th Avenue at 8:00 p.m.

TRIPS: On Sundays following the lecture meetings, or as otherwise arranged. Meeting place opposite Public Market, SW. Front Ave. and Yamhill St.

LUNCHEONS: Every Thursday noon in the Victory Room of the Winter Garden restaurant, 425 SW. Taylor Street between SW. 4th and SW. 5th Avenues. Luncheon sixty cents.

MEETING ANNOUNCEMENTS

Friday Jan.14 — Dr. Robert Nichols of the U. S. Geological Survey will give an illustrated lecture on the destructive hurricane that swept through the New England States in 1938. No member of the society who has heard one of Bob Nichols' lectures will willingly miss this one. Why not give one or more of your neighbors "and/or" other friends a real treat by bringing them to this instructive and entertaining meeting.

Friday Jan.28 — Motion pictures of the Olympic National Park.

WORK NIGHT

Sunday Jan.16 — From 5 to 9 p.m. in the Ruff basement, 3105 N.E. 45th Avenue (corner of N.E. 45th and Siskiyou - basement entrance on Siskiyou).

An interesting feature of the evening will be a demonstration by Mr. Earl M. Minar of the hand polishing of rock specimens.

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Among the night classes of the Oregon State system of higher education are the following Portland Center classes:

Geography of the Pacific will be taught by Dr. Warren D. Smith, head of department of geology and geography at the University of Oregon. This class will meet on Friday at 7 P.M. in room H of the central library.

The center will start another beginning class in Spanish on Wednesday nights. This will be given by Dr. Adolph Weinzirl, professor of public health and medicine, University of Oregon medical school.

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LUNCHEON NOTES FOR THURSDAY, December 16, 1943

An attendance of 21 at the T-shaped table, including three noteworthy guests. Mr. Ruff was accompanied by Clifford W. Read, an associate engineer and geologist, who also claimed acquaintance with Bruce Schminky, having known him in college. Mr. Fay Bristol, a mining engineer from southern Oregon, was presented by Mr. Libbey, and John Robinson introduced Preston Macy, superintendent of the Olympic National Park. This park, says Mr. Macy, holds the distinction of possessing the largest known living Douglas fir, 17 feet 8 inches in diameter, and

also boasts a hemlock around six feet in diameter, a spruce 13 feet, and on the Quinault a cedar 20 feet in diameter. They likewise hold the record on huckleberry, having one specimen five inches in diameter which did not branch until over nine feet above ground. Very little research work in geology has been done in that area. Fine specimens of quartz crystals, some six inches in length, were originally found in a cave on the Hoh River, but as someone went in and blasted them out, the beautiful exhibit is lost to nature lovers. In the park area public digging is not permitted. The lack of scenic features on the Olympic Highway Mr. Macy says is due to the many cuts and fills in its construction. It is proposed to make a parkway along the route to make it an ocean highway..... Among today's specimens were a beautiful slab of polished rhodocrosite with surrounding lacework of iron pyrites from Argentina, exhibited by Mr. Carney; a piece of slag and one of obsidian found at the roots of a tree 20 to 25 feet underground at Oswego, shown by Clarence Phillips; and from northern Kansas a bit of attractive dendritic material, a piece of petrified wood from the Tertiary, and a white rock tentatively identified as aragonite, brought by Mr. Ruff..... Also shown was the reprint of a map published in 1846 entitled "Map of Texas, Oregon and California," outlining Fremont's travels through the West. A letter in miniature from Lt. Ava Bickner, in North Africa, was brought by Florence Iverson. Mr. Bates exhibited a large chart, sent to him as a souvenir by the Bismarck Hotel in Chicago, showing in condensed form data concerning the lives of all the great musicians from Bach to Gershwin, their chief works, and dates and places of their birth and death. A souvenir well worth owning.

A.H.

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LUNCHEON NOTES FOR THURSDAY, DECEMBER 23, 1943

Our members in their country's service were remembered on this pre-holiday occasion. Christmas cards, brought by Mr. Vance, went around the table and were signed by all of the 20 persons present, to be mailed to the absent ones..... Mrs. Stevens of Bonneville and Miss Mella White were with us today. Mrs. Stevens reports that Bonneville is shrinking in population now that the project there is completed. Miss White was accompanied by her guest, Miss Ella Tryol, a member of the Geological Society of Central Montana. Miss Tryol showed several specimens - a trilobite from Three Forks, Montana, a piece of quartz from Red Lodge, a bit of belemnite and a small crystal pronounced by Mr. Ruff to be a doubly terminated quartz crystal. Mr. Libbey exhibited a large and very heavy specimen of "unknown" material, identified by the experts as fluorite. Dr. Staples was present as the guest of Dr. Harrison.....A meeting of the Oregon Academy of Science is scheduled for January 15 in the Public Library, according to Mr. Ruff.

Amazing! Astounding!! Stupendous!!! was the Tale of the Mice, told by Mr. Bates and swallowed at one gulp by a spellbound audience. It happened in Australia in 1915, according to a booklet sent to Mr. Bates by a friend in that country, when the sacked and stored grain of an unprecedented wheat crop was threatened with destruction by hordes of mice. Through an ingenious trapping device, the wheat was saved when the mice were trapped by the score - by the hundred - by the thousand! By the TON! SIXTY TONS OF MICE in a single night! A total of SIX HUNDRED TONS IN EIGHT WEEKS!!! The story was substantiated by the written word - the booklet in question - but this of course was quite unnecessary inasmuch as Mr. Bates is a person of unquestioned veracity and highest standing, and any facts he may wish to present shall be accepted without flinching.

A.H.

SUMMER EXCURSIONS INTO CENTRAL OREGON

by Dr. Warren D. Smith

As I have been requested by the Editor of the News-Letter to furnish some copy, I am throwing together into this article brief observations made during several trips into Central Oregon during the past two summers. I have no particular idea of settling any great problems or announcing any great discoveries, and some of the things that I may state are not altogether new to at least some of you.

First of all you should have a general picture of Central Oregon. It is, for the most part, a semi-arid region covered pretty generally with Columbia Lavas, and there is some so-called high desert country where there is little vegetation. Spotted here and there are oases, you might call them, interspersed with the many interesting lakes of that country. The region for the most part represents the northernmost portion of the Great Basin Province, where grabens, or structurally depressed areas, are surrounded by upstanding or tilted blocks of lavas, which we speak of as horsts. In many of these depressed areas shallow lakes occur, some of which are quite salty while others are comparatively fresh. Summer Lake is both salty and fresh at the same time. The northern end of this lake is fed by one of the largest springs in the United States, while the southern end is quite salty, and in drier seasons may be merely a salt-encrusted playa.

The things I have to tell you are not taken up in the exact order in which they came during my visits, but only approximately so. On one of my trips I visited the abandoned oil well west of Lakeview on what is known as the Hunter anticline, right in the bottom of the old Goose Lake depression. A small amount of folding has taken place in this region subsequent to the deposition of the lake beds, and this has led to the supposition on the part of some people that an oil structure exists there. Either ignorance of the geological history of the region, or deliberate intent to ignore it, led to a losing venture in this particular instance. After going through several hundreds of feet of lake deposits the drill finally struck lava which had been downfaulted. The project was soon given up, but not until a number of the local inhabitants were much wiser than before the undertaking. I learned on a later visit that, in spite of this experience, a new well somewhere in that general region would be drilled. Just what information encourages these people to persist in this seemingly hopeless undertaking we do not know. Here is a clear case of the importance of knowing the geological history and structure of a region before drilling for oil. This failure to strike oil does not necessarily mean that there is no oil in that country. It merely indicates that the possibilities are rather slim for securing oil there, and that the surface geology, particularly in the lake-bed portion of the country, is not a very good guide to whatever structures may lie below. How much lava will have to be penetrated before one can get into possibly underlying Cretaceous formations we cannot say, but it might be two or three thousand feet.

In the vicinity of Lakeview the government is building a very fine airport. Here again geology stepped in with better results. At the beginning of the project the engineers were planning to go some distance for gravel, when Mr. Carl Williams, well driller of Lakeview and former University of Oregon student who had made considerable study of the local region, told them that they would find plenty of good gravel a short distance below the surface on the site

of the airport. This prediction of his was borne out, and an excellent deposit of gravel was secured right on the ground, only a few feet down.

Near Lakeview Mr. Williams has drilled a new well for the city, about 350 feet deep, and out in the flat near the base of the Lakeview escarpment. For some time after the drilling of this well the water was somewhat dark colored, and there was a question as to whether it would prove suitable for drinking purposes. However, I understand that the water is now clearing up, and as it has a strong flow it is a very welcome addition to the water supply of the city.

One of the most interesting things in this area is the Lakeview Geology Club, founded by Mr. Williams, which has in its membership men and women from all walks of life. I had the pleasure of addressing this club at an informal dinner, and was very much encouraged to see this type of organization among busy people who are finding geology a most interesting avocation.

On one occasion I accompanied them on a trip to Abert Rim, some eight or ten cars filled with people making the trip. We went up Honey Creek, northeast of Lakeview, which brought us eventually out on the back slope of the Rim. We parked our cars some two miles from the rim and then walked over the gentle slope up to the edge. Here we could look down about 2500 or 3000 feet to the valley below, our vantage point being just east of Valley Falls. The best picture I have ever seen of this remarkable geological feature is the one taken from an airplane by the Eastman Company at Susanville, California. This shows the full height of the escarpment and a good portion of the back slope. While there may be higher escarpments in other parts of the United States, particularly on the eastern side of the Sierra Nevadas and the eastern side of Steen Mountain, I believe that this escarpment, as seen from near Valley Falls, is finer in some respects than the others.

After this trip Mr. Walt Perry, who used to be in the Forest Service and is now engaged in special work for private lumber interests, and I took a trip just north of Valley Falls into the region of broken lava and tuff beds, where we had the good fortune to discover in the tuffs below the lava a portion of the skull of an animal with strong tusks. On sending this to Dr. Chester Stock of the California Institute of Technology, we were confirmed in our supposition that we might have here another specimen of an Oreodon. As some of the teeth are not present, we cannot make certain yet what species we have, but this is a new locality for the Oreodon. From the position of the tuff beds the inference is that they are Oligocene or Lower Miocene in age.

In passing, I wish to make special mention of Mr. Perry's work. He has found a number of interesting things in that region, both fossils and human artifacts, and has been very generous in turning these over to scientists for study. He is probably one of the best-informed field men in that entire region, and anyone planning to go into that territory would find it very profitable in expediting his work to consult with Mr. Perry about any trip he proposed to make.

During one of the latest expeditions into that country I accompanied Dr. L. S. Cressman to a cave in the rim rock just south of the town of Plush, opposite Hart Mountain. I think the excavation of one of these caves is about the dirtiest work that I have ever tackled - clouds of dust, and all rather ill-smelling, due to the accumulation over a great number of years of the excrement of all kinds of small animals, possibly large ones as well. As a number of

people had already dug around in these cave deposits nothing unusual was found on this trip, but previously a portion of an atlatl, or throwing stick, had been found. This time we found only fragments of mats and pieces of baskets, all pretty much broken up and partially decayed. There are probably many more caves in this region which will yield a lot of interesting data for the archeologist, but as far as I am concerned, the archeologist can have all of these caves. I'm going to stick to good clean geology.

In travelling through the region this past summer, we were very much impressed with the great amount of water there, far in excess of anything we had seen in the past twenty-five years. The old residents said that there was more water in these lakes than they had seen in all of their life-times, these in some instances going back over fifty years. I have never before seen water standing in the lower Silver Lake region, but this past summer I saw a considerable amount there.

One of the most interesting features in this region, which has been pointed out by many geologists in the past, is Anna Spring which feeds Summer Lake. This is said by the United States Geological Survey to be the largest natural spring in the United States. It comes right out of the side of a hill, gushing out as from a giant sewer. If anyone is in doubt as to the possibility of ground water resources of this region, he should visit this spring. At present the deepest wells are comparatively shallow, but some day, when wells are drilled to depths like those obtained in the great bores of Australia, we may find an abundance of water for all of the necessary activities of the region. The formation at the upper end of Goose Lake, which has many characteristics of a delta deposit, gives evidence of much greater flow of surface water in the past than at the present time. Apparently the earlier main drainage was from north to south. As some of these matters will be discussed at some future time by Dr. Ira Allison, we shall leave the subject here. The Geological Society has already heard Dr. Allison discuss some of these matters, particularly his observations in the vicinity of Fort Rock.

In conclusion I may say that this is a very wonderful region geologically, and has many fine people living in it. Among these are the members of the Lakeview Geology Club. I hope that at some time in the future the Geological Society of the Oregon Country may make a trip to Lakeview and join the local group in an excursion to some of the interesting localities thereabouts. It will be an experience long to be remembered by all who are fortunate enough to participate in it.

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Wells, Francis Gerritt and Waters, Aaron Clement. Quicksilver Deposits of Southwestern Oregon (U.S. Geol. Survey Bull. 850, pp. 1-58, 23 pls., 4 figs., incl. maps & sections, 1934. In cooperation with State Mining Board of Oregon) Geography. Geology, general features, stratigraphy of Devonian, Tertiary Umpqua & Calapooya Eocene. Surficial deposits. Intrusive igneous rocks. Structure, geomorphology, rock alteration, & relations to mineralization. Mineral districts, describing geology of area, geography, history, production. Blackbutte-Elkhead area; Blackbutte & Elkhead mines; Blackbutte, Cinnabar Mt., Sullivan & Hobart Butte prospects. Nonpareil-Bonanza area; Nonpareil & Bonanza mines, Butte & Sutherland prospects. Tiller-Trail area; Buena Vista, Maud S., Pllanz Nivinson, Red Cloud; Quicksilver near Trail, Ash, Poole, Red Chief prospects. Meadows district; Quicksilver Producers Co., prospect; War Eagle mine; Chisholm claims. Most complete report on quicksilver deposits of SW. Oregon in existence. Very thorough. R.C.T.

Runner, J. J.

INTRUSION MECHANICS OF THE HARNEY PEAK BATHOLITHIC GRANITE

Geological Society of America, Bull. No. 39, Page 186, 1928.

The existence of inclusion of sediment lying "apparently undisturbed," that is, with the bedding planes of the various inclusions essentially parallel, within the igneous mass of a batholith has commonly led to the interpretation that the magma has quietly stoped its way and has not thrust aside the inclosing rocks. In this regard the evidence of the inclusions within, and the apparent disturbance of the surrounding rocks by the Harney Peak granite batholith seem in conflict.

The observed phenomena are these:

Thousands of inclusions of sediments of widely varying sizes and shapes are to be found within the granite. Within restricted areas the bedding planes are essentially parallel. Plotting dips and strikes of inclusions reveal gentle folds. The distribution of inclusions is various, but systematic. Areas of most numerous inclusions are usually flat-bottomed valleys or low places. Steep walls of granite with few or no inclusions rise above. Dips of bedding planes of inclusions are generally low, but increase outward toward the margin of the granite.

The granite shows small variations in texture, composition and structure, revealing dikes and sills of later granite within older. Banding parallel to dip of inclusions occurs in spots, but is by no means continuous. The granite shows little of cataclastic effects. The main mass of granite grades off into areas of no granite by dikes and sills becoming smaller and less numerous.

The sediments at the border of the granite area dip away from the batholith at first gently, and as one proceeds away from the edge, more and more steeply, until finally they are found to have been thrown into steep isoclinal folds, many of which are overturned.

The author's interpretations are these:

The mass of granite magma moved forward under great pressure as a series of waves of small dike and sill-like injections into the nearly flat-lying sediments above. After the first wave containing a relatively small amount of magma had penetrated as far as possible it crystallized and aided in holding the mass rigid. Successive waves followed, each penetrating farther and increasing the volume of granite at lower levels, until granite became the dominant material. At all times the inclusions were held more or less firmly so that they did not sink nor rotate much in position. Assimilation materially reduced their size, as is plainly evident in some areas of banded granite. Granite near the center of the batholithic area is older than that at the margin on the same level, hence the marginal inclusions dip more steeply. By the combined effect of all intrusions the bordering sediments are greatly compressed and folded. That the folding did not take place by crushing of sediments against a granite buttress is shown by the fact that the border granite shows little or no cataclastic effects.

R.C.T.

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GEOLOGICAL NEWS LETTER

OFFICIAL PUBLICATION OF THE

VOL. 10 NO. 2 PORTLAND, OREGON January 25, 1944

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MEETING ANNOUNCEMENTS

Friday Jan.28 — Official U. S. Park Service colored motion pictures of the Olympic National Park will be shown. Those who have seen these pictures assure us that they are most interesting and entertaining.

WORK NIGHT

Sunday Jan.30 — From 5 to 9 p.m. in the Ruff basement, 3105 N.E. 45th Ave. (corner of N.E. 45th and Siskiyou - basement entrance on Siskiyou). The program scheduled for January 16 had to be postponed two weeks. An interesting feature of the evening will be a demonstration by Mr. Earl M. Minar of the hand polishing of rock specimens.

LUNCHEON NOTES FOR THURSDAY, JANUARY 6, 1944

The regular Thursday noon luncheon was held as usual at the Winter Garden. Eighteen members were present. Dr. Booth was not late. He just was not. Mr. Piper introduced as his guest Mr. P. Livingston of the Ground Water Division of the U. S. Geological Survey at Texas.....A letter to Mr. Vance from Ray Treasher, in response to the Christmas card received, expressed his appreciation for the remembrance. Mr. Vance also reported that Mr. Stanley was improving and would be back at his desk Monday.....Mr. Davis circulated a note from Phil Brogan, relative to Christmas Lake and the origin of its name, which seemed to be rather uncertain.....Announcement was made by Pres. Lloyd Ruff regarding the meeting of the Oregon Academy of Science to be held on January 15th at the Public Library, and attention was called to Dr. Warren Smith's extension course at Lincoln High School on Friday nights, subject being the Geography and Geology of the Pacific. Mr. Ruff also remarked that it was probably a good idea that the present administration of the G.S.O.C. was drawing to a close since he had had a promotion to classification 1 A.....Mr. Minar showed a number of small specimens of jasper from the Mt. Angell district and also a larger specimen of red jasper, polished by the rail and elbow grease method, which he agreed to demonstrate at the forth-coming work night.....Mrs. Barr also showed several fossil specimens taken from a road cut in waste material of the lead and zinc mines in southwest Missouri. This material is known as chat and is used on roads and driveways. The specimens were accompanied by an illustration in the National Geographic magazine showing a huge pile of chat several hundred feet high.....Mr. Carney provided a fine quartz crystal specimen from Hot Springs, Arkansas. It was learned that Mr. Carney had been doing errand duty for Miss Henley, a victim of the "flu" and for whom your reporter has inadequately substituted.

H.M.S.

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LUNCHEON NOTES FOR THURSDAY, JANUARY 13, 1944

Late - later - latest - came Leo Simon, Dr. Booth, and finally Lloyd Ruff, to preside over an attendance of 17.....Dr. Booth read an interesting letter from Mr. J. L. Kraft, a luncheon guest of the Doctor's last summer, expressing appreciation of the volume of Standard Oil pictures sent him by Dr. Booth. The latter showed two spinel boules, the gift of Mr. Kraft - one a deep indigo blue, the other a half section of an artificial ruby boule. Dr. Booth also brought a good sized specimen of spinel from his own collection.....Mr. Carney exhibited a large piece of citrine quartz crystal shot through with long needle-like crystals of rutile - a rare and valuable specimen. He also brought as a gift for the Society about two dozen photographs, neatly mounted, taken on a trip which our Society made to the famed lava forest in the Bend area some years ago..... Dr. Stevens reported having attended a dinner meeting on January 11, held for the purpose of promoting a museum, with Marshall Dana as chairman. Among the speakers were Clarence Phillips, representing the G.S.O.C., also Earl Nixon. A resolution was passed urging that a museum be included in the program for the post-war period, to be called the Oregon Museum of History, Science and Industry, the name suggested by Mr. Christensen. A committee of nine members was appointed to make plans for the creation of a corporation. The big problem, however, is to obtain the necessary funds - "the first million being the hardest to get," says Dr. Stevens. Dr. Booth, who also attended this meeting, commented that there was perfect unanimity as to the desirability of such a museum, the result of the meeting being an indorsement of the idea, but ways and means were not touched upon. Dr. Booth suggested the desirability of having 100 persons give a subscription of $1000 each.....Among the groups represented at this dinner were the University of Oregon, Oregon State College, the Oregon Historical Society, the public schools, Americanization Council, Chamber of Commerce, Game Commission, Pioneers, City Planning Commission, Legionnaires, Public Library, and many others.

A.H.

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LECTURE MEETING OF FRIDAY, NOVEMBER 12, 1943

Time (that is, the other fellow's time) is of little concern to the average Portlander, who thinks nothing of being from five to fifteen minutes late at a meeting or even a business engagement, and President Lloyd L. Ruff has done very well considering the shortage of gasoline, disrupted bus schedules, and the well known inertia of Portland audiences in general, in his campaign to begin the meetings of the G.S.O.C. at the appointed hour of eight o'clock. But we may as well admit that "it can't be done." Eight o'clock is taken to mean eight-fifteen, and that's all there is to it.....However, we may mention that it is not at all complimentary to the speaker who is giving his time and energy freely, to see but three or four people in the hall at the time set for opening a meeting..... By eight-fifteen nearly forty people had filtered into the auditorium and scattered themselves about the room as though they were all atoms of the same polarity. At the president's request they moved closer together near the front of the room, making the work of the president and the speakers much easier.....The Reverend Joseph McGrath, Dean of Chemistry at the University of Portland, told of the organization of the Oregon Academy of Science. There will be six classes of membership, he said. The academy plans to have sections devoted to the study of the various sciences.....Ralph Mason, mining engineer with the State Dept. of Geology and Mineral Industries, who has been investigating the coal deposits in the Coos Bay region, showed pictures of the operations, and talked at length about the quantity and quality of the coal available. Mr. Mason thought that the principal reason that more coal is not now being mined, is the low price set by the O.P.A. The price is less than the average cost of production.

O.E.S.

COOS BAY COAL - OREGON'S FORGOTTEN RESOURCE

by

John Eliot Allen

To one of the present generation, the information that Oregon was once a substantial coal producing state may come as somewhat of a surprise. Perhaps he has heard of "Coos County Coal," but when he is told that for a decade the city of San Francisco was heated by Oregon coal, he usually wants to know more about it.

The Coos Bay coal field is located in the southwestern part of the state, just north of the hypothetical "State of Jefferson," and it contains what the Department of Geology and Mineral Industries believes to be the largest known and still undeveloped mineral resource in the State of Oregon. Estimates made after the extensive federal exploration campaign of the 1890's gave reserves a cool billion tons, lying at minable depths above 2000 feet from the surface. Since that time considerable coal has been mined, but only two mines went below 600 to 700 feet in depth.

Mining in the coal field, which surrounds Coos Bay and extends south for over 30 miles to a point beyond Coquille, began soon after the region was settled in the early 1850's. Coal was discovered in 1854, and the mines near the hamlet of Coaledo and those southwest of Marshfield (the old Eastport and Newport Mines) were first operated in 1855, to be followed by numerous other mines. The coal was often loaded directly on coastwise steamers which came far up the sloughs, in some cases almost to the mine portals, and was shipped directly to the San Francisco Bay region. By 1880 when records first began to be kept, production was about 40,000 tons a year; and for 15 years it ranged from 30,000 to 75,000 tons per year. In 1876-7 the production reached 100,000 tons, a figure not exceeded again until 1904, the year of maximum production, when there was shipped a total of 111,540 tons of coal. Since 1905 there has been a general decline, attributable in part to the decline of the California market, and in particular, beginning in the 1920's, to the replacing of coal by oil in railroad operation and in heating. The largest mine of the last war was the Beaver Hill mine. It was owned and operated by the Southern Pacific Company, and when it closed down in 1923, it had reached a depth of 1400 feet below sea level and a distance of 3030 feet down the dip of the coal. Since that time coal has been produced only for local consumption, a demand which has varied from 7000 to 10,000 tons a year. The largest all-time producer in the Coos Bay district was the Libby mine in the Newport Basin. This is a shallow canoe-shaped syncline located two to three miles southwest and west of Marshfield. It has produced over a million tons in the past, but is now in large part mined out. The total recorded production of the Coos Bay Field from 1880 to 1920 was 2,380,000 tons. Probably the total production substantially exceeds two and a half million tons.

Coos Bay coal is a typical subbituminous coal, similar to that being mined at a rate of half a million tons a year in Washington and 2½ million tons a year near Denver, Colorado. It has a low sulfur content and a moderate ash content (in fact, both of these are lower than in Illinois coal). A large part of the ash is in the fine sizes, and the ash content can be materially reduced by proper washing and sizing. Coos Bay coal breaks out in the mine with a large percentage of coarse sizes, and can stand considerable handling, being relatively non-friable. The unfavorable characteristics which have contributed, to a small extent, to the present lack of production, are the relatively low heating value (9300 to

10,000 b.t.u.), the tendency to slack or weather when stored in a dry climate, and the non-coking character of the coal, which prevents its use in the metallurgical industry as a source of carbon. A much more important reason why production of Coos Bay coal has not been maintained is possibly because most of the northwest railroads own large coal mines in Washington, Utah, and Wyoming. If I were a railroad executive I would prefer to mine coal from my own mines and ship it a thousand miles over my own rails, and would do all I could to prevent a local supply from being developed. If you talk to Portland or other northwest fuel dealers, they will tell you that Coos Bay coal is "very poor in quality.... has a very high ash content, so we don't carry it."

The 1942 state legislature appropriated $20,000 to be used by the Department of Geology and Mineral Industries for exploration of the coal field, if the county would match these funds. The progressive and far-sighted Coos County commissioners "stuck their necks way out" and matched these funds, after the department had formulated a tentative program and had convinced them that this $40,000 would be spent in a logical and business-like way, which would be most productive of information which might bring in outside capital to develop the coal of the county.

This program set up the Coos Bay Coal Survey, with headquarters in Marshfield, and a tentative division of funds of $8,000 for geological work and $32,000 for exploration and drilling. The work started last April, and the crew in the field, which at first consisted of a single geologist, was soon supplemented by an engineer, a drill crew of from 4 to 20 men, an assistant geologist and paleontologist, and a draftsman. Last week a power drill capable of deepening the holes drilled by hand to any depths necessary up to several hundred feet, was brought on the job.

In June Congress appropriated $100,000 for an exploration of the Coos Bay field by the Federal Bureau of Mines, and it became evident that the emphasis on the work by the state agency should change. In view of the present lack of coal miners, and the fact that large government contractors were running out of dirt-moving projects such as airport construction jobs, and hence wanted to put their large dirt-moving equipment to work, it was deemed advisable to concentrate on seeing whether the Coos Bay area had regions of shallow coal that could be mined by stripping methods. The deep coal was to be left for the federal drills to explore.

The geologic field and office work of the Coos Bay Coal Survey fell into a number of branches. First it was necessary to review and check, if possible, all past publications. Some 130 different publications mention Coos Bay coal, but only fifteen were worthy of abstracting, and only three were found to be of constant value. These were the Coos Bay Folio, the report in the 19th Annual Report of 1897-8, and Bulletin 431, 1909, all of the U. S. Geological Survey. All three of these were by that pioneer survey geologist who has published more field maps in Oregon than any other man: J. S. Diller.

Next, a search was made for all the historical information possible concerning the past production of the old mines of the area, to supplement data given in the very few mine maps that were available. When there are no maps of an old now-caved mine, something can sometimes be told as to how much of the locality had been mined out by a knowledge of how long the mine operated and at what rate it produced coal. Whenever old workings did remain open they were examined and mapped. There are also still a few old-time miners in Marshfield who have astonishingly good memories as to how long the slope was, or how many rooms were taken off the gangway. (To be continued.)

NOTES ON THE FOSSIL WOODS OF CALIFORNIA*

No. 1 Calistoga

By Geo. F. Beck, Central Wash. College of Education, Ellensburg, Wash.

One of the first known, and still one of the most famous of the fossil forests of the West is that at Calistoga several hours north of San Francisco. Dr. Paul Platen, in his "Investigation into the Fossil Woods of the Western United States" (in German, Leipzig, 1908) states that this forest was originally described by C. H. Dennison in the San Francisco Bulletin of 1870, and that subsequently other writers had given it wide publicity. It excells among the presently known petrified forests of all regions in the perfection of the exhumed trunks, as bark and all these "fallen giants" have been laid bare by the shovel.

Dr. Erling Dorf in his recent "Pliocene Floras of California" (Carnegie Inst. Pub. 412) compares this forest with the directly associated leaf bed of his locality 151. In his several page description of the Calistoga forest, Dr. Dorf implies that M. C. White made the first identification of one of these woods in 1871 - his opinion, Sequoia, having been confirmed in recent years by Irma Webber. In the correlation of woods and leaves, however, Dorf depends in the main upon the work of Platen for the identity of the former.

I have visited the locality twice and on both occasions have been generously supplied with specimens - which to my chagrin seem to represent but the single type, Sequoia. Notwithstanding, I have found the area to be as fascinating today as to the generation who first encountered it, and to lose none of its appeal through the circumstance that its modern counterpart, the redwood forest, ranges still close at hand. One's imagination is stirred by the manner of burial of these ancient monarchs, in mud and ash, a prehistoric catastrophe reminiscent of the destruction that befell the Roman cities clustered at the foot of Mt. Vesuvius. But this example of American volcanic activity takes us back a million years for each of the several thousand that separate us from the tragedy of Pompeii.

Platen names and describes a half dozen types of wood as occurring at Calistoga - dominated by Sequoia. He lists several other conifers, one of which he apparently wished to correlate with the modern Douglas fir (Pinus Douglasii) in view of the spirals that he observed in some of the tracheids. The modern German worker, Krausel, considers spruce to be more likely with larch as a possibility. Unfortunately Platen does not make clear the character and grouping of the vertical resin canals to help determine which of the three genera is represented. Platen's determination of the other conifer as the Monterey pine has been accepted by Krausel and I see no reason to challenge it.

It is not certain that Platen's elm is indeed such for I have learned that several elm-like woods occur among undoubted elm in our Tertiary. It is just as likely that his provisional listing of a poorly preserved red gum-like wood represents such (Liquid-ambar). His oaks pass without question.

Here, then, in the Calistoga of some five million years ago, there flourished a redwood forest enriched by members now confined to the Atlantic coast and by others that are strangers in the temperate North America of today. That elm and red gum may well have occurred in this Pliocene forest is supported by the character of its fossil leaves. Nor do the fossil leaves fail to indicate that trees now extinct in extra-tropical regions once shared or challenged the ground held by this ancient redwood forest of Calistoga.

* Reprinted from "Mineral Notes and News", Bulletin 72, September 1943.

OREGON ACADEMY OF SCIENCE MEETING

Geology and Geography Section

The second annual meeting of the Oregon Academy of Science was held in the Public Library building on Saturday, January 15. At the opening session in the basement auditorium at 10 o'clock, the delegates, who numbered approximately 175, were welcomed, at some length, to the city by Commissioner Dorothy McCullough Lee, Dr. A. L. Strand of Oregon State College presiding. Immediately following the general meeting, delegates split up into five sections embracing the general fields of organic chemistry, biology, geology, mathematics, and physical and inorganic chemistry. A two-hour intermission from 12 until 2 o'clock provided ample time for various groups to get together for informal luncheons.

The writer was able to attend only the Geology and Geography Section at which Mr. Lloyd Ruff presided. Of the eight papers presented, two were presented in absentia, Tom Aiken reading John Allen's report on "A Vanadium-Bearing Black Sand Deposit of Middle Mesozoic Age in Central Curry County, Oregon," and Dr. Wallace Lowry reading F. W. Libbey's outline of "Developments in Mining in the Pacific Northwest during the Past Century." In addition, Dr. Lowry also presented two papers of his own, one on the "Iceland Spar Deposits near Owyhee Reservoir in Malheur County, Oregon," and another on "An Investigation of the Sea-Cliff Subsidence of March 30, 1943, at Newport, Oregon."

Mr. Lloyd Ruff presented a paper illustrated by a very long map on the "Reconnaissance Geology of the Snake River Canyon." Mr. Ruff also displayed a large map of Oregon on which numerous small colored areas showing the geology were drawn. Mr. Ruff explained that although the Army Engineers had been assembling the data for their own information, the unfinished portion of the task was very large and that it would require the efforts of several agencies working for a considerable period of time to fill in the remaining blank spots on the map.

"Geology and Military Operations" was the subject discussed by Dr. W. D. Smith in his paper, in which he lamented the fact that the fullest use of geologists was not being made by the Army and Navy. He cited numerous instances where precise geological information in the hands of the Allied commands would have meant victory rather than failure. Arthur M. Piper of the U.S.G.S. Ground Water Division supported Dr. Smith's statements, stating that there was a shortage of geologically trained personnel in the armed forces, although the situation is vastly improved over that of World War I.

"The Application of Geology to Mining Problems at Some of the Klamath River Province Chrome Mines" was the title of a short paper read by Ralph Mason. This paper stressed the fact that a good geological report on a mine should confine itself to the problems at hand and should not expatiate on matters of interest to the geologist alone.

At the close of the Geology Section, the following officers were elected for the coming year: Dr. W. D. Smith, Chairman, Dr. Ira S. Allison, member at large, both of whom will serve on the general council, and Lloyd Ruff, Secretary. Attendance at the Geology and Geography Section averaged about fifteen. Seen at the meeting were Dr. Packard and Professors Anderson and Milne.

In the general meeting at 4 o'clock, Dr. Stanley Jewett was elected to serve as president for the year 1945. Dr. Joseph McGrath was installed as president for the year 1944 at the evening meeting, and gave the inaugural address. Dean Gilfillan was re-elected secretary. The evening session speaker was Mr. Ivan Bloch of the Bonneville Power Administration who spoke on "The Application of Power to Postwar Industrial Development in Oregon."

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Staff of Geological News-Letter

Mr. E. N. Bates	Editor	345 U. S. Courthouse
Raymond L. Baldwin	Business Manager	4804 S. W. Laurelwood Dr.

Associate Editors

Edwin T. Hodge	Ray C. Treasher	John Eliot Allen
H. B. Schminky	O. E. Stanley	J. C. Stevens

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Date . . . . . .

I, ... (please print full name) do hereby apply for membership (junior membership) in the Geological Society of the Oregon Country, subject to the provisions of the By-Laws.

Home address. . . . . Phone . . . . . .

Business address. . . . . Phone . . . . . .

Occupation. . . . . Hobbies . . . . . .

I am particularly interested in the following branches of geology:. . . . . .

. . . . . .

I enclose $ . . . for the year's dues, March 1 to March 1. (Checks payable to the Society).

. . . . . Sponsored by. . . . . .
(signature) (member)

SOCIETY ACTIVITIES

LECTURES: On the 2nd and 4th Fridays of each month at the Auditorium (3rd floor) of the Public Service Building, 920 S.W. 6th Avenue at 8:00 p.m.

TRIPS: On Sundays following the lecture meetings, or as otherwise arranged. Meeting place opposite Public Market, S.W. Front Ave. and Yamhill St.

LUNCHEONS: Every Thursday noon in the Victory Room of the Winter Garden restaurant, 425 S.W. Taylor Street between S.W. 4th and S.W. 5th Avenues. Luncheon sixty cents.

MEETING ANNOUNCEMENTS

Friday Feb.11 — Watch daily papers for announcement of speaker for evening.

Friday Feb.25 — Annual Business Meeting

Friday Mar.10 — Annual Banquet

THE ANNUAL BANQUET

Plans are shaping up rapidly for the annual banquet according to F.L.Davis, Chairman of the General Committee which has been grouped into working subcommittees.

John Robinson, Chairman of the Speaker Committee, has secured Dr. Charles E.Weaver, Paleontologist in the Department of Geology of the University of Washington, as speaker for the occasion. His subject will be "Geology and Travels in Southern Russia and the Balkans" and will be accompanied with slides.

Dr. Weaver made this trip to Europe to attend a meeting of the International Geological Congress and extended his trip into the region which he is to discuss.

Dr. Weaver is considered an outstanding authority on the invertebrate paleontology of the Tertiary Period in the Northwest and is soon to publish a treatise on that subject. The Speaker Committee is to be congratulated on obtaining Dr. Weaver whose appearance will be interesting to both professional and amateur geologists.

The Committee on Meeting Place and Menu has engaged the banquet room on the main floor of the Imperial Hotel which is said to seat 150 comfortably. The dinner will start at 6:30 p.m. and will adjourn not later than 10:30 p.m. in order to allow some after-meeting time for greeting of old friends.

Ticket sales will be handled as in the past by Mr. and Mrs. Leo Simon. This year tickets will be $1.75 each.

Other committees such as the Entertainment Committee and Program Committee report progress. A new committee this year is that of Hostess Committee which will officially welcome members and guests in an endeavor to create the "at home" feeling for the occasion.

Franklin L. Davis has been appointed by Mr. Ruff as Chairman of the Committee for the Annual Banquet. Following is the personnel of the Committee as announced by Mr. Davis:

A. W. Hancock
Geary Kimbrell
Leo Simon
A. D. Vance
T. A. Carney
Earl M. Minar
John Robinson
Bruce Schminky
F. W. Libbey
Mrs. L. E. Kurtichanof
Mildred H. Stockwell
Myrtice Fowler
Kate Rosa
Grace Poppleton
Ada Henley
Mrs. Courtland L. Booth

with Lloyd Ruff as ex-officio member.

SUB COMMITTEES

Speaker: John Robinson
Toastmaster: Lloyd Ruff, F.W.Libbey, A.D.Vance
Publicity: Bruce Schminky, John Robinson
Ticket Sales: Mr. and Mrs. Leo Simon
Meeting Place and Menu: Mrs. H.Mildred Stockwell, Mrs. Lloyd Ruff, Ada Henley, Mrs. F.L.Davis.
Decorations: Mrs. Kurtichanoff, Tom Carney, Geary Kimbrell
Gifts: A.D.Vance, Earl M. Minar
Programme: F.W.Libbey, Miss Minar
Entertainment: Mr. and Mrs. A.W.Hancock, Mrs. H.M.Stockwell, Myrtice Fowler, Kate Rosa
Hostess: Mrs. Courtland L. Booth, Grace Poppleton, Lotus Simon

In the case of husband and wife, where only one is named, both are considered members of the committee.

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LIBRARY NOTES (Con't.)

From - Thomas A. Carney,
Columbia River Gorge, its geologic history interpreted from Columbia River highway. By Ira A. Williams, Oregon Bureau of Mines, Portland, 1923. Mr. Carney has presented two copies of this valued publication to the library. It is now out of print.

From - Harold T. Stearns, through the courtesy of Kenneth N. Phillips,
Geology and ground-water resources of the Island of Maui, Hawaii. By Harold T. Stearns and Gordon A. MacDonald, 1942. Territory of Hawaii, U.S.A.

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COOS BAY COAL - OREGON'S FORGOTTEN RESOURCE (Con't.)

by

John Eliot Allen

The field work itself fell naturally into a number of subdivisions. Coal outcrops were reopened when practicable, and measured and sampled. New road-cuts and the sea-cliff exposures were studied in detail and a number of "standard stratigraphic sections" were built up, to give a guide to the main coal horizons and intervals between them. One section in particular, that along the coast between Charleston and Cape Arago, exposes 9000 feett of upper Eocene and Oligocene sediments, with the two main coal horizons both exposed, and a number of good fossil beds which have already been carefully sampled and classified by Dr. Earl Turner, University of Oregon graduate in geology. This standard section proved to be of utmost value in classifying the coal horizons inland, as the fossils proved to be fairly diagnostic and thus valuable in the correlation of different localities. It is on the basis of the fossil collections made and the studies, now only in part completed, of the mega- and micro-fossils, that major changes in the structure and the tonnage of economic coal reserves will eventually be made. It was also noted on the coast that certain promontories stood up under erosion. By following these resistant beds of harder sandstone back from the sea, it was possible by careful physiographic study to furnish correlative evidence through lithologic means, to the fossil studies. For instance, the hard sandstones that form Yokum Point on the coast can be traced along their strike as a high ridge, and appear 20 miles south as a massive sandstone layer in highway cuts near Riverton. These dipping resistant layers frequently form characteristic hog-back or cuesta ridges, with one gentle and one steep slope. The intervening shales usually are expressed by wide valleys or by gently rolling hills. On a more detailed scale, all outcrops of coal that were exposed are carefully measured as they are sampled, and frequently show characteristics that can be traced for miles.

The Newport or Libby coal bed is typified by three benches of coal: a 6-inch upper bench, a two to three foot middle, and a two foot lower bench, each being separated by two, six-inch or more clay layers. The comparison of sections in adjacent or even in distant areas frequently leads to correlation. When there are several beds of coal, the thickness of the intervening sands and shales is sometimes of value, and a model was constructed by means of wooden dowels stuck in the map, whereon the various sections had been plotted and correlated from place to place.

One of the major functions of the geologist is to pick out the areas to be explored, and if the preliminary prospecting proves that his choice is a fair one, to map the area in detail, on a scale of 100 or 200 feet to the inch, and a contour interval of 10 feet. Then the drilling progresses on the intersections of map coordinates, whose elevations have been determined and the drill logs are plotted and cross sections made.

The final maps of the survey will include reproductions of all available old mine maps; areal geology and structural maps of the entire area should replace those of the old federal survey. The work should delimit several more formations than has previously been done; local topographic maps of the various projects with the numerous cross sections will show the thickness and depth and attitude of the coal.

Laboratory work and map work goes on during the survey, and will be extended after the field work is completed. Fossil classification has already proved its value. Petrographic work on rock samples may include identification of diagnostic heavy minerals if that seems necessary and practical. At the present time one of Dr. W.D.Smith's students in the Department of Geology of the University of Oregon is classifying foraminifera in samples of shale from one of the standard sections.

The major characteristics of the Coos Bay coal basin as now determined, perhaps should be outlined. It is about 12 miles wide and 30 miles long, occupying an area of nearly 300 square miles. There are several north-south trending folds to complicate the major synclinal structure, and actually give four basins and two arches. From the shore of the Pacific the rocks dip eastward for about four miles when they reverse their dip to form the South Slough basin. The anticline to the east of this basin has a minor syncline in its crest which forms the Newport Basin with the Westport arch on the east. Drilling for oil is now progressing on this arch. The most important coal basin follows the Beaver Slough basin whose west flank can be traced for nearly twenty miles north and south. The east flank of this basin, however, becomes complicated and is broken by faults and steeply dipping folds. Other minor basins occur near Empire, North Bend, Sumner, and Coquille. Only a few faults were recognized by the early geologists, faults with throws of less than a few hundred feet.

Faulting has since been found to be of greater import than was previously thought. Besides a set of faults which trend a few degrees north of west and offset the north-south trending outcrops of coal in several localities, there appears to be, on stratigraphic and paleontologic as well as structural evidence, at least one major north-south fault with a displacement of major proportions. On the other hand variations within individual coal beds have been traced, which explain anomalies previously thought to be due to faulting. For instance, the Newport coal vein southwest of Marshfield consists of three well-defined benches; the Reservoir coal two miles away and northwest of Marshfield appeared to be a different vein with only one bench. Exploratory work has shown that the partings between the benches of the Newport coal have widened within a distance of 400 feet to over six feet, and that two of the benches have in part been pinched out. This occurrence, however, is the exception, rather than the rule, and the beds are remarkably uniform for great distances.

The Coaledo formation was first described as the "coal bearing strata of the Arago formation", with a thickness of about 8,000 feet, the coal occurring in four zones in which there are sometimes as many as 6 beds. The upper two of these zones, however, lie fairly close together, and are separated by a thickness of over 2500 feet from the lower two zones which are also fairly close together.

Since Diller's time, the Coaledo has been restricted by lopping off the Oligocene formations of the Tunnel Point Sandstone (850 feet thick) and the Bassendorf Shale (2905 feet thick) from the upper portion. Turner has also divided the Coaledo into the upper (1200 feet); middle (3200 feet); and lower (1600 feet). These subdivisions were not mapped inland, the divisions having been made only along the coastal section. The coal horizons occur in the middle portion of the upper Coaledo and in the lower portion of the lower Coaledo, and are associated with massive resistant layers of coarse-grained sandstone, while the 3000 feet of middle Coaledo is characterized by predominant shale.

(To be continued)

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LUNCHEON NOTES FOR THURSDAY, JANUARY 20, 1944

Another guessing contest, sponsored by Dr. Booth, was the feature of today's luncheon meeting, with Mrs. Barr presiding.....Three handsone, mysterious looking rocks were submitted for identification, the prize being a piece of Wernerite, a somewhat anemic looking specimen, but said to fluoresce a brilliant yellow under a black light (just as occasionally some timid soul will scintillate under the favorable light of fortune and circumstance).....Of the 15 or 16 persons present, however, only six ventured to make a guess as to the identity of the three specimens, and none was correct - possibly due to the absence of most of our professional geologists and the timidity or modesty of the amateurs. Thereupon the contest was reduced to the status of a lottery and the winning number was drawn by Mr. Vance. Though appreciating his good luck, he remarked wistfully that he did not possess a fluorescent lamp. Inasmuch as this reporter does own such a lamp and does not believe in hiding its light under a bushel, the fact was announced and the Wernerite presented with due ceremony. Our self respect was somewhat restored when the names of the three specimens were given by Dr. Booth as follows: Corundum (Blue) - Al_2O_3; Cobaltite (Sulfarsenide - CoAsS); Smaltite (Cobalt Arsenide - $CoAs_3$).....From England came the unusual specimen of quartz crystals, tent shaped, a solid mass of tiny white crystals inside and out, exhibited by Mr. Carney.....Franklin Davis is responsible for this one: When a minister at a banquet had hot soup spilled down his back, he arose with dignity and inquired if there were a layman present who knew the appropriate words to say.

A.H.

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NEWS OF MEMBERS

Miss Margaret Hughes is now making a visit in Victoria B.C. Her address is The Glenshiel Hotel.

Membership Committee, 1964, please note the following which appeared in the Morning Oregonian, February 1, 1944:

"Mr. and Mrs. Ray Swanson (Constance Endres) are being felicitated on the birth of a daughter, Barbara Anne, January 30 at Emanuel hospital....."

Mr. Ruff entertains Mazamas. Wednesday evening, January 26th, our president showed his two reels of colored movies taken on the Snake River in Idaho; also a reel of the Salmon river. His graciousness in accepting an engagement at the "11th hour" was sincerely appreciated by the Mazamas.

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WATER-SUPPLY PAPER 964

Surface water supply of the United States, 1942, part 14, Pacific slope basins in Oregon and lower Columbia River Basin; G. L. Parker, chief hydraulic engineer; G. H. Canfield and F. M. Veatch, district engineers. 1943. vi,231 pp., 1 pl. Price, 30 cents.

Prepared in cooperation with the States of Oregon and Washington and other agencies.

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LUNCHEON NOTES FOR THURSDAY, JANUARY 27, 1944

An innovation at today's well attended luncheon at the Winter Garden was chicken pie, served family style...Mr. Stanley's return, after a prolonged tussle with our ancient enemy influenza, was greeted with applause and he was publicly welcomed back to the fold by President Ruff...Florence Iverson made one of her rare visits, not being able always to leave her job for an extended noon hour - and was on hand to receive one member's dues for the current year. (Some folks are forehanded that way)...John Robinson was accompanied by Thomas E. Eakin of the U.S.Geological Survey and Mr. Minar by his brother from Salem. Mr. Shepard, senior physicist from the Chief Engineer's Office in Washington, D.C., was presented as Lloyd Ruff's guest...Today's specimens were a large "chunk" of whitish material resembling travertine but said to be fluorspar, shown by Mr. Minar; green wavellite crystals (phosphorus alumina) from Arkansas, brought by Mr. Carney; and the following attractive group exhibited by Dr. Booth: A feldspar which fluoresces orange pink; a specimen of unknown composition which fluoresces a greenish tinge; a fluorescent nepheline-syenite from Arkansas, obtained through an ad in the Mineralogist; a beautiful piece of hackmanite (sodalite with feldspar) which fluoresces salmon pink; a lovely green apatite from Ottawa, Canada, non-fluorescent; and a peristerite albite from Quebec.

A.H.

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MAY TO HEAD HISTORY PLANS

Walter W.R.May, publisher of the Oregon City Enterprise, has been appointed chairman of the organization committee for a general museum of history, science and industry in Oregon, according to announcement Tuesday by the chairman of the general committee appointed by Governor Earl Snell. Names of personnel of the committee were also released.

May stated that plans were under way for inclusion of the museum as a postwar project. He announced that it would preferably be established in or near Portland, as the chief population center of Oregon.

Omar C. Spencer, Portland attorney and representative of the Oregon Historical Society in the general committee, has agreed to draw articles of incorporation for the "Oregon Museum of History, Science and Industry," May announced, and Professor L. S. Cressman of the University of Oregon and Gardell Christensen, formerly associated with the American Museum of Natural History, New York, will be called upon for special advice as museum specialists.

Personnel of the organization includes:

.....J. C. Stevens, chairman, public works subcommittee, Portland postwar projects committee;.....Earl K. Nixon, director, State Department of Geology and Mineral Industries;.....Warren D. Smith, professor of geology, University of Oregon;.....

From the "Oregonian"

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MILLIONS OF THEM

A young woman working on the assembly line boasted to a friend that she used a micrometer which read to the thousandth of an inch. When asked how many thousandths there are in an inch she replied:"Gosh, there must be millions of them."

Sewage Works Engineering.

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Date . . . . . .

I,. . . . . (please print full name) do hereby apply for membership (junior membership) in the Geological Society of the Oregon Country, subject to the provisions of the By-Laws.

Home address. . . . . Phone . . . . . .

Business address. . . . . Phone . . . . . .

Occupation. . . . . Hobbies . . . . . .

I am particularly interested in the following branches of geology:. . . . . .

. . . . . .

I enclose $ . . . for the year's dues, March 1 to March 1. (Checks payable to the Society).

. . . . . Sponsored by. . . . . .
(signature) (member)

SOCIETY ACTIVITIES

LECTURES: On the 2nd and 4th Fridays of each month at the Auditorium (3rd floor) of the Public Service Building, 920 S.W. 6th Avenue at 8:00 p.m.

TRIPS: On Sundays following the lecture meetings, or as otherwise arranged. Meeting place opposite Public Market, S.W. Front Ave. and Yamhill St.

LUNCHEONS: Every Thursday noon in the Victory Room of the Winter Garden restaurant, 425 S.W.Taylor Street between S.W. 4th and S.W. 5th Avenues. Luncheon sixty cents.

MEETING ANNOUNCEMENTS

Friday Feb.25 — Annual Business Meeting

Friday Mar.10 — Annual Banquet

THE ANNUAL BANQUET

The mystery of the Ninth Annual Banquet will be exposed!

"It's a geologic secret" is all that this reporter could get about most of the things he wished to publish at this time concerning the forthcoming banquet.

The committee handling the menu say they cannot tell what we will eat because it will be too good a surprise when we see it on our plates to tell it at this time. (Hope that there will be enough to see.)

Master of ceremonies? "Can't tell. Secret!"

What kind of stunts? "Come and see."

Time? Well, that was no secret it seems. "March 10th at 6:30 P. M., and no fooling."

Place? "Banquet Room on main floor of the Imperial Hotel."

Cost?" $1.75 per plate."

Speaker of the evening? Everyone on the committees wanted to tell me this, it seems, just to keep me away from their own vile secrets. "It's going to be Dr. Charles E. Weaver." "He's a paleontologist from the University of Washington." "He is going to talk on 'A Geological Excursion to Southern Russia and the Balkans.'" "Yes, and show pictures too!"

There you have it. Now if you think that there will be a banquet worth coming to, and you still have failed to see Leo Simon about tickets, you had better get busy or you will find yourself seated so far away that you will probably never know the answers to all these secrets. Getting busy means turning to the banquet seating plan in this number and call Beacon 0300 and say "Leo, will you reserve four seats - etc., and I will mail you a check. Thanks."

H.B.S.

(One secret is out - Dr. Warren D. Smith, Department of Geology and Geography, University of Oregon, will be the toastmaster. - Editor.)

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SO NOW HE'S AN ASSOCIATE HOROLOGIST!*

Some folks do not know their strength, we hear; or their weaknesses, either, we may add. They will tackle almost anything and advancing age does not appear to deter them. Such a person, it seems, is Associate Editor Stanley.

He admits that he was forced into gardening by circumstances over which neither he nor F.D.R. has adequate control; and his week-end as "associate plumber" was not of his own choosing. This latest adventure into the unexplored fields of "tinkerdom" is another war-born thing, for with alarm clocks practically off the market, and clock-makers worked to trembling wrecks of their former piratical selves, this associate-this-and-that decided, when his clock practically exploded in his hands, that he would dissect the contraption and, if worst came to the worst, he would scrape the fragments off his desk into a box and submit them to one of the overworked clock makers for reassembling, bitter as such a pill might be.

Manuscripts, photographs, books and fragments of rocks that he had hoped to label some day, were swept aside or pushed to the back of the desk under the book shelf. The wide drawer was opened and after stirring the contents thoughtfully for a while he found a screwdriver, a pair of pliers, and tweezers. Screws were removed from the clock and placed in water-color saucers. This was to be a scientific approach to a new problem.

The back was pulled off from the works of the clock and several gadgets tinkled off and rolled around on the glass desk-top. They were scraped together into one of the dishes, and another layer of the casing (probably the endocarp) was loosened and removed, leaving the internal economy of the timepiece exposed somewhat after the manner of the man who posed for the frontispiece of the old time family almanac.

Explorer Stanley breathed an ecstatic sigh, even as the more famous Stanley may have done when he sighted the shores of Africa on his search for Dr. Livingstone; and O.E.S. was about as far from his goal as was H.M.S. before he stepped ashore.

But his quick eye discovered the cause of the too-sudden unwinding of the mainspring. That is one advantage (or disadvantage, depending upon which way you look at it) of having a quick eye. The curved spring which causes the pawl to engage in the ratchet teeth "permitting motion of the wheel in one direction only", (to quote from a standard authority edited by Dr. Frank H. Vizetelly, Litt.D., LL.D.). The curved spring, as I was saying, had become broken, allowing the pawl to wobble at will, and permitting motion of the wheel in both directions. In fact it had moved in the wrong direction with such velocity that it had bent the inner end of the mainspring into the shape of an "S". That was bad, the explorer decided, but not too bad. If it had bent one way it could be bent back again; and a drop of solder, deftly placed in a strategic location, would make the pawl-spring almost as good as new.

It was but a matter of hours and pliers and a soldering outfit to connect these things into a reasonable facsimile of a clock, and by cut-and-try methods where pure science failed, the clock was again encased and wound; and, by golly, it ticked away as nicely as of yore!

* Clock tinker, to you.

This was something of an achievement for a rank amateur than whom few are ranker; and let us say, naturally there was some mild boasting of the two dollars saved by an expenditure of probably less than ten dollars' worth of time. And all went well---for about a week.

Then one evening as his eyes were heavy with sleepiness and his muscles ached from the toil of the day the associate horologist was electrified by a scream and a crash in the direction of the bedroom. Inquiry revealed the sad fact that the botchily-soldered pawl spring had broken loose allowing the partly-wound mainspring to whirl the winding key among Mrs. Stanley's fingers with painful results. As the wails died away, the fingers and the clock were examined and the decision handed down that nothing could be done that evening to fix the clock; the fingers would doubtless quit hurting before morning, and so long as they were not his fingers the would-be horologist would try to get some sleep.

The next evening, the desk, which in the meantime had become cluttered with many things, was again cleared for action. The soldering outfit was brought from the basement, a piece of piano wire that had not been contributed to the salvage drive was brought out of its hiding place, and about an inch of the stiff, stubborn bit of steel was bent to an acceptable arc and fastened in place with such gobs of solder that it should stay indefinitely. At the present writing the black-faced Big Ben is ticking lustily, and has awakened the family many mornings in time to get them started promptly on their various tasks.

No. This is not an advertisement for clocks to repair. It is a simple account of one of the many things that enter into the life of an associate editor to keep him from going stale while still young and active.

O.E.S.

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LUNCHEON NOTES FOR THURSDAY, FEBRUARY 10, 1944

Things are looking up - an attendance of 21, including one visitor, Mr.Snow, a former member.....Mrs. Barr presided as Lloyd Ruff was out again on an engineering trip in the Umatilla district.....Another guessing contest today, courtesy of Dr. Booth, with Bruce Schminky the winner in the resulting lottery. Of the two specimens submitted, the large piece of manganese from Montrose, Colorado, was correctly identified by Franklin Davis, but the fluorspar from the same state went unnamed. We hope the Doctor is not discouraged.....An interesting double-terminated twin calcite crystal from the Tri-State mining area of Kansas, Arkansas, and Missouri was shown by Tom Carney.....The February number of the Natural History Magazine, showing pictures of dinosaur tracks in large numbers, was circulated by Mrs. Barr. Dr. Stevens precipitated a discussion in our vicinity by inquiring facetiously whether dinosaurs in quantity should be termed herds, flocks or bevies!....A pleasant surprise today was the box of delicious home-made candied orange sticks brought by Mrs. Minar.

A.H.

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Maps Available: Restrictions on the sale of topographic maps made by the United States geological survey have been removed. These topographic sheets are now available through the usual channels. Among the Oregon maps not heretofore available to the public are sheets on the scale of one inch to the mile for the following areas, all printed in four or five colors: Cape Foulweather, Yaquina, Aldrich Mountain, Mount Vernon, John Day and Camas.

From the "Oregonian".

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COOS BAY COAL - OREGON'S FORGOTTEN RESOURCE (Con't.)

by
John Eliot Allen

The second major division of the Coos Bay Coal Survey consists of the exploratory work itself, and is handled by the engineers. From the administrative angle this involves the hiring and firing of the drill and work crews and the now complicated and laborious calculation of the payrolls with all their deductions; the laying out of the daily work of the crews, who may be working in several separate localities; the getting of crews to and from work, and the operation and maintenance of the drills, both hand and power. From the technical angle it involves the laying out of the holes to be drilled, the supervision of the drilling and other exploration, and, finally, the calculation of the tonnage per acre and the overburden above the coal. Since the primary purpose of the survey is to prove up coal tonnage and supply preliminary engineering data to anyone who might be interested in mining the coal, the importance of this last cannot be overemphasized.

Sub-bituminous coal weighs about 25 pounds to the cubic foot. A bed one foot thick would weigh about 1700 tons to the acre. If the bed were three feet thick the tonnage would be 5100 tons, and so on. Underground mining only gives a 60 - 70% recovery of coal, since pillars must be left to support the roof. In strip mining all the coal may be removed. In underground mining the narrow benches of coal are usually left for a roof or a floor. In the Englewood mine, for instance, only the middle of three benches was mined. In strip mining all the coal is taken and washed and recovered. In past years the ratio of overburden which could be economically stripped was from 4 to 6 feet to one foot of coal. The introduction of giant dirt-movers has materially reduced the ratio. One mine in southeast Kansas now strips 50 feet of overburden for 22 inches of coal, giving a ratio of over 27 to one. This is an exception, however, where giant electric shovels with a 34-cubic yard capacity can be used because of the horizontally-lying coal bed which extends for many thousands of acres. Most of the coal beds in the Coos Bay field are tilted, some of them steeply, and in only a very few localities is there possibility of stripping coal. Two such areas have been thoroughly explored to date, one of them contains about 50,000 tons of coal in a 3-foot bed which lies from 12 to 20 feet below the surface; another contains 150,000 tons of coal in a 5-foot bed lying from 30 to 60 feet below the surface. The ratio of stripping for these properties is from 4 to 7 to one in the first, and from 6 to 12 to one in the second.

As is usual with any large-scale exploration program, not every project "hits the mark". Eight different areas have been more or less thoroughly prospected; only four of these have resulted in the delimitation of substantial tonnages of coal. The work of the survey is to pick out those areas where we can prove the largest amount of economically mineable coal with the limited funds available to us, and, secondly, to have a complete record of the exploration which can be presented to any concern which may wish to begin mining coal in the Coos Bay area.

Publications of the survey consist, first, of the monthly reports of progress to the county court and the director of the department, Mr. Earl K. Nixon. These include up-to-date prints of the maps being made, with the month's record of drilling, and a specific recording breakdown of all the man-days spent on the job, divided among the various projects and among the various types of work accomplished. Secondly, there will be a final bulletin which will incorporate

the results of the survey, both geologic and exploratory, which we hope will be comprehensive enough to replace the federal publications upon which all discussion of the Coos Bay coal field has been based throughout the last forty years.

Why do we feel that Coos Bay coal has a real future in Oregon's economic situation? The immediate reason, is, obviously, the impending fuel shortage, but we hope that this will be merely the incentive to get into a steady production that will lead to more permanent and widespread uses for Coos Bay coal. There are many other reasons, of course, of greater or lesser importance, and it is impossible to rate them in order under the present rapidly changing circumstances. Perhaps fuel oil will never again be as widely used for house heating. Certainly with the impending tremendous increase in aviation, our oil reserves will be strained to the utmost to supply high-test gasoline, even after the war. It is not beyond the stretch of imagination to hope that hydrogenation (for which Coos Bay coal is well adapted) may someday add to the gasoline and fuel oil supplies of the nation, as well as to the many other coal derivatives which are coming into use in the rapidly growing plastic industries. The cheaper methods of low-temperature carbonization can be applied to Coos Bay coal to produce a high-grade smokeless briquette that can compete with other western coals, together with large amounts of fuel gases and creosote-like liquors whose use and value have only begun to be investigated.

A substantial tonnage of coal will be needed for production of alumina from Oregon clays, even for the small fifty-ton pilot plant contemplated. Coos Bay coal certainly should come into the picture if Oregon's vast reserves of refractory clays are to be used in the developing refractory industries, with application to all the varied fields of ceramics, porcelains, pottery, pipe, and brick.

The people of Coos county are concerned about the rapid depletion of their lumber reserves. They are so concerned that they have taken $20,000 of the county taxpayer's money and handed it over to the state for this investigation. They realize that the giant lumber industry which has been the mainstay of the local economy for many years will not last forever, and they hope that the coal production which was the basis of the pioneer economy of the last half of the 19th century may return to carry them through the last half of the 20th century.

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LUNCHEON NOTES FOR THURSDAY, FEBRUARY 3, 1944

Shown at today's luncheon, presided over by Mrs. Barr, was a specimen of polished fluorspar or fluorite, similar to Mr. Minar's specimen of last week, also a specimen of the same material in the rough, showing its general formation, both brought by Mr. Carney. Mr. Kimbrell exhibited two black Indian arrowheads, one mounted as a scarfpin, the other a large double-pointed one, found a few miles above Umatilla after the river banks had been eroded by high water. Also in this vicinity were many Indian bones with which Mr. Kimbrell said he had amused (?) himself by trying to put them together as a complete whole, the result being a somewhat scrambled skeleton.....Rose Jennings announced that the Swensons had recently received a brand new specimen of the genus homo, which has been named Constance Ann. Congratulations to Mrs. Swenson (nee Connie Enders).....A diagram of the banquet room in the Imperial Hotel where the annual banquet is to be held this year was shown by Franklin Davis, who will appreciate receiving any suggestions for entertainment for the evening.....Apropos of tall stories, tons of nice, etc., Mr. Hugh Miller submitted this one, which he says is much taller and is perfectly authenticated. Several years ago there was found in the island of Malta a cave, known as Ghar Dalan, in limestone rock, 50 feet above sea level,

about 1000 feet from the bridge of the bay. When a trench was dug through this area there was discovered a layer of bones about three feet deep, comprised chiefly of bones of hippopotami (or hippopotamuses?), elephants, deer, etc., representing at least 1000 individual animals. All had been rolled in the water until they were rounded and thoroughly mineralized. Sir Arthur Keith in "The Antiquity of Man" offers in explanation the following theory: that when the land bridge was about 1200 feet above the sea level this bay was an upland lake, just the place for the elephants and the hippopotami to gather. The hunters, by stampeding them up this lake and into a rock defile, drove them into the cave and killed them. When the land surface subsided, the water came into the cave and rolled the bones until they became like pebbles. Later the water level was again raised.....The wienies served in cellophane cases at today's luncheon prompted Bruce Schminky to remark that "the dogs came to the table with their rain coats on."

A.H.

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LIBRARY NOTES (Con't.)

From - M. F. Sandoz,

Erosion and related land use conditions on the Chehalem Mountain demonstration project, Oregon. By H. N. Magness and M. F. Sandoz. 1941. United States Department of Agriculture Soil Conservation Service; Washington, D.C.

From - Dr. H. C. Dake,

Mineral Club History. By H. C. Dake, 1943. Durham, Ryan and Downey Co.

From - F. W. Libbey,

Oregon's quicksilver industry. By F. W. Libbey. In Mining Congress Journal, October - 1940.

From - Mary Margaret Hughes,

Geomorphology, an introduction to the study of landscape. By A. K. Lobeck. McGraw-Hill Book Co. New York, 1939.

Geology and natural history survey, Minnesota. Six volumes.

Vol.	Part	Year.	
I		1884	Geology of Minnesota, by N.H.Winchell and Warren Upton. Covers studies 1872-1882
II		1888	Geology of Minnesota, by N.H.Winchell and Warren Upton. Covers studies 1882-1885
III	I	1895	Geology of Minnesota - paleontology, by Leo Lesquereux and others. Covers studies 1885-1892
III	II	1897	Geology of Minnesota - paleontology, by N.H.Winchell and U.S.(Ulysses Sherman) Grant. Covers studies 1892-1896.
IV		1899	Geology of Minnesota, by N.H.Winchell and others. Covers studies, 1896-1898.
V		1900	Geology of Minnesota. Structural and petrographic geology of the Taconic and Archean, by N.H.Winchell & U.S.Grant. Covers the studies 1898-1900.

Special gift from - H. B. Schminky,

Book plates and labels for bound volumes, circulation copies, of Geological News - Letter and The Ore.-Bin.

M.M.H.

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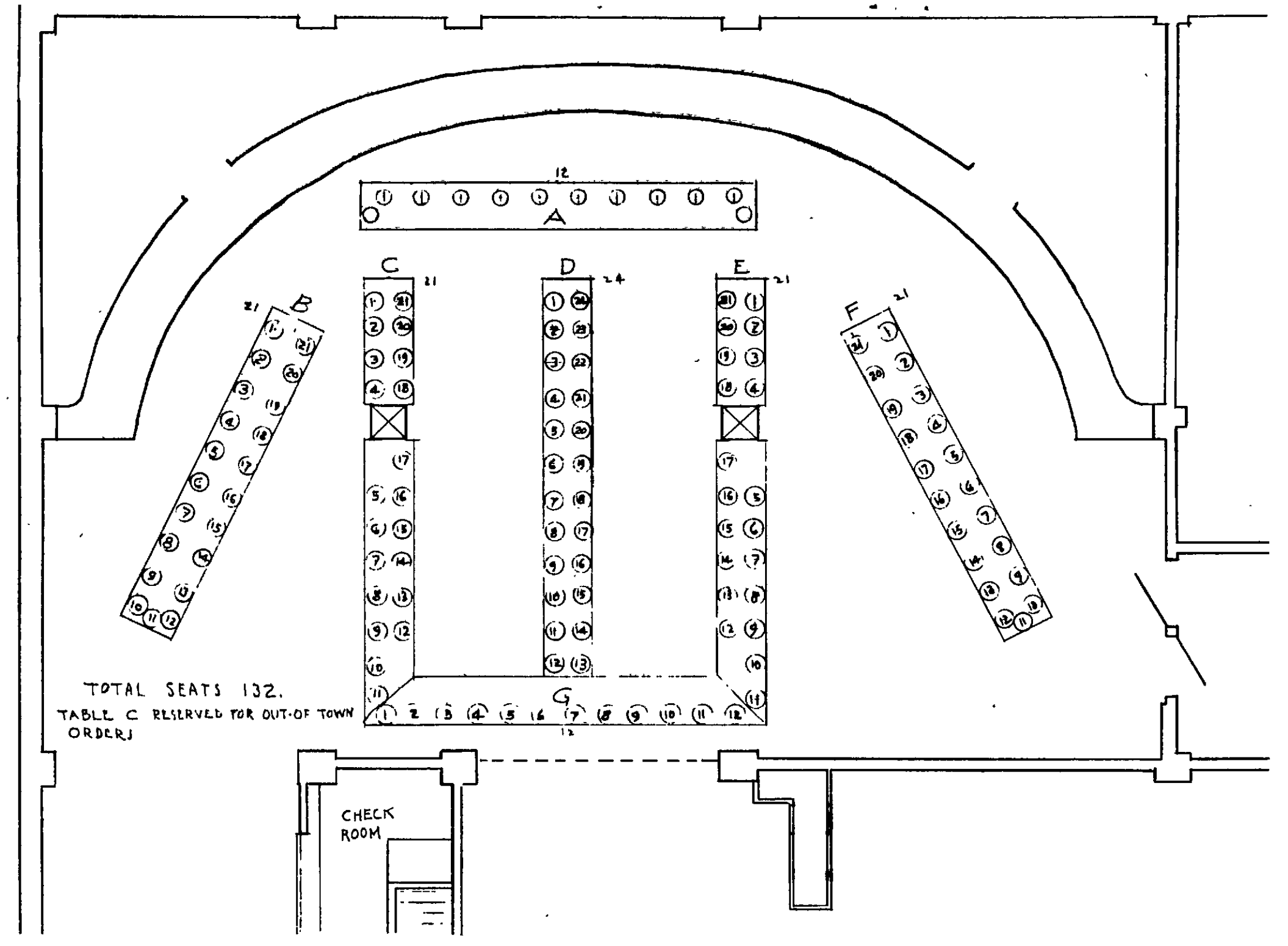
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GEOLOGICAL NEWS LETTER

OFFICIAL PUBLICATION OF THE

VOL. 10 NO. 5 PORTLAND, OREGON March 10, 1944

GEOLOGICAL NEWS-LETTER
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THE GEOLOGICAL NEWS - LETTER
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MEMBERSHIP APPLICATION
GEOLOGICAL SOCIETY OF THE OREGON COUNTRY

Qualifications and Dues: Applicant must be sponsored by a member and recommended by the Membership Committee. A knowledge of geology is not a requisite. There is no initiation fee. A Member shall be over 21 years of age; or a husband and wife and all children under 18 years of age. The dues are $3.50 per year, payable in advance, which includes one subscription to the Geological News-Letter. A Junior is an individual between the ages of 18 and 21. Dues are $1.50 per year, payable in advance, and include one subscription to the Geological News-Letter.

Date . . . . . .

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Occupation. . . . . Hobbies . . . . . .

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LUNCHEONS: Every Thursday noon in the Victory Room of the Winter Garden restaurant, 425 S.W.Taylor St. between S.W.4th and S.W.5th Aves. Luncheon 60¢.

MEETING ANNOUNCEMENTS

Friday Mar.10 — Annual Banquet

Friday Mar.24 — Meeting Notice: Mr. Kenneth Phillips will give a talk on the newly born volcano at Paricutin, Mexico. The talk will be illustrated by pictures, some of them in colors, taken by Lieut. Donald Lawrence. Within historic times there have been but four or five similar cases of a volcano appearing and growing where shortly before there was none. The Paricutin volcano is already the largest of such volcanoes and it is still growing. Paricutin has been called the greatest show on earth. Come and bring your friends to hear this interesting lecture.

THE ANNUAL BANQUET

This is your last chance to call Be. 0300 for reservations for the Ninth Annual Banquet. Do It Now!

Remember that Dr. Charles E. Weaver is one of the West's outstanding paleontologists. Do not miss this opportunity to hear him tell about his "Geological Journey through Southern Russia and the Balkans".

Meet your old friends again!

MAKE THAT RESERVATION NOW, FOR FRIDAY WILL BE TOO LATE!

Imperial Hotel - 6:30 P. M. - $1.75 per plate.

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HONORED

Earl K. Nixon, director of the State Department of Geology and Mineral Industries, was elected president of the Association of American State Geologists at the annual meeting held in Washington D.C. February 25. Mr. Nixon had served as vice-president of the Association during 1943.

Membership in the Association is made up of heads of state geological surveys. All states are represented except Delaware, Maine, Massachusetts, New Hampshire, Rhode Island, and Utah. Coordination of state survey activities and formulation of general broad national policies relating to economic-geology studies are the principal objects of the Association.

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LUNCHEON NOTES, THURSDAY, FEBRUARY 17, 1944

The place of honor at the head table today was occupied by a beautiful Bighorn sheep, common to the Rocky Mountains - a figure modeled in clay "just for fun" by Mr. Christenson, formerly curator of the city museum. This modeling clay, says Mr. Christenson, remains soft, and from this model the figure could be cast in bronze, at a cost of $80 to $100.....Outstanding among the specimens shown were the azurite crystals from Bisbee, Arizona, showing their different forms, brought by Mr. Carney; also an unusual polished cross-section of azurite and malachite combined, in brilliant colors; a stalactite formation, and an azurite rose crystal from South Africa. A specimen of lepidolite from California and two of granite, one from Ashland and one from Raymond, California, were exhibited by Mr. Minar. Mr. Vance produced an Eocene coral from Newport, showing the star made by the animal when it comes to the surface. An interesting bit from Italy was a circular fragment of lava from Mount Vesuvius with an Italian coin imbedded therein, testifying to its authenticity, shown by Mr. Stanley.....A copy of the Mineral Notes and News, published by the California Federation of Mineralogical Societies and containing an article by George F. Beck was circulated by Florence Iverson, and a copy of the Arizona Magazine by Mr. Libbey, containing unusually fine colored photographs, particularly of the Grand Canyon. A township plat of the Friday Ranch area was shown by Dr. Booth. Today's attendance of 22 included as visitors Miss Minar and Mr. Christenson.

A.H.

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U. S. MAPPING CALLED WRONG

Geological Survey Declares Improvement Made From Air

Less than half of the United States is adequately mapped, the geological survey says, but using the latest methods of aerial photography the agency is rapidly mapping the remainder of the country.

William Embry Wrather, director of the geological survey, reported to Secretary of Interior Ickes today that America's strategic areas are being photographed from the air and topographically mapped at from three to five times the speed possible before the war.

Wrather said only the ten states, the District of Columbia and Hawaii may be considered adequately mapped in their entirety, in the sense that official maps show the actual shape and elevation of the land surface, streams and drainage, location and extent of cities, towns, roads, dams, forests and boundary lines.

The ten states are Ohio, New Hampshire, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Delaware, Maryland, and West Virginia.

Parts of other states are adequately mapped, Wrather said, and the total area of the nation so mapped is about 1,422,000 square miles of the total of 3,022,387, or 47 per cent.

Although George Washington started surveying parts of Virginia in colonial times, that state still has areas that have never been mapped at all, Wrather said.

Seattle Post-Intelligencer, September 27, 1943.

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NOTES ON THE FOSSIL WOODS OF CALIFORNIA

No. 2 THE MOJAVE

By

Geo. F. Beck

Central Washington College of Education, Ellensburg

This is the second in a series of articles that began with the petrified forest at Calistoga. (It is to be noted in the first article, PINUS DOUGLASII is meant to indicate Platen's own choice of name for the modern Douglas fir.) In his "Investigations", Platen mentions in addition to Calistoga, occurrences of wood in Nevada county and generally scattering all over California, but nowhere, have I noted as yet, does he mention specifically the Mojave desert. Some of his petrified wood specimens may have come from the Mojave, however, for frequently they carried the name of the state only as the locality of origin.

I have seen considerable wood in mineral collections that are to be observed from the main highways through the Mojave so that local citizens must be familiar with such occurrences. In addition I have seen a few hand specimens, one of which, a palm, I photographed and discussed in "Fossil Woods of the Far West", vol. 1 No. 12, Mar. 1941.

For our knowledge of the woods of the Mojave we are indebted in the main to Irma E. Webber, who in Carnegie Inst. Bul. 412, pp 113 to 134, 1933, gives a complete scientific discussion of six types of petrified wood from Last Chance Gulch of the Mojave. Her list follows:

Palmoxylon Mohavensis (palm)
Pinus kelloggi (pine)
Cupressus sp. (California cypress)
Quercus ricardensis (oak)
Robinia alexanderi (black locust)
Unknown hard wood (?)

Miss Webber likens the pine, cypress, and oak above to the modern trees, PINUS CEMBROIDES (pinon), CUPRESSUS NEVADENSIS (cypress), and QUERCUS AGRIFOLIA (Coast live oak) and from this correlation draws certain conclusions as to the climate of the time. I quote her summary: (p. 134)

> "The remains of woody plants which have been described from the Ricardo Pliocene deposits of Last Chance Gulch consist of well-preserved petrified wood of PINUS KELLOGGII n. sp., CUPRESSUS sp., PALMOXYLON MOHAVENSIS n. sp., represented by stem and root fragments, QUERCUS RICARDENSIS n. sp., ROBINA ALEXANDERI n. sp., and an undetermined dicotyledon. Fungi, represented by hyphae and spores in a piece of bark, by hyphae in the wood of PINUS, CUPRESSUS AND ROBINIA, and by fruiting bodies in a palm root have also been found. The specimens were associated with mammalian remains which have been referred to the earliest pliocene. The species represented are all similar to, or possibly identical with, those living now in the southern United States, which is consistent with their reference to the Pliocene. The disparities of their range, as compared to related living species, indicates that sufficient time has elapsed to warrant assigning them to this position

near the close of the Tertiary. The present habitat of related trees and the growth rings in the fossil specimens suggest that the Pliocene assemblage grew in a steep-sided valley in a region characterized by low rainfall and temperature approximating that which distinguishes the Upper from the Lower Sonoran Zone. At the present time the closest approach to these environmental conditions is found in the San Jacinto Range between San Jacinto Peak and Santa Rosa Mountain, where palms are found living in the lower stretches, with pines and live oaks occupying the slopes of the upper portions of the valleys. The suggested Pliocene climate differs from the present climate of the Mojave Desert in that the former is characterized by less extreme aridity."

Miss Webber has given detailed descriptions of these wood types and has supplemented them with adequate photomicrographs. I have seen the original specimens and sections at the University of California.

Concerning occurrence in the field, Miss Webber has this to say, page 117:

"ROBINIA and PALMOXYLON form a large percentage of the specimens in the collections and are the only species which were observed in the field. All the trunks exposed in the area known as the Saltdale Petrified Forest represent ROBINIA; approximately two-thirds of these trunks are standing. The largest standing stump is about 4½ feet in diameter at the base and 8 feet tall. Fallen trunks range to twelve feet in length. Root crowns up to five feet in diameter, single stumps some of which are branched, and twin stumps are represented. Much of the rock exposed is filled with abundant small roots which are undoubtedly related to the trunks. A group of PALMOXYLON roots, apparently representing one tree, were observed near some of the Robinia trunks."

Mineral Notes and News - December, 1943

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Note: Published on P. 17 of The Mazama Annual for December 1943 is the article "Surface Ablation and Movement of the Ice on Eliot Glacier" by Francois Matthes and Kenneth N. Phillips. The article gives findings by the authors, that are the results of measurements taken annually for nine years on Eliot Glacier. The work is sponsored by the research committee of the Mazamas. The article was approved for publication by the Director of the U.S.G.S. Good photographic illustrations and a graphical analysis accompany this report.

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POST-WAR SUGGESTION

The enclosed editorial from the Daily Colonist of Victoria, B.C. is submitted by Orrin E. Stanley as a suggestion for a post-war field trip for the G.S.O.C. providing someone can be found who will invite the society and pay all expenses on a private yacht.

The Enchanted Isles

Between Vancouver Island and the mainland of British Columbia, like twin emerald chains on a sapphire sea, the Gulf Islands of the Strait of Georgia are very small dots on the map of Canada. But they are bewitching and bewitched;

the home of golden dawns and crimson sunsets, of incredible mirages and the whistling flight of ducks, of a tranquility that is Nature's own recompense for grim upheavals in the long ago.

They were mountains once, the enchanted islands of the Gulf. Cataclysm came, and dropped them almost out of sight. Some have lava harbors, poured from the red hot rock. Timbered now with evergreens, and little jewelled lakes in their midst, they are sheer magic. From the air they are green scimitars set in a silvered sea, washed by a whitened tide that foams about their outer ramparts. From the water, they are wooded fairy lands, with here and there a gay and flowering meadow. On them are cool and shaded labyrinths, for the siesta of the gods.

It is a three weeks' pleasant journey by boat among the Gulf Islands; putting in at shingled bays, climbing over lava breakwaters, scaling little hills to look at calm, unruffled lakes. It is a voyage of enchantment, from which no one willingly returns, and only then protesting; to hold its memories unfading in the heart.

Daily Colonist, Victoria, B.C.

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Smith, Warren Du Pre - GEOLOGICAL SUITE FROM EASTERN OREGON

Geological Society of America, Bulletin No. 39, Pages 168-9, 1928.

1. THE WALLOWA MOUNTAINS

The Wallowa Mountains are situated in the extreme northeastern part of the State of Oregon and may be considered an offshoot of the Blue Mountains. Very little published information is available on this region, the paper by Arthur M. Swartley, on the ore deposits of that region, being practically the only thing in the literature.

The contributions made to the geology and physiography of that region last summer were:

First, the mapping of the moraines around Lake Wallowa, this lake being the finest example of this type of lake known to the writer.

Second, the finding of corals and sponges in a limestone reef on the north side of this range. These may be closely related to those discovered by J. P. Smith on the south side of the range in 1909. Though final determinations have not been made, these appear to be of Triassic or Permian age.

Third, the tracing of the Snake River lavas from the Snake River Plateau to the crest of the Wallowa range, where these overlie the granites and metamorphic rocks of that region.

Fourth, evidences of comparatively recent (post-Miocene) uplift of the region as a whole, resulting in a rejuvenation of streams and complete modification of the pre-existing topography.

2. THE OWYHEE PROJECT

The second one of this suite of papers contains a discussion of the structural features of the dam site and reservoir site of the Owyhee project, on the Owyhee River, in the extreme eastern portion of the State. The particular interest attached to this project is that this dam will be the highest dam in the world when completed--368 feet high. The dam will abut on a rhyolite formation of presumably Clarno-Eocene

age. This is very completely fractured by five major sets of joints so that grouting on a large scale will have to be resorted to. There is evidence of some faulting in this vicinity.

***

The country rock in the reservoir is a tuff of presumably Oligocene age. Dipping away from the reservoir itself these introduce other factors of more or less serious import into the situation.

Fairbanks, Harold W. - THE AGE OF THE CALIFORNIA COAST RANGES

American Geologist, Vol. 18, pp. 271-282, Nov. 1896.

Summary: In the Coast Range region a granitic axis is recognized as existing above water and undergoing erosion in early Mesozoic and possibly Paleozoic times.

Preceding the deposition of the Golden Gate series, which is believed to represent the upper Jurassic, a subsidence took place continuing with oscillations to the close of that period.

At the termination of the Jurassic occurred the great upheaval of the Sierras and Coast ranges. The Golden Gate series after being uplifted and folded was subjected to a considerable interval of erosion, following which another depression took place.

The Cretaceous was ushered in with a sinking land. This continued through the Knoxville when another elevating movement was experienced. Through the central portion of the Coast ranges the Knoxville was thus subjected to disturbances and erosion, causing a stratigraphic break between it and the Chico. During the latter period a subsidence was again inaugurated until the opening of the Eocene when the re-elevation of the land in northern California was probably felt through the whole of the Coast ranges.

At the close of the Eocene we have evidences of a renewed disturbance which resulted in the strata of that age being folded, uplifted and exposed to erosion.

Miocene sandstones are found resting with marked nonconformity on the Eocene in the southern Coast ranges, pointing to the fact that still another depression had been experienced with the opening of the Miocene. Sinking continued through this period and at the time of change of sedimentation from sandstone or clay to the bituminous shales, extensive movements similar in character to those shown in the Golden Gate series must have taken place. The Miocene was terminated by one of the most marked changes of level recorded in the history of the region. This change was in the nature of a great uplift, with the formation of several new ranges.

During the Pliocene the region was again depressed. This was followed by another marked elevation which has continued with some irregularity, and perhaps local depression, up to the present day.

In this outline no attempt has been made to trace the character of the movements, but simply to call attention to the complex relations of the different series of strata, with the object of showing the existence of mountains in the region of the California Coast ranges in much more remote geological times than Mr. Ransome is willing to grant. The five or six marked nonconformities between the different series of strata are indubitable evidence of the existence, periodically at least, of a connected series of mountains above the sea level.

It is difficult to understand how the principle of isostasy can be reconciled with this remarkable series of oscillations along the coast of California. A criticism of the theory taking into account the history of the Coast ranges must be greatly strengthened.

R.C.T.

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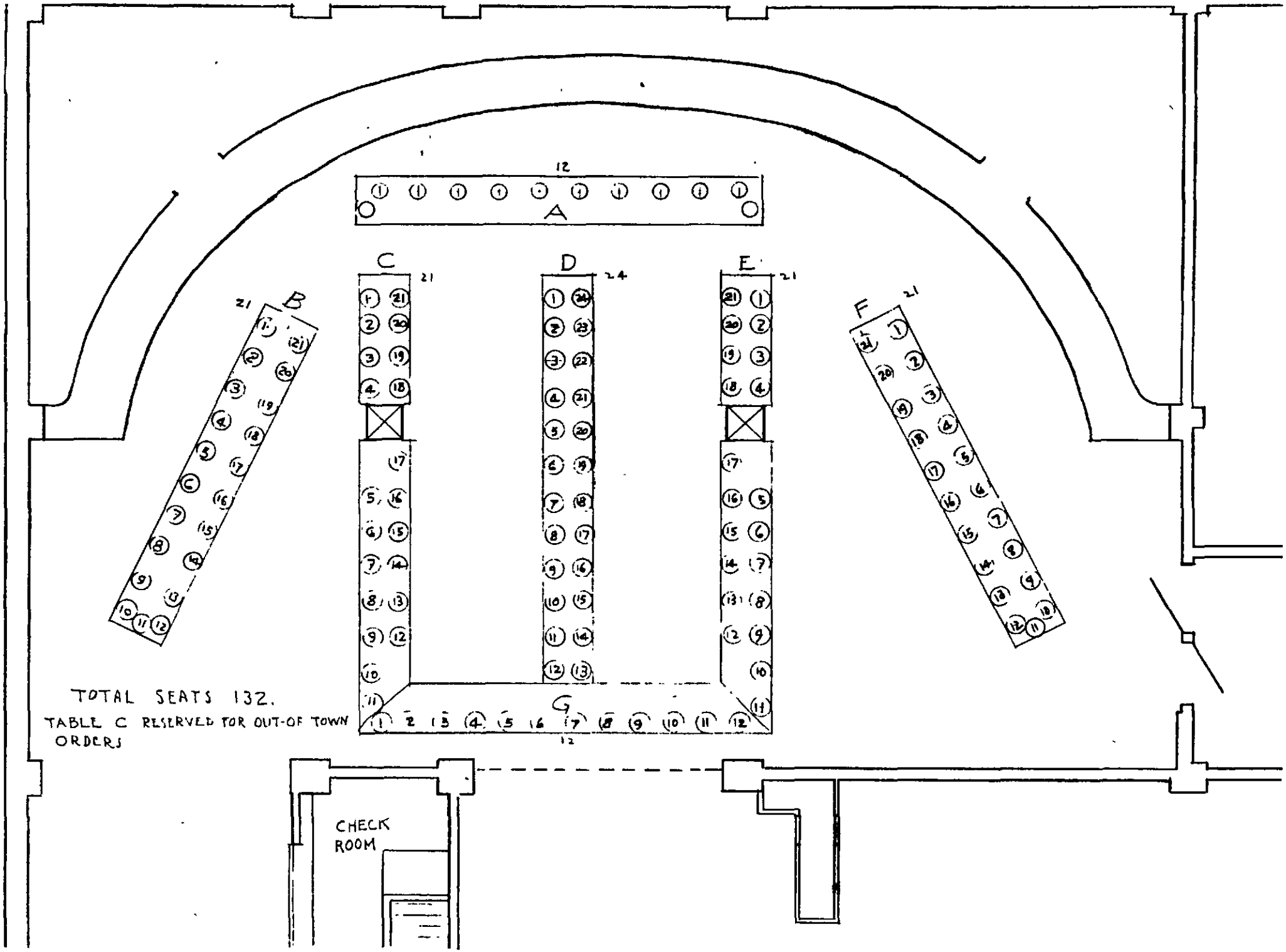
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TOTAL SEATS 132.
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GEOLOGICAL NEWS LETTER

OFFICIAL PUBLICATION OF THE

VOL. 10 NO. 6 PORTLAND, OREGON March 25, 1944

GEOLOGICAL NEWS-LETTER
Official Publication of the
Geological Society of the Oregon Country
413 Morgan Bldg. Portland, Oregon
POSTMASTER: Return Postage Guaranteed

THE GEOLOGICAL NEWS - LETTER
Official publication of the
GEOLOGICAL SOCIETY OF THE OREGON COUNTRY

The Geological News-Letter is issued semi-monthly on the 10th and 25th.
Yearly subscription: $2.00 Single copies: $0.15
Communications and material for publication should be sent to the Editor. Change of address and subscriptions are required 30 days in advance of date of change, and should be sent to Emily M. Moltzner, Morgan Building.

MEMBERSHIP APPLICATION
GEOLOGICAL SOCIETY OF THE OREGON COUNTRY

Qualifications and Dues: Applicant must be sponsored by a member and recommended by the Membership Committee. A knowledge of geology is not a requisite. There is no initiation fee. A Member shall be over 21 years of age; or a husband and wife and all children under 18 years of age. The dues are $3.50 per year, payable in advance, which includes one subscription to the Geological News-Letter. A Junior is an individual between the ages of 18 and 21. Dues are $1.50 per year, payable in advance, and include one subscription to the Geological News-Letter.

Date . . . . . .

I,. . . . . .(please print full name) do hereby apply for membership (junior membership) in the Geological Society of the Oregon Country, subject to the provisions of the By-Laws.

Home address. . . . . .Phone . . . . . .

Business address. . . . . .Phone . . . . . .

Occupation. . . . . Hobbies . . . . . .

I am particularly interested in the following branches of geology: . . . . . .

. . . . . .

I enclose $ . . . for the year's dues, March 1 to March 1. (Checks payable to the Society).

. . . . . Sponsored by. . . . . .
(signature) (member)

SOCIETY ACTIVITIES

LECTURES: On the 2nd and 4th Fridays of each month at the Auditorium (3rd floor) of the Public Service Building, 920 S.W.6th Avenue at 8:00 p.m.

TRIPS: At such time as can be arranged - watch for announcements. Meeting place opposite Public Market, S.W.Front Ave. and Yamhill St.

LUNCHEONS: Every Thursday noon in the Victory Room of the Winter Garden restaurant, 425 S.W.Taylor St. between S.W.4th and S.W.5th Aves. Luncheon 60¢.

MEETING ANNOUNCEMENTS

Friday Mar.24 — Meeting Notice: Mr. Kenneth Phillips will give a talk on the newly born volcano at Paricutin, Mexico. The talk will be illustrated by pictures, some of them in colors, taken by Lieut. Donald Lawrence. Within historic times there have been but four or five similar cases of a volcano appearing and growing where shortly before there was none. The Paricutin volcano is already the largest of such volcanoes and it is still growing. Paricutin has been called the greatest show on earth. Come and bring your friends to hear this interesting lecture.

NEWS NOTES

The Geological Society extends its sincerest sympathy to the Allen family in the recent death of John's father, Dean Eric W. Allen of the University of Oregon School of Journalism.

We note with interest the visit to the K.N.Phillips home of Ken's brother Malcolm and his family from Kansu province in Western China. Mr. and Mrs. Phillips and their two younger children journeyed via donkey, truck and bus to Chungking where they took a plane over the Himalayas to India. Flying the Himalayas at 22,000 feet without oxygen is not recommended as a pleasure jaunt by the travelers. They were awaited in Portland by their two older children who had been interned while attending school in Eastern China and later exchanged on the second trip of the Gripsholm. The above may account for Ken Phillips' enrollment in a class in Chinese. Donald O'Connell is also attending the same class.

A new arrival at the Bernard Beckerlegge home in Pasadena, California, on March 9th was a daughter Mary. Another geologist perhaps? Yes, you may have guessed it, Mrs. Beckerlegge is the former Mary Robertson.

Mr. and Mrs. John B. Hodgkins announce the engagement of their daughter Barbara to Hugh Millar, Jr., United States Naval Reserve. Hugh left for the seven seas on March 2 - via Camp Farragut boot training of course.

Correction: An error apparently crept into the compilation of the Honor Roll for the annual banquet program. Lt. Ava A. Bickner is in the Army Nurses Corps.

DON'T NEGLECT PAYMENT OF DUES

Mail to Miss Ada Henley, 2015 S.E.Pine Street or bring them to a luncheon meeting.

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THAT FRYING PAN

According to our most worthy president, he has just passed from the frying pan into the fire, i.e., from the editorship to the presidency. The new editor should be highly elated since he has already experienced the fire and should appreciate a relatively cool frying pan. Be that as it may - contributions are very welcome. Help keep ye editor from running too high a temperature.

****

LUNCHEON NOTES, THURSDAY, FEBRUARY 24, 1944

The Winter Garden seems to have acquired a new chef, judging by the improvement in today's menu. Long may he wave!.....Today's luncheon guest, presented by Mr. Libbey, was Mr. A. M. Dixon, of the Mining Division of the War Production Board and President of the A.I.M.E., Oregon Section.....Mr. Stanley reported having received a communication from Carl Richards in which he sent regards to the members of our Society. He is now working half time and thinks he will soon be able to put in more time at his office.....A letter from J. Martin Weber was read by Mr. Bates, in which Mr. Weber requested geological material to be used by the Portland Public schools. Incidentally we were told that some time ago eight teachers had spent two hours in Mr. Hancock's basement, studying his splendid collection, on which they made a report for the schools. Dr. Booth suggested that the very excellent article prepared by Mr. Hancock would be of great value for this purpose.....A publication entitled "The Tertiary Stratigraphy of Western Washington and Northwestern Oregon", by Dr. Charles E. Weaver who is to be the speaker at the annual banquet, was shown by Franklin Davis. Mr. Davis also called attention to an item in the February 21st issue of Life Magazine describing a creature of most unusual habits, called the Lungfish. For further details we refer you to the aforesaid magazine - it went by us too fast to report it fully, or even read the description as we should have liked.....The only specimens shown today were three different quartz crystals, each containing an inclusion: (1) iron pyrites, showing minute striations; (2) scheelite (fluorescent) and (3) galena and sphalerite; these exhibited by Mr. Carney.

A.H.

****

LETTER FROM J. MARTIN WEBER

2410 N.E. Multnomah
Portland, Oregon - 12
February 17, 1944

Geological Society of the Oregon Country
Portland, Oregon

Dear Fellow Members:

I am serving on a committee which has been delegated to write a pamphlet on the Geology of the Oregon Country. This pamphlet is to be placed in the hands of all boys and girls taking science in Portland's eighth grades.

We are in need of ideas, pictures, and publication lists that you think may be helpful. Anything that you might contribute will be much appreciated. Phone TR 1645 or write the above address, and I'll come running to your cellar for your hints.

Sincerely,
J.Martin Weber

****

NINTH ANNUAL BANQUET

The ninth annual banquet of the Geological Society of the Oregon Country was held in the banquet room of the Imperial Hotel on March 10, 1944. Lloyd L.Ruff, retiring president opened the meeting. An identification card bearing typed name and seat number was handed to each person entering the room. While these cards were fine for helping the younger members of the group to get acquainted, the few whose sight has been impaired by the passage of time would have appreciated the use of great primer type in place of pica. One person who thinks of himself as something of a photographer pinned his card on upside down "so it could be more easily read on the camera ground-glass" he explained. Isn't it wonderful how quickly some folks can find an excuse for their every error?

Leo Simon in charge of ticket sales and seating arrangements had a rather hectic time adjusting cancellations and additional applications for seats besides collecting from those who had ordered tickets by telephone; but he got his nerves calmed down in time to enjoy his dinner and to do a tiptop job of projecting Dr. Weaver's slides with a score of something like 200 hits to only one error. But we are getting ahead of our story.

Franklin L. Davis, chairman of the general committee in charge of the affair, had so enthused or intimidated the chairmen and members of the subcommittees that the 133 guests and members of the society present greatly enjoyed the evening. This includes the one woman near the back of the room who relaxed to the extent of taking a short nap, and the other person who cuttingly remarked that geologists have no sense of hours and days as they are so accustomed to measuring time by eons, eras, and ages.

The dinner left nothing to be desired. There was plenty of well-cooked and tastily-seasoned food which was served with dispatch. The matter of the microscopic portions of cranberry sauce may be dismissed with the statement, which, of course, may not be true, that this sauce is practically indigestible; and too, full-sized pieces of pie might have been the cause of discomfort.

Dr. Warren B. Smith, master of ceremonies, when introduced by President Lloyd L. Ruff prefaced his remarks by saying that he would rather deliver three lectures than to try to be funny for one evening; however, it is safe to say that his hearers probably got more enjoyment out of his humor than they would from half a dozen lectures - still, we may be sorry.

Dr. W. Claude Adams, accompanied by Mrs. A. W. Hancock, led the group singing of "The Oregon Country Ain't What She Used To Be". It was noted that but few stuttered on the pronunciation of "ichthyosauris" which, we are told, nearly floored the Salem Society.

"A Ruff sketch of the past year" by the retiring president briefly summed up the activities of the society for the preceding twelve months. He then handed the gavel to the incoming president, E. Newton Bates, who likened it to a boomerang, since he had made and presented the gavel to the society. In response to the outgoing president's message, Mr. Bates looked into the future with a somewhat jaundiced eye which had as yet sighted no editor for the News-Letter. This matter has, since the dinner, been very happily adjusted. Edwin T. Hodge, founder and first president of the society said: "I have to prepare a speech every year. These other presidents are in the light for only twelve months, then they flit out again, while this moth flits in each year for his scorching."

Dr. Charles E. Weaver held the attention of his audience with his interesting and instructive description of "Geology and Travels in Southern Russia and the Balkans", illustrated with excellent photographs showing much of the geology of the countries visited as well as the inhabitants, their work and their cities. It was a rare treat to have the oppostunity of listening to Dr. Weaver who, according to Dr. Smith's statement, probably knows more of the Tertiary than any other man on the Pacific Coast, tell of his long study of this interesting part of the world.

During the recess which followed Dr. Weaver's lecture, Earl W. Minar was seen nervously pacing back and forth across a small vacant space near the rear of the dining room in a manner reminiscent of an expectant father in the waiting room of a hospital. The appearance of Mrs. Minar shortly after the recess, in her skit: "Pansy Yokum goes in for geology" might well be described as a "scream". It was excellently done and full of laughs from start to finish.

Ferris W. Abbett, accompanied by Mrs. Abbett, sang "The Oregon Trail" and responded to the encore with "Zummer-Zetshire". Both selections were greatly enjoyed.

The program committee's very revealing skit showed in detail how such an interesting program is evolved. Mrs. Hancock's troubles with her flirtatious husband would lead one to expect her to show evidences of age and worry, but strangely enough, they are absent. Can it be that they were spoofing us? Mrs. Stockwell's tap dancing was a major attraction and Mr. Hancock's refutation of Dr. Hodge's theory of the origin of the Columbia Gorge was lucid and convincing. It seems, according to A.W.H. that the work was done by giant "icebergers" formed from millions of ice cubes produced by countless Frigidaires, Norges, General Electrics and Kelvinators, working overtime. His slow-motion pictures clearly showed the process and the result.

At the head table were Dr. Charles E. Weaver, University of Washington; Dr. Warren D. Smith, University of Oregon; Dr. E. L. Packard and Dr. E. T. Hodge, Oregon State College; Mrs. Packard, Mrs. Hodge, Rev. Joseph S. McGrath, University of Portland; retiring president Lloyd L. Ruff and Mrs. Ruff, and our new president, E. Newton Bates.

The following retiring officers were introduced; Vice President, Mrs. Amza Barr; Secretary, Miss Florence Iverson; Treasurer, Leo T. Simon; Director Earl K. Nixon who has recently been elected president of the Asspciation of American State Geologists.

Other guests introduced were: Mrs. Vera Landon, past president, Seattle Gem Society; Dr. H. C. Dake, Editor of "The Mineralogist"; Dr. Lloyd Staples, University of Oregon; Mrs. A. W. Hancock, president of the Agate and Mineral Society; Dwight J. Henderson, president of the Mazamas.

And, as is usual with the G.S.O.C., the group was slow in dispersing even at the late hour of midnight.

O.E.S.

****

COURTESIES ACKNOWLEDGED

For supplies furnished or equipment loaned by business firms which helped make the banquet what it was, thanks of the Society is due the following firms:

Swender Blue Print Co. J. K. Gill Co. Samuel Rosenblatt's
Geo M. Allen & Son Schanen Marble Works

****

F.L.D.

MENU

Piscatorial shards in hematitic suspension

Colored embryonic agate with vegetal inclusions

Kiln-treated Meleagris gallopavo silvestris with accessory segregations; colloidal oolitic garnet

Weathered zeolites

Hydrothermally altered late Pleistocene legumes

Mordenite concretions

Pome gouge between walls of cemented sericite

Thermal essence Brazilian reniform nodules

PROGRAM

GREETINGS — President Lloyd L. Ruff

MASTER OF CEREMONIES
Dr. Warren D. Smith — University of Oregon

THE OREGON COUNTRY
Song led by Dr. W. Claude Adams — Accompanied by Mrs. A. W. Hancock

RETROSPECT AND PROSPECT
A Ruff sketch of the past year
Installation of new officers
Preliminary exploration by President E. N. Bates

A RESPONSE FROM THE FOUNDER
Dr. Edwin T. Hodge — Oregon State College

GEOLOGY AND TRAVELS IN SOUTHERN RUSSIA AND THE BALKANS
Dr. Charles E. Weaver — University of Washington

Recess

PANSY YOKUM GOES IN FOR GEOLOGY
Mrs. Earl W. Minar

SOLO — Ferris W. Abbett
Accompanied by Mrs. Abbett

BEHIND THE SCENES — 1944 Program Committee

GOD BLESS AMERICA
Group

HONOR ROLL

Leslie E. Bartow, Lt., U.S.Army

Ava A. Bickner, Lt., W.A.C.

Arthur C. Jones, Capt. Med. Corps, Letterman Hospital, San Francisco

D. B. Lawrence, Lt., 886 Sq.ACC, San Antonio, Texas

Kenneth Mahony, in armed service, location unknown

Robert Priestaf, Sgt. 29 Eng. Bn., Portland, Oregon

D. E. Weber, Major, Med.Corps, U.S.Army, Ft. Lewis, Wn.

Hubert M. Barr, Aviation Cadet, Air Corps, U.S.Army

Eleanor E. Barr, Storekeeper 2/c, U.S.N.R.

Charles Frazier Booth, Lt., Air Corps

Audrey Corson, AM-3/c, U.S.N.R., Corpus Christi, Texas

Homer P. Groening, Lt., Air Corps, U.S.Army

Robt. C. Johnson, ACT, Atlas Airfield, Oklahoma

Leland P. Johnson, Ensign, Camp Bradford, Va.

J. Hayden Kimbrell, Pvt., U.S.Army, Camp Fannin, Texas

Earl Wesley Minar Jr., Chief Flight Engineer, Air Corps

Donald L. Minar, Cpl., Field Artillery, So. Pacific

Hugh Miller, Jr., Training at Willamette University

Warren Smith, Capt., U.S.M.C., So. Pacific

Howard B. Stanley, Lt., Communications Sq. 8th AAF

Robt. J. Stevens, Lt.(j.g.), U.S.N., Newport, R.I.

Franklin J. Underwood, Major, Army Med. Corps, N.Africa

Albert D. Vance Jr., Air Transport Command, India

OFFICERS

1944		1943
	PRESIDENT	
E. N. Bates		Lloyd L. Ruff
	VICE-PRESIDENT	
Mrs. Mildred James		Mrs. Amza Barr
	SECRETARY	
Miss Ada Henley		Miss Florence Iverson
	TREASURER	
Mrs. Mildred Stockwell		Leo F. Simon
	DIRECTORS	
Leo Simon		Raymond L. Baldwin
Dr. Courtland L. Booth		H. Bruce Schminky
Raymond L. Baldwin		Earl K. Nixon
H. Bruce Schminky		Kenneth N. Phillips
Lloyd L. Ruff		Dr. Courtland L. Booth

GOD BLESS AMERICA

God Bless America, land that I love
Stand beside her and guide her
Through the night with a light from above
From the mountains, to the prairies
To the ocean white with foam
God Bless America, my home sweet home.

ANNUAL BANQUET COMMITTEE

Franklin L. Davis, Chairman

A. W. Hancock

Geary Kimbrell

Leo Simon

A. D. Vance

T. A. Carney

Earl M. Minar

Miss Dorothea Minar

John Robinson

H. Bruce Schminky

F. W. Libbey

Mrs. L. E. Kurtichanoff

Miss Mildred H. Stockwell

Miss Myrtice Fowler

Miss Kate Rosa

Mrs. Irene L. Poppleton

Miss Grace Poppleton

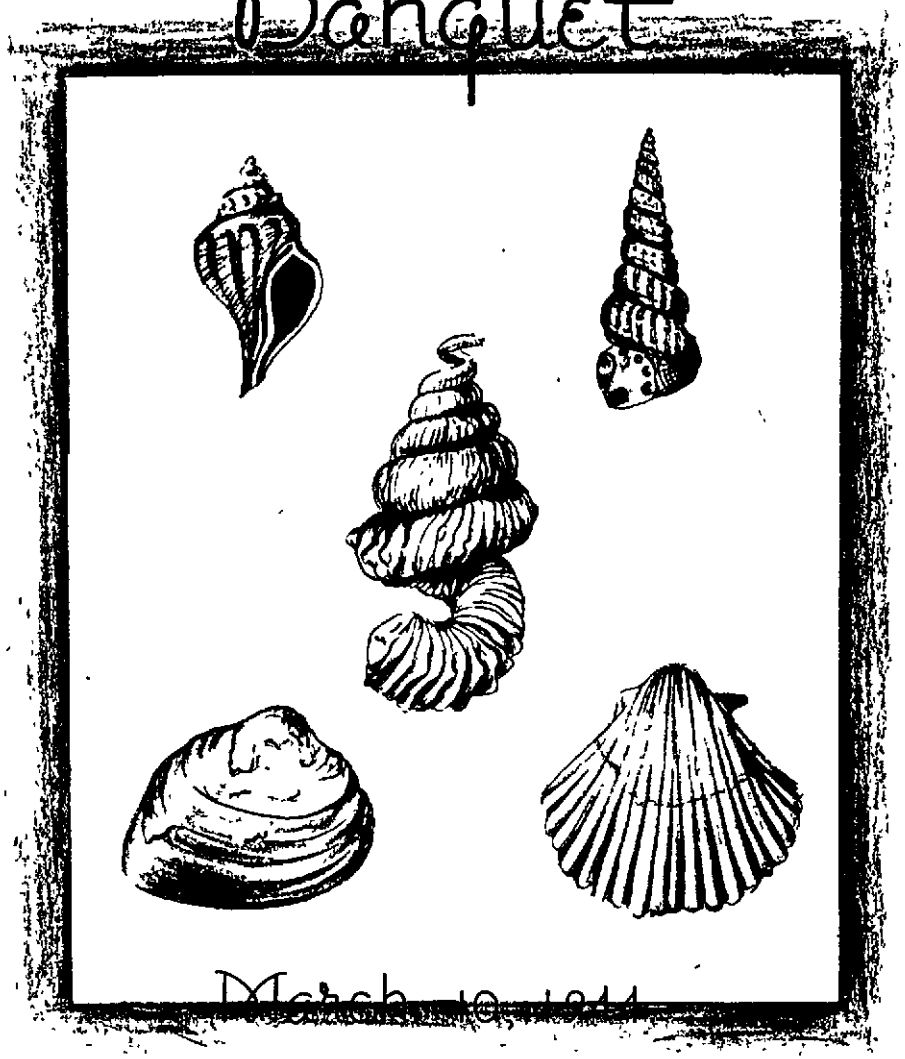
Miss Ada Henley

Mrs. Courtland L. Booth

Miss Florence Iverson

Lloyd L. Ruff (ex officio)

Ninth Annual Banquet



March 10, 1911

G. S. O. C.

- DOROTHEA MINAR -

GEOLOGICAL NEWS LETTER

OFFICIAL PUBLICATION OF THE

VOL. 10 NO. 7 PORTLAND, OREGON April 10, 1944

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Business address. . . . . .Phone . . . . . .

Occupation. . . . . Hobbies . . . . . .

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. . . . . Sponsored by. . . . . .
(signature) (member)

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MEETING ANNOUNCEMENTS

Friday Apr.14 — The program committee on April 14 will present a double feature film. In appreciation of the traffic safety efforts of the City of Portland's Traffic Bureau a fifteen-minute traffic film will be shown. Succeeding this will be shown a film owned by the State Highway Commission entitled The New Oregon Trail. This film is colored and like the traffic film, has a sound track. In these travelless days, this film will take us over the scenic spots of the state without the use of your gas coupons or tires.

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BIND YOUR BULLETINS

We are now ready to bind the 1943 News - Letters. Remove the 1943 index from this issue and take your last year's issues (minus staples) to Raymond L. Baldwin. The price is $0.50 per volume.

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WORK NIGHT

The most notable outgrowth of the work night meeting of March 26th was the popular demand for a course in General Geology. This would serve as a refresher for the older members and an introduction to geology for the newer members. To make this worth while, an attendance of 15 to 20 members is desired. Meetings will be held from 7 to 9 PM on Sundays following the regular Friday lecture meetings.....in the regular work room - the Ruff basement at 3105 N.E.45th Avenue, (corner of 45th and Siskiyou). The first lecture will be held on April 16th when ye editor will hold forth on the Introduction to Geology. Others of the professional group will be asked to participate.

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NEWS NOTES

Biggest news of the fortnight was the announcement that Earl K. Nixon had resigned as director of the State Department of Geology and Mineral Industries. Mr. Nixon's loss will be keenly felt in Oregon geology and mining circles which have made a creditable showing since the inception of the department in 1937. No announcement has been made of his destination or of a possible successor. However Oregon's loss will be the new locality or company's gain and the Oregon department will stand as a monument to the capable, untiring, and inspirational leadership of its first director.

Dr. Warren D. Smith, Department of Geology, University of Oregon, will go to Washington D. C. in the near future on war work. More details in a forthcoming issue.

Another correction the society honor roll published in the last issue - Cpl. Albert D. Vance, Jr., Air Transport Command, India. The name of Lt.(j.g.) John S. Miller, M.C.- U.S.Navy, was ommitted.

The recent promotion of Leslie W. Bartow, 6515 S.W.Burlingame, to Captain has been announced.

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NEW MEMBERS

Mr. and Mrs. John W. Robinson, 4020 N.E.78th Avenue	WE 5079
Alva Oakes, 516 S.W. Salmon Street	BE 5435
Ella Triol, 2708 Broadacres, Apt. 3650, Vanport City	
Mrs. Florence E. Sunderland, 3925 N.E. Couch Street	EA 9821
Mr. & Mrs. Clarence Ogren & Family, 1818 N.E. Broadway	WE 1518
Henry M. Stiles, 1414 S.E. Spokane Street	

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HANCOCK HONORED

Members of The Oregon Agate and Mineral Society gathered at the East Side YMCA on the evening of March 17th to do justice to one of their regular potluck dinners and to honor A.W.Hancock on his 60th birthday. Handicapped only by the red point problems (which weren't really missed) a bountiful spread was prepared under the direction of Mrs. Richard L. Rice. The last course was a super-size cake with 60 candles, which was set before Mr. Hancock. After several blows, he was quite certain there were more than sixty. Gifts to the honored guest included a Cambrian trilobite and a slice of Triassic araucarian pine cone from the younger members. This event also commemorated the retirement of that sage of the Ozarks from the United States postal service after more than 30 years and, as he expressed it, 100,000 miles. A. W. is now looking to bigger and better fossil fields and confidentially, as a word of warning, if any members have any unpatented claims they had better get the assessment work up to date. He extended a cordial invitation to all to visit his new laboratory and museum - the great outdoors.

L.L.R.

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IN APPRECIATION

The chairman of the General Committee for the Annual Banquet wishes to place in the record; as a matter of proper credit, his appreciation of the excellent cooperation of his entire committee. There were only two meetings of the general committee, one for organization purposes and one as a follow thru. The various subcommittees held numerous meetings and to the chairmen of these groups should go particular mention. There were 12 of these subcommittees and space will not permit that each be given the appreciation here that he or she deserves.

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DUES ARE PAYABLE - THE DEADLINE IS NEAR!

LUNCHEON NOTES - MARCH 2

Notable in today's attendance was the appearance of Dr. Adams, who looked in on us near the end of the luncheon for a social visit, after an absence of many months. Though somewhat less ruddy than formerly, the Doctor seems to be making a good recovery after his serious operation.....Many interesting specimens were shown today, beginning with a core of Columbia River basalt showing part of a drill hole, taken by Lloyd Ruff from the Columbia River at Umatilla, some 42 feet below the river bed, and one of vesicular basalt containing what appeared to be zeolite crystals but had been identified by Dr. Harrison as calcite crystals. Mr. Ruff also displayed a cast-set diamond drill bit containing 14.75 carats of diamonds, manufactured in San Francisco. Bits of this type sometimes contain $350 to $400 worth of diamonds. Old time diamond bits were set by hand with larger stones than the one shown. Some rare colored corundum crystals from Ceylon, one of unusual size, were exhibited by Tom Carney. Mr.Minar showed a piece of black flint from the Deschutes River and two thunder eggs from the Priday ranch. The latter he had cut neatly in half by use of a chisel and hammer. This method is not recommended, however, if it is desired to polish the split surfaces. Some unusual crescent-shaped sand dunes, photographed in Northern Peru, were pictured on the cover of the Technology Review, brought by Mr. Libbey. Other photographs of geologic interest, taken by Mr.Burns of the City Hall, were shown by Mr. Vance. These included copper beds at Ruth, Nevada; Steamboat Rock near Madras; the Alvord Desert Lake bed and the dry bed of the Malheur River. Also shown, by this reporter, was a specimen of pure metallic magnesium crystals from the plant at Permanente, California. Dr.Booth read an invitation to attend the public showing of a film portraying experiments in the revival of organisms, to be given under the auspices of the Provisional Committee for the Portland Council of American-Soviet Friendship. As a result of the aforesaid experiments, dogs which had been dead for 15 minutes were restored to life.

A.H.

LUNCHEON NOTES - MARCH 9

A good attendance, presided over by Lloyd Ruff for the last time before handing over to Mr. Bates the official gavel - which he suggested be used freely, especially to insure attention when a speaker has the floor. Timely words! He further recommended that descriptions of specimens be made short and as interesting as possible, and that our undivided attention be given the speaker..... Shown today, by Mr.Carney, was a very attractive specimen of marcasite crystals in dolomite matrix from the Tri-State area. Dr.Booth showed a specimen of fossilized bark from Arizona which closely resembled the manganese shown by the Doctor recently, but pronounced genuine fossilized bark by Tom Carney, who is familiar with the region from which it came. Mr. Bates exhibited a copy of the "Geological Formations and Economical Development of the Oil and Gas Fields of California", containing an article by Dr.Chas.E.Weaver. This weighty volume, issued by the State Division of Mines, San Francisco, has been donated to our library by the U.S. Department of Agriculture, Portland Branch Library, 519 Main P.O.Bldg., Miss Marie L. Gould, Librarian. Illustrating the method used by the OPA to detect counterfeit gas coupons, Dr. Booth brought his black light and after the luncheon used this fluorescent light on the coupons of those interested. Fortunately, all were genuine.

A.H.

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1943-44 ANNUAL REPORTS OF OFFICERS AND COMMITTEES

PRELIMINARY REPORT OF THE TREASURER

Balance as of March 1, 1943		$385.78
Cash received - Membership	$344.50	
News - Letter	6.30	
Banquet	196.50	547.30
		$933.08
Disbursements		525.81
Balance March 1, 1944		$407.27

Leo F. Simon, Treasurer.

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SERVICE COMMITTEE

The function of the Service Committee is to obtain maps, books, and other publications for the Society and its members. On certain types of publications, discounts are obtained. Any saving thus effected is passed on to the member placing the order. No charge is made for this service, and no profit is made by the Society on personal orders.

During the year ending February 29, 1944, the committee incurred no expense other than a small amount for postage and money orders, for which no reimbursement was claimed.

Books purchased in 1943-44	25
List price of above books	$67.35
Cost to Society members	$54.32
Saving effected	$13.03
Number of members participating	13
Greatest saving to any member	$ 1.80

The chairman has no suggestion to improve the service except to suggest a more general use by the Society members. (Only about 10% participated in 1943-44.)

During these times when gasoline is rationed and field trips are almost, if not quite, impracticable, a part of the gasoline money may well be diverted to building up a good reference library. A book of scientific interest should be a welcome gift for any member. Also, it is worthy of note that government restrictions on the sale of Geological Survey maps have recently been lifted, so that orders for topographic maps may now be accepted.

Kenneth N. Phillips, Chairman.

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MEMBERSHIP

Regular paid memberships	97
Junior paid memberships	3

New memberships 1943-44 - Regular 3, Junior 2.

Leo. F. Simon, Chairman

ANNUAL REPORT OF THE STAFF OF THE G.S.O.C. NEWS - LETTER

The News - Letter Staff has remained permanent through the year with the exception of the editor of the News - Letter.

Mr. Fred Tisdel was appointed editor but, soon after assuming the responsibility, his duties took him away from Portland for several months. The Letter was ably carried on by the retiring editor, Mr. O.E.Stanley, and the President, Mr. Lloyd Ruff. On October 10, the duties of editor was assumed by the present encumbent.

The fact that the letter has from this date continued to come out on time and has remained an interesting publication is entirely due to the splendid cooperation and assistance of the Business Manager, the Associate Editors, - Miss Ada Henley, for the luncheon notes, and Mrs. Owen and Mrs. Priestaf of the State Department of Geology and Mineral Industries for their splendid ability to make a good Letter out of the material given to them.

The Editor wishes to thank each of the members and friends who have contributed articles, items, and suggestions for the News - Letter. The News - Letter is the permanent diary and rather intimate record of the Society's activities and personal news. The bound copies of the News - Letter are rapidly becoming prized possessions of the members who have followed the practice promoted from the start by Mr. R.L.Baldwin of binding each year's publications.

E.N.Bates, Editor

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FIELD TRIPS - 1943

There is not a great deal to report about the field trips taken this last year. Because of the gas shortage, and work to be done in victory gardens, etc., there were only three trips taken, two visits to the old iron smelter at Oswego and one to the Hawley Pulp and Paper Mill at Oregon City.

A typical Oregon mist prevailed on the Sunday that the first Oswego trip was scheduled. As a result there were only three cars containing the leader, John Eliot Allen, his wife and baby, and a few other hardy souls, who enjoy the weather no matter what it is like.

The iron outcrop on the hill back of the golf links was visited first, then the old smelter by the river and the dam which forms Oswego Lake. The talk on the geology and land formation of the area was both interesting and instructive as John certainly knows his stuff. The grass being too wet for a picnic, we returned home where we were welcomed with hot food and dry clothes.

The second trip was a repetition of the first, except that the weather was ideal, which was the reason for a much larger crowd, there being quite a few women and several babies. This time we ate our lunch near the smelter and hunted for specimens of slag near by. The trip to Oregon City was conducted by Dean Butler, with whom we visited several places of historical interest, besides going through the paper mill. This part of the trip was taken over by an attractive young woman employee of the mill. We were shown everything from the time the logs are pulled out of the river until the finished paper is rolled and wrapped for shipping.

E.W.Minar, Chairman

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REPORT OF MUSEUM COMMITTEE

Matters have taken an encouraging turn during the past year. A postwar development committee has been organized for the Portland Area, of which the writer is a member and chairman of the subcommittee on Works Programming.

A fairly comprehensive program on development for the postwar period is taking shape. Among the projects receiving favorable consideration is a civic center, for which a very fine model has been made, which we hope will soon be on exhibition. This center includes a museum and other facilities that will be of great interest to the society.

The museum proposed would have space for administration and exhibition of the collection of the Oregon Historical Society. Space for similar functions would be allotted to the Battleship Oregon, and another portion to the Department of Geology and Mineral Industries. A fourth section of the museum would be devoted to Natural History exhibitions and administrative offices, while a fifth would include an exhibition of the Industrial Development.

This is of course a very comprehensive program and it is not expected that it can all be built at once, but we hope that some provision and financing plan can be developed whereby a start will be made on a museum that will encompass all of those functions and facilities.

J.C.Stevens

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HISTORIAN'S REPORT

Your historian for the year 1943-1944 has little to report other than a shocking inactivity on his part. He has done little to record the current history, and nothing in the way of searching out facts about past activities.

Photographs have been received from Sgt. Priestaf, Miss James, Mr. Carney, and Mr. Stanley, some of which have been mounted in the Society's album. For the greater part of the year the album has reposed in the bottom of a drawer in the historian's kitchen, inaccessible to anyone outside his family and forgotten for the most of the time by even the historian himself.

To say that he is thoroughly ashamed of his inactivity does not remedy matters in the least, and the only thing that can be said for such misconduct is that it may serve as a horrible example to be studiously avoided by his successors should they delve into the Society's records and discover that a former historian was so faithless to his trust.

Orrin E. Stanley

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REPORT OF THE PUBLICITY COMMITTEE

Notices of all meetings and field trips for which advance information was available in time to meet newspaper deadlines, were published in both daily papers. The annual banquet and business meeting received extra space in both publications. The 1943 banquet notice also appeared in the Mineralogist.

The Oregonian gave us approximately twenty-five inches and the Journal about fifteen inches of news space during the past year.

H.Bruce Schminky,
Chairman.

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GEOLOGICAL NEWS LETTER

OFFICIAL PUBLICATION OF THE

VOL. 10 NO. 8 PORTLAND, OREGON April 25, 1944

GEOLOGICAL NEWS-LETTER
Official Publication of the
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THE GEOLOGICAL NEWS - LETTER
Official publication of the
GEOLOGICAL SOCIETY OF THE OREGON COUNTRY

The Geological News-Letter is issued semi-monthly on the 10th and 25th.
Yearly subscription: $2.00 Single copies: $0.15
Communications and material for publication should be sent to the Editor. Change of address and subscriptions are required 30 days in advance of date of change, and should be sent to Emily M. Moltzner, Morgan Building.

MEMBERSHIP APPLICATION
GEOLOGICAL SOCIETY OF THE OREGON COUNTRY

Qualifications and Dues: Applicant must be sponsored by a member and recommended by the Membership Committee. A knowledge of geology is not a requisite. There is no initiation fee. A Member shall be over 21 years of age; or a husband and wife and all children under 18 years of age. The dues are $3.50 per year, payable in advance, which includes one subscription to the Geological News-Letter. A Junior is an individual between the ages of 18 and 21. Dues are $1.50 per year, payable in advance, and include one subscription to the Geological News-Letter.

Date . . . . . .

I, ...(please print full name) do hereby apply for membership (junior membership) in the Geological Society of the Oregon Country, subject to the provisions of the By-Laws.

Home address. . . . . .Phone . . . . . .

Business address. . . . . .Phone . . . . . .

Occupation. . . . . Hobbies . . . . . .

I am particularly interested in the following branches of geology: . . . . . .

. . . . . .

I enclose $ . . . for the year's dues, March 1 to March 1. (Checks payable to the Society).

. . . . . Sponsored by. . . . . .
(signature) (member)

SOCIETY ACTIVITIES

LECTURES: On the 2nd and 4th Fridays of each month at the Auditorium (3rd floor) of the Public Service Building, 920 S.W.6th Avenue at 8:00 p.m.

TRIPS: At such time as can be arranged - watch for announcements. Meeting place opposite Public Market, S.W.Front Ave. and Yamhill St.

LUNCHEONS: Every Thursday noon in the Victory Room of the Winter Garden Restaurant, 425 S.W.Taylor St. between S.W.4th and S.W.5th Aves. Luncheon 60¢.

STUDY GROUP: Sundays following the lecture meeting until further notice. Meeting place, 3105 N.E.45th Ave. Take Beaumont Bus to N.E.46th Ave. and Siskiyou St. and walk one block. Informal meeting 5:00 to 7:00 p.m. Lecture 7:00 to 9:00 p.m. Open to members and their invited guests.

MEETING ANNOUNCEMENTS

Friday Apr.28 — Dr. Warren D. Smith of the University of Oregon will address the Society. His subject will be Geological Observations in South America. Some years ago Dr. Smith traveled down the west coast of South America, crossed the Andes to Argentina, and returned by an eastern route. His discussion of the trip will be illustrated by slides. South America has been a country of great interest to professional geologists from Darwin's day to the present. It should be well worth hearing about when presented by Dr. Smith.

Friday May 12 — Dr. Ira S. Allison will speak on the lacustrine deposits at Summer Lake and their relation to Mt. Mazama. Details will be announced in the next issue.

Friday May 26 — Dr. Ethel I. Sanborn will lecture on some feature of fossil plant life. The subject will be announced in a later issue.

WORK NIGHT

Sunday Apr.30 — The study group made a fine showing on April 16th with an attendance of 15. The subject for the next meeting will be "The Composition and Structure of the Earth."

NEWS NOTES

Another new member is Alwina Bach of 7607 N.Fowler Avenue, phone UN 1796.

John Eliot Allen has returned to Portland after an absence of nearly a year on the Coos Bay coal survey where he was ably assisted by Dr. Ewart M. Baldwin who has just become a member of the Society.

IMPORTANT NOTICE

This will be the last of the News - Letter for those who have not paid their dues.

Don't miss Lieut. Lawrence's article on Paricutin in the next issue.

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GEOLOGIC FORMATIONS AND ECONOMIC DEVELOPMENT OF THE OIL AND GAS FIELDS OF CALIFORNIA

Through the generosity of President Bates, the Geological Society of the Oregon Country has received as a valuable addition to its library, a copy of Bulletin No. 118 of the California Department of Natural Resources, Division of Mines, printed in 1943, and titled, "Geologic Formations and Economic Development of the Oil and Gas Fields of California." It is a monumental volume of nearly 800 pages, and one is impressed by the list of 126 contributing authors, every one of whom is a specialist on the particular subject of which he writes.

Maps, charts and pictures are generously used to augment the text. Index maps are reproduced on a scale of 1:500,000 the same as the Geologic Map of California, and in a pocket on the back cover is an economic map of California, showing the locations of the oil and gas fields and other drilled areas of the state.

The bulletin is divided into four parts:

Part 1 - Development of the Industry
Part 2 - Geology of California and the Occurrence of Oil and Gas
Part 3 - Descriptions of Individual Oil and Gas Fields
Part 4 - Glossary of Geologic Units, a Master Bibliography, and a General Index of the Entire Bulletin

It is a valuable reference work for any one interested in the geology of this greatest mineral resource of California.

A.D.V.

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LUNCHEON NOTES, THURSDAY, APRIL 6, 1944

The attendance was down to twenty-one after a banner turnout the previous week. -- F.W.Libbey brought some pictures of Dr. Smith and Dr. Weaver which Earl Nixon had enlarged from Mr. Stanley's negatives, taken at the Annual Banquet. A drawing was held and Dr. Booth, Geary Kimbrell, and Mr. Libbey held the lucky numbers. -- Mr. Stanley reported that someone (evidently not a geologist) had spotted his society emblem and had asked if he was one of "them professors of rocks and things."

Specimens included a block of pumice from Mono Lake, California, brought by Dr. Wallace Lowry and a fossil crab from the Eugene Oligocene recently collected by the editor. -- Franklin Davis called attention to the articles in Life Magazine on oil and on polarized light.

Mr. Vance's guest was Mr. Hines, secretary and director of the Portland department of traffic and safety.-- Miss A. Shaw, a former member, presented Mr. Clifford Tillotson who is interested in rocks and minerals. -- Miss Eliza Stevens of Bonneville had as her guest her sister, Mrs. H. M. Stiles.

Bruce Schminky reported progress in the planning of field trips for the summer. -- President Bates recounted a dream he had had in which Franklin Davis was a few steps ahead of him.

L.L.R.

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COMING - REPORT ON PARICUTIN

Occasionally the News - Letter has the good fortune to be the medium for the publication of observations of genuine scientific worth by members of our Society. A paper by Lieut. D. B. Lawrence, to appear in these columns soon, describing the new volcano Paricutin is an excellent example of good observing and excellent reporting of a phenomenon that is so rare that such another opportunity may not present itself for many years.

While much has been written about Paricutin in the daily press and scientific periodicals, there has at the same time been so much war news that readers may be pardoned if they fail to grasp the rarity of the phenomenon. Only a handful of volcanoes are known to have started "from scratch" within historic times, though many eruptions of old volcanoes have been observed, and there have been a number of submarine eruptions whose relations to previously existing cones can only be conjectured. In Irrigacion en Mexico for July-August 1943 Paul Waitz presents a list of only five such new mountains, one or two of which may be only new craters for older volcanoes, rather than wholly new cones.

1. In 1530, Monte Nuovo was formed by a brief but violent eruption in the Phlegrean Fields near Naples, attaining a height of 139 meters between September 29 and October 6, when violent activity ceased.

2. Exactly 229 years later, on September 29, 1759, after a two-month period of numerous and severe earthquakes, a violent eruption began near Jorullo, in the Mexican state of Michoacan, some 50 miles south of the present pyrotechnic display of Paricutin. Energetic activity lasted some 140 days, and the cone El Jorullo reached a height of about 500 meters.

3. In April 1850 eruptions in Nicaragua produced Las Pilas volcano, which is thought to be only an adventitious crater for an older volcano of the same name. In the same region another cone, possibly a new one, was built by an eruption on November 14, 1867. (No data are given as to its duration and height.)

4. November 18, 1909, El Chinyero volcano was born on the island of Tenerife, Canary Islands, on the flank of Pico de Teyde, which mountain, with its supports and spurs, covers some 500 square miles, or two-thirds of the whole island. (Other eruptions occurred on this volcanic island in 1706, 1795, and 1798: see Encycl. Brit., 14th Ed., Vol. 21, p. 931.) The eruption of 1909 is notable because the very first activity was witnessed by one Jose Hernandez Lorenzo and his son, from a distance of only 100 yards. The inital explosion threw bombs whirling in the air to a height of " 3 or 4 tall pines." Of the two observers, Sr. Waitz says: "Los dos huyeron." (Considering the circumstances, translation seems superfluous.) Activity continued for eleven days, the cone reaching a height of 150 meters.

5. Paricutin, in many respects the most notable of the list, has now been in constant violent activity since Feb. 20, 1943. It has offered more extended opportunity for close study than any of the others. It is the first one to have been recorded by natural-color photography. Within two weeks it had reached a height of 160 meters, surpassed in the above list only by Jorullo. Observers concluded as early as March 4, 1943, that it would not last much longer or build a much higher cone. "But we ought to add that these are only suppositions for which we have no scientific proof" Apparently the volcano pays no more attention to prophecies of its early demise than did its lava flows to the prayers of native farmers or the twenty-foot crosses dug by

(over)

them at the edge of fields in its path! Whether the volcano ceases activity tomorrow or continues until its cone rivals the great piles of Cotopaxi, Orizaba, and Popocatepetl, it will have earned a prominent place in geologic history; and one of the most readable passages of that history will soon appear in these columns from the pen of Don Lawrence.

K.N.Phillips

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LUNCHEON NOTES, THURSDAY, MARCH 16, 1944

Considerable delay in the service on this date gave adequate time for discussion and eventually led to some reference to politics and the New Deal. -- This prompted Clarence Phillips to read a recent humorous poem entitled "The Work of Dr. Quirk." -- A card was autographed for Mr. Hancock reminding him of his birthday on March 17th.

Mr. Calef had as his guest his nephew, Robert Calef Slawson. Tom Carney showed a specimen of petrified bark from Cameron, Arizona, and some massive, botryoidal psilomelane (manganese oxide) from Cornwall, England. Dr. Adams had specimens of chromite and serpentine which he had just received from New Caledonia. A short council meeting was held after the luncheon to approve committee appointments.

L.L.R.

LUNCHEON NOTES, THURSDAY, MARCH 23, 1944

While Mr. Simon came in even later than usual, Miss Jennings earned the distinction of being the latest by coming in fully two and a half minutes after him.....When Mr. Bates asked for specimens, Mr. Stanley showed some that he had dug up on the night of the banquet, and rare gems of photography they were. The now-famous tap dance, Pansy Yokum, and the committee meeting were represented. Hearing a comment on having his mouth open in one picture, Mr. Bates observed that it takes two years for a baby to learn to talk, but it takes seventy years for a man to learn to keep his mouth shut.....Mr. Minar passed around a small specimen of the black Belgian marble of which Dr. Weaver's gift was made. He also showed a bluish rock from California tentatively identified as sodalite. Miss Stockwell told of a phone call supposedly from a stock company who had heard of her talents. Supposing that they meant her bookkeeping, she inquired further to learn that they meant her tap-dancing, and also that the "agent" was Mr. Campbell. ....Mr. Carney displayed a large specimen of hematite (iron oxide), or kidney ore, which today constitutes about 90% of the iron ore. It was from England, as was also the cassiterite, or tin oxide, which he displayed.....Mr. Bates commented that while Franklin Davis had almost refused the chairmanship of the program committee because he thought someone younger should do it, when Davis accepted the post, he promptly appointed Mr. Vance and Mr. Libbey, two of our oldest war horses, as committee members. Mr. Davis assured him (and them) that none were younger in spirit than they, and he didn't mean second childhood either.....Mr. Bates produced the form for the Society's income tax and tried vainly to pass it on to someone else. After the luncheon, however, he was seen happily conferring with last year's treasurer -- happily because the blank was in Mr. Simon's hands..... Dr. Booth called out attention to the fact that the calculated speed of sound through air (1142 ft. per second, or roughly 12 miles per minute) checked perfectly with the time it took (2½ minutes) for the sound of the Hermiston explosion to reach Pendleton, 32 miles away.....Dr. J.C.Stevens is one of the engineers to be complimented on the construction of those igloos which were not damaged by the terrific blast.....Leo Simon inquired about some coal which he saw being transported from a mine near Wilhoit to Vanport.....Mr. Bates requested our presence at the lecture about 8:00 o'clock and asked that we sneak in quietly by the back way if late.

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L.S.

LUNCHEON NOTES, THURSDAY, APRIL 13, 1944

There was an attendance of 20, including the first appearance of one of our new members, Mr. Clarence Ogren. Also present was Ruby Zimmer, her first time at a luncheon. Her job keeps her from attending, but she was having a few days vacation. Dr. and Mrs. Booth brought, as their guest, Mrs. King of Burley, Idaho. As the Doctor said, she is no stranger, having been with us on previous occasions. Their daughter, Jean, is married to Mrs. King's son. Donald O'Connell was also with us, having taken two days out of school to attend the Primrose Show. He is a primrose fan and won a number of blue ribbons; was also in charge of one of the exhibits.

Franklin Davis called attention to a library book entitled "A Treasury of Science" by Shapley, Rapport and Wright, which he called a"magnified Science News Letter on a larger scale." Looked extremely interesting, and sells for $3.95, but could probably be obtained for less through Mr. Vance, Chairman of the Service Committee.

Some attractive jewelry was shown as specimens. Mrs. Stockwell displayed an elaborate necklace, made in Italy, containing four malachite cabochons, two ditto pendants and 13 beads, recently given to her by an old friend; also a queer looking stone which she calls Buddha. Ruby Zimmer displayed an attractive ring, a cameo on green onyx, so-called, but T. Carney says onyx comes in black and white only. And yours truly showed a cabochon and mounted brooch of snow-flake obsidian, just received from my brother.

Mr. Carney's contribution was some samples of quartz crystals to show something of the method used in cutting them for radio use. He says there are thousands of different sized crystals cut for different wave lengths of radio reception. Mr. Bates produced an opaline rock showing stratifications of agate, and Mr. Vance a half section of petrified twigs and bits of wood in volcanic ash, one surface polished by hand. Said it came from 65th and Halsey, a gravel pit there, but no use for us to go looking for more as the pit has been filled up!

Mrs. Stockwell read an interesting letter from Carl Richards, who is still improving and has been able to attend lectures and work nights as well as church. Says Ken Phillips' recent talk is to be repeated in Salem. A.H.

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THE WAY OF THE DODO

"The course of evolution" has generally been downwards. The majority of species have degenerated or become extinct, or what is perhaps worse, have gradually lost many of their functions. The ancestors of oysters and barnacles had heads. Snakes have lost their limbs and penguins their power of flight. Man may just as easily lose his intelligence....If, as appears to be the case at present in Europe and North America, the less intelligent of our species continue to breed more rapidly than the able, we shall probably go the way of the dodo and the kiwi....It seems to me altogether probable", says J.B.S.Haldane in another place, "that man will take this course unless he takes conscious control of his evolution within the next few thousand years." All that need be said by way of comment is that "hundreds" would be more appropriate than "thousands" !

From "Evolution: Essays on Aspects of Evolutionary Biology" edited by G.R. de Beer.- Clarendon Press.

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LUNCHEON NOTES, THURSDAY, MARCH 30, 1944

An attendance of twenty-six was noted at the last luncheon meeting in March. The soup was peppery, the beef stew and mashed potatoes were tender and well seasoned, the coffee was stimulating, and the conversation was interesting and unremitting.

Mr. H. Bruce Schminky's guest was Phineas Cheadle of the Portland Department of Public Works. Mrs. Florence Sunderland, a new member, was introduced by Mrs. J.C.Stevens. Harold A. Rands and Wm. J. Norris of the United States Engineer's office were guests of Franklin L. Davis who also introduced L.E.Rydell from the same office. Mr. Rydell is a member of the society but has not been a frequent attendant at the luncheons.

A.D.Vance talked about what is being done on "work nights" at the home of Lloyd Ruff. Chairman Minar and his committee are planning to do some studying of geology under the guidance of professional geologists who are willing to give their time to this work. Mr. Vance, who is also chairman of the Service Committee, brought copies of several books suggested for study. They are: "Text Book on Geology, Part 1, Physical Geology" by Longwell, Knopf and Flint; "An Outline of the Principles of Geology" by Field; and "Introduction to Geology" by Branson and Tarr.

Franklin L. Davis had copies of the "Journal of Geology" for July-August, 1931 and August-September, 1931 containing articles on the "Snake River Downwarp" and "Kansas Meteorite" respectively.

Tom Carney brought specimens of "the poor man's mineral" in two forms, one being a combination of copper, tin, and lead and the other being native copper in calcite. Both specimens were very interesting. Mrs. Stockwell had a part of a skull with long tusks which she said "might be pre-Cambrian". Later she told us that it was the specimen that Pansy Yokum and A.W.Hancock had found on their explorations just before the annual banquet. Mr. Hancock had a section of a fossil cone which he had received from Dr. Cheney of Berkeley, California. This is from the Jurassic formation and is, as the owner glibly informed the group, "Proaraucaria Mirabilia Widland", if the reporter understood him correctly. Mr. Schminky's specimen was a piece of finely laminated black sandstone from somewhere south of Gold Beach.

J.C.Stevens remarked that he hoped to be in Butte, Montana soon for a short stay, that being where Mr. Carney's specimens came from. He also spoke briefly about the ammunition igloos in the Hermiston area, and the explosion that recently occurred there.

Earl. K. Nixon, who is resigning his position as director of the Oregon State Department of Geology and Mineral Industries, was not at liberty to announce his future connections, but said that he was forced to leave Portland because the climate here does not agree with Mrs. Nixon's health. They hope to find more suitable climatic conditions in the vicinity of the Golden Gate.

The Board of Directors held a short business session following the adjournment of the luncheon meeting.

O.E.S.

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GEOLOGICAL SOCIETY OF THE OREGON COUNTRY

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MEMBERSHIP APPLICATION
GEOLOGICAL SOCIETY OF THE OREGON COUNTRY

Qualifications and Dues: Applicant must be sponsored by a member and recommended by the Membership Committee. A knowledge of geology is not a requisite. There is no initiation fee. A Member shall be over 21 years of age; or a husband and wife and all children under 18 years of age. The dues are $3.50 per year, payable in advance, which includes one subscription to the Geological News-Letter. A Junior is an individual between the ages of 18 and 21. Dues are $1.50 per year, payable in advance, and include one subscription to the Geological News-Letter.

Date . . . . . .

I, ...(please print full name) do hereby apply for membership (junior membership) in the Geological Society of the Oregon Country, subject to the provisions of the By-Laws.

Home address. . . . . .Phone . . . . . .

Business address. . . . . .Phone . . . . . .

Occupation. . . . . Hobbies . . . . . .

I am particularly interested in the following branches of geology: . . . . . .

. . . . . .

I enclose $ . . . for the year's dues, March 1 to March 1. (Checks payable to the Society).

. . . . . Sponsored by. . . . . .
(signature) (member)

Portland, Oregon May 10, 1944

SOCIETY ACTIVITIES

LECTURES: On the 2nd and 4th Fridays of each month at the Auditorium (3rd floor) of the Public Service Building, 920 S.W.6th Avenue at 8:00 p.m.

TRIPS: At such time as can be arranged ~ watch for announcements. Meeting place opposite Public Market, S.W.Front Avenue and Yamhill Street.

LUNCHEONS: Every Thursday noon in the Victory Room of the Winter Garden restaurant, 425 S.W.Taylor St. between S.W.4th and S.W.5th Aves. Luncheon 60¢.

STUDY GROUP: Sundays following the lecture meeting until further notice. Meeting Place, 3105 N.E.45th Avenue. Take Beaumont Bus to N.E.46th Ave. and Siskiyou St. and walk one block. Informal meeting 5 to 7 p.m. Lecture 7 to 9 p.m. Open to members and their invited guests.

MEETING ANNOUNCEMENTS

Friday May 12 — Dr. Ira S. Allison of Oregon State College will give an illustrated talk on Volcanic Ash Falls at Summer Lake, Oregon - A Lacustrine Record of Mt. Mazama. A section of lake beds exposed in the sides of the trench of Ana River below Ana Springs near the northwest corner of Summer Lake basin, in Lake County, Oregon, reveals the presence of six distinct layers of volcanic ash. Five of these appear to record the eruptions of Mt. Mazama which led finally to the formation of Crater Lake; the sixth is from a later eruption at Newberry Crater. These lacustrine beds not only supply a remarkably neat sedimentary record of the eruptions themselves but also furnish information regarding the history of a pluvial lake in its waning stages, and supply data on which estimates of time may be made, including a new figure for the age of Crater Lake and of the early Paleo-Indian occupation of the area.

Friday May 26 — Don't miss this one -- it may not have a direct relationship to Victory Gardens, but we will hear about some of nature's past handiwork in the plant world from Dr. Ethel I. Sanborn of Oregon State College.

WORK NIGHT

Sunday May 14 — Mother's Day -- The study group by majority vote decided to hold its regular meeting. The topic will be "Weathering of the Earth's Surface."

NEW MEMBERS

Mr. and Mrs. Ellis P. Simpson, 1209 N.W.Despain Street, Pendleton, Oregon.

PARACUTIN

We wish to convey our thanks to Lt. Donald Lawrence and compliment him for the fine article on Paracutin Volcano which appears complete in this issue of the NEWS - LETTER.

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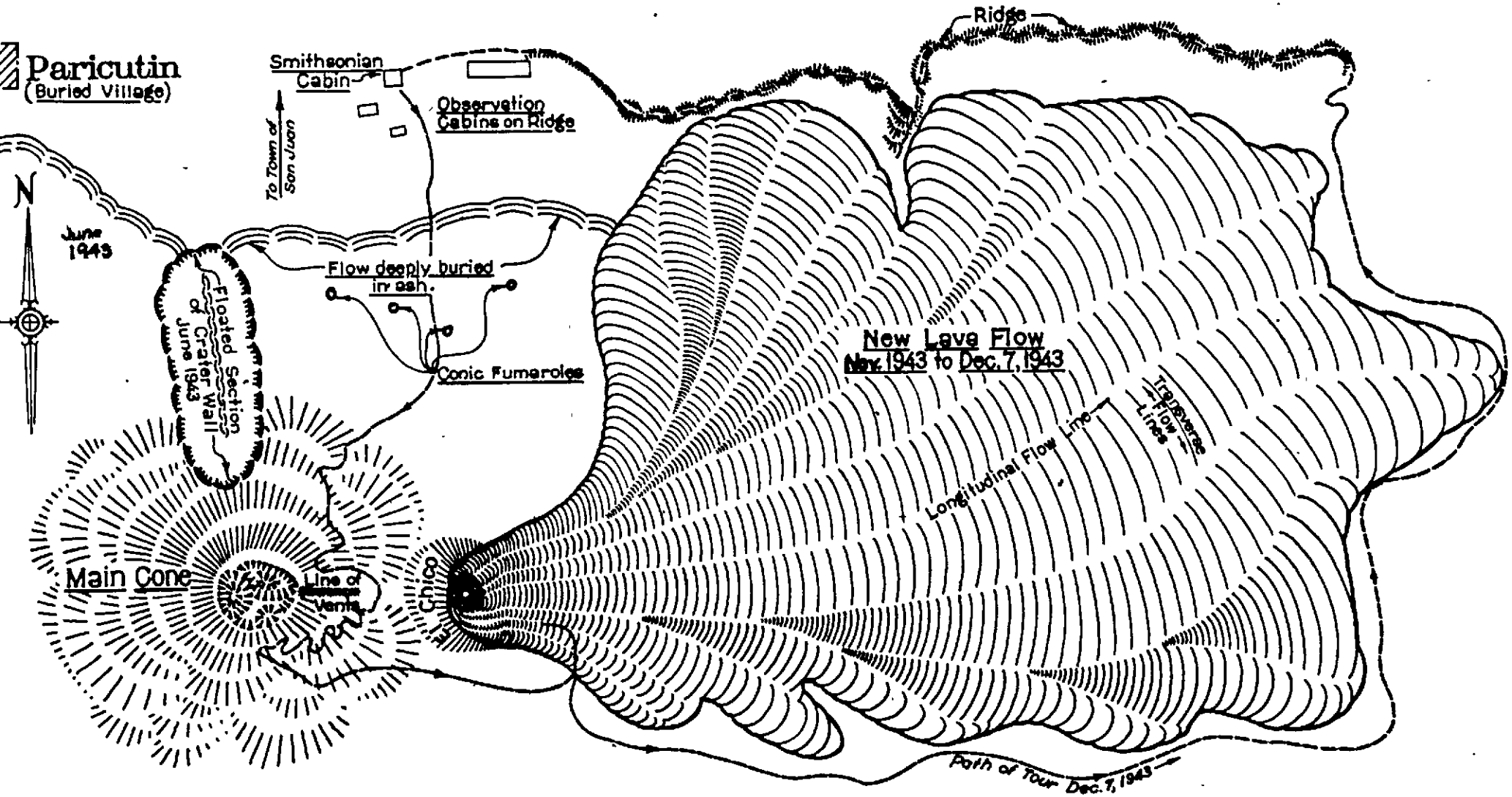

PARICUTIN VOLCANIC AREA

MICHOACAN. MEXICO

(AS IT APPEARED DEC. 6 & 7. 1943)

SCALE IN FEET

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Craters shown thus

Rough Sketch by: D.B.L.
Traced by: R.R.R.

A VISIT TO PARICUTIN VOLCANO

by

Lt. Donald B. Lawrence, Army Air Corps

Introduction

Effect of volcano on human senses: After puzzling over cold volcanic deposits in the Pacific Northwest all my life, trying to visualize how they were formed, it was a very stimulating experience to feel volcanic ash falling against my face and sifting in between collar and neck, to see cinder cones actually growing and be almost struck by the falling hot rocks building them up, to see a lava flow moving slowly ahead pushing over trees and be almost hit by one of those falling trees, to see a cigarette lighted from a glowing bit of igneous "rock in the making" just after it had rolled off the edge of the flow, to feel the legs of my trousers swish against my calves almost once a second as the concussion of each volcanic explosion disturbed the air, to see the waves of those concussions moving through a smoke cloud, and to be able to read fine print at night illuminated solely by the light from incandescent rocks projected high in the air.

Planning the trip: All of these exciting new experiences and many others too varied and numerous to recount were packed into a ten-day leave of absence in early December, 1943, from my army duties as instructor in maps, charts, and aerial photographs at the Army Air Forces Preflight School at Ellington Field, Texas. For about six months before we planned our trip Mrs. Lawrence and I had been reading fragmentary reports in newspapers and magazines describing the new volcano, Paricutin, that had been born within the year in west central Mexico on February 20th. Wistfully we had thought how wonderful it would be to go and see it for ourselves. But could we do it without squandering all our precious fifteen-day annual leave at once? Suddenly we learned that Pan American Airways would take us from Brownsville, Texas, to Mexico City in three hours, with no priorities necessary. We could get from Ellington to Brownsville by train overnight. The volcano could be reached by train or bus from Mexico City in about a day. All that proved to fit easily into a ten-day leave.

The early afternoon of December 2 found Mrs. Lawrence and me and Lt. W.D.Oliver, a fellow instructor, aboard a 21-passenger plane bound for Mexico City. Seeing the country from the air was an exciting experience, but all too soon, it seemed, we were on the ground again. The next two days were spent seeing beautiful Mexico City, shopping, and organizing our trip westward to the volcano. We had a choice of train or bus and chose the former because we were told it would be more comfortable travelling that way.

Mexico City to Uruapan - first view of volcano: Our destination lay due west 185 miles from Mexico City, just half way to the Pacific. But by train that meant a tortuous narrow gauge line northwestward across the continental divide and then southwestward by standard gauge across a high plateau to the heart of the state of Michoacan, to Uruapan, nearest city to the volcano. The 320-mile trip took about 15 hours and cost us each about one cent per mile, first class, in terms of U.S. money. The trip seemed long and slow but nevertheless very interesting because it was through beautiful country.

By the end of that day, December 5, we had gained many impressions about travel by train to the Mexican hinterland: That Sunday is decidedly not the day

for most comfortable travel since extra first class passengers sit in the aisle on their suitcases and extra second class passengers ride in freight cars and on the roofs, undismayed by the smoke in the tunnels; that time tables are merely estimates of the earliest time that a train will ever start off; that first class accommodations are about like the poorer tourist car equipment in the United States; that there is no need for dining car service because at each stop Indians bring to the windows fruit, candies, hot tortillas, bowls of baked meats, and jugs of pulque, the national drink; and that the average Mexican is far more interested in the happiness of his fellow travelers than we are in this country.

Our first sight of the volcano from the train window came after dark. It appeared as a small cone of red light shining out of the night and increasing and decreasing in intensity at irregular intervals. Occasionally we could see that just above that cone was a cloud that seemed to reflect a murky rose-colored glow from its lower surface. The train had just come over the pass west of Patzcuaro and was starting down a long series of switchbacks toward Uruapan. According to the map we were still about 33 miles airline from the object of our pilgrimage and our excitement at getting the first glimpse of it, now from one side of the car and now from the other, soon carried up and down the length of our car.

Uruapan to San Juan: We spent that night in the delightful Mirador Hotel in Uruapan in country which we found next morning reminded us much of the summer aspect of the Hood River Valley of Oregon, except for the palms and other imported tropical plants growing in city squares and parks. Pines and oaks covered the volcanic hills in all directions, the air was clear, and everything sparkled. At ten o'clock and for a fare of about 40¢ each in U.S. money we boarded a second class bus carrying our newly purchased Mexican blankets and enough canned food for a two-day stay at the volcano, still 18 miles to the west. Fortunately for our photography we occupied front seats, the hill was steep, and the bus was in poor repair so that with each stop to cool the motor we could jump out and snap a gorgeous view of the giant towering cumulus cloud, white above and black below, rising from the volcano, itself still hidden behind a wooded cone on the western horizon. Along the roadside as we crept up the hill we could see coarse black volcanic sand about an inch deep that had been deposited in a particularly violent eruptive period in early spring, but now the grasses were growing up through it and looked quite normal. For about the first ten miles the road was broad and smooth, then we turned off on a bumpy secondary road over newly graded hills, temporary bridges, and occasionally in and out of unbridged gullies. The dark gray ash blanket increased in depth as we moved westward to our destination. Here no grass was visible, and only dismal rows of cut yellowish stalks showed where corn fields had been a year ago. Occasionally new road cuts showed that the new ash from Paricutin was about four to six inches deep here and trees were still unharmed. (Underneath the new ash was a layer of ancient ash many feet thick) As we approached to within about five miles of the volcano we could begin to notice the damage that the heavy ash blanket had done to the pine trees. Many of the upper branches had been broken at the trunk and hung yellow and lifeless as though they had been overloaded with wet snow or ice. Rain had long since washed off the main load of ash which, according to an article by Trask, had largely fallen within a 36-hour period in April. Most of the needles seemed a healthy dark green but were covered with a grayish bloom of ash. We passed through a couple of partly inhabited dismal villages with garden walls and many roofs still loaded with the dull gray ash. The villagers that still remained seemed to be carrying on a haphazard livelihood mainly by woodcutting.

San Juan to volcano: Finally at noon the bus arrived at the town of San Juan (de Parangaricutiro) lying on its monotonous gray cloak in the shadow of the dense volcanic cloud. Horses were available; but we chose to set out on foot for a

45-minute walk along ash covered streets while a gentle drizzle and shower of ash particles settled out of the dark volcanic cloud that drifted our way from the main volcano cone, now plainly visible and occasionally audible two and a half miles to the south. The ash particles were about 1/16 to 1/32 of an inch in diameter and felt like small granular snow crystals as they struck our faces but they did not chill or melt as they sifted down our necks.

The route we took led us first along narrow village streets made uneven by heaps of ash that had been thrown from adjacent roofs, then along a road edged on both sides by large maguey (century) plants, less affected by their load of ash than any other plants, the exposed leaves still looking green and healthy. At the edge of town we crossed a gully about 20 feet deep and we were surprised to find that enough rainwater had filtered through the ash blanket to form a clear but sluggish little stream. The needles of the pines that grew on the ridge that we soon crossed seemed yellowish and sickly and were thoroughly dusted with ash that hadn't been washed off by recent rains. At the top of the ridge we suddenly had an exciting view of the volcanic area, and the first sight in our lives of molten lava, bursting forth into the air with each explosion of the new small crater at the east base of the main cone.

As we passed southward along the trail to the ridge from which most tourists now make their observations we met the luckiest geologist I know of - Dr. William F. Foshag of the Smithsonian Institution, who has had the good fortune to be on hand to make a detailed study of the volcano for part of each month since its birth. As he was leaving for Mexico City he offered us the use of the Smithsonian cabin for the night, instructed an Indian woman to cook for us and an Indian boy to bring us a jug of water from the nearest source about two miles away, and then told us the history of the volcano and the lava flows, and where to go and what to look for in our brief visit. With his advice we approached the places of greatest activity more closely than we would have dared to do on our own initiative and saw things that we would not have observed without instruction.

Brief Description of the Volcanic Area.

The main cone: From the cabin on the ridge we looked southward upon a more spectacular and varied volcanic activity than we had ever hoped to see, all being produced in a place that less than ten months before had been a nearly flat peaceful corn field. The most conspicuous feature as viewed in the afternoon light was, of course, the dark-colored main cinder cone about half a mile from us. Except for a notch in its eastern rim it was perfectly symmetrical, its slopes lying at repose at about 32 degrees from the horizontal. It had grown since February 20, 1943, to a height of 1500 feet and a diameter of over a mile at the base as a result of almost continuous eruptions. Just now it was quietly sending off plumes of light-colored smoke in rapid succession, but about every half hour it burst forth a mushroom of almost coal black smoke with thunderous noises.

El Chico: Next most striking feature of the volcanic area was the small new cinder cone "El Chico" (the little one) which had begun to form around a new vent at the east base of the main cone this fall, and already it seemed to be about 300 feet high. About 50 times each minute El Chico would erupt with a tremendous chug as though a gigantic steam engine were laboring with difficulty. With each eruption fragments of spongy incandescent rock would be thrown into the air sometimes as high as the top of the main cone, and each air concussion from the blast would shake the cabin and flap the legs of our trousers. Very little smoke issued from the small cone during these eruptions; but at about half-hourly intervals, coinciding with the violent bursts of smoke from the main cone, El Chico would stop

its regular beat for a few seconds, burst forth with a muffled roar, send up a dense dark brown column of smoke, and then within a half minute or so regain its former regularity and freedom from heavy smoke.

Occasionally that evening and the following morning when the sun's rays were nearly horizontal we could see one of the features that Dr. Foshag had particularly suggested that we watch for - the actual sight of compression waves in motion. This would happen when there was a thin dust cloud over the small crater and the sun was shining brightly and more or less toward us through the dust. The blast wave produced by an explosion at the crater mouth would then be seen to travel as a brilliant white expanding arch moving upward through the smoke. Dr. Foshag states that such compression rings or "flashing arcs" were first recorded at Vesuvius in 1906. "The arc is caused by compression and, perhaps, ionization." The type of war causualty known as shell shock is said to be caused by the effect on the body of similar but much more intense shock waves which radiate at very high velocities from the focus of bomb or shell explosions. At our distance from El Chico, the blast wave at ground level was noticeable only by its effect in shaking the cabin or flapping loose objects like clothing.

The new lava flow: It is actually incorrect to describe El Chico as a cone. It was really only a half-cone from whose open eastern side issued an active "aa" type lava flow of dark rough blocks too new to be covered by volvanic ash. It extended up to within a hundred yards of us and then off eastward to our left farther than we could see, a total length of two miles, all formed within the last two months. The observation cabins had been moved from a spot on the floor of the valley below, to their present location on an ancient crater rim to avoid burial by this flow.

The ash blanket on old topography: All of the immediate foreground including the site of the cabin was old topography, now buried in volcanic ash perhaps to a depth of four or five feet. The surface was not composed entirely of uniformly small particles, but scattered generally on it were fibrous gray cinders 1/2 to 3/4-inch long and so delicately formed that the pressure applied in merely picking one up usually resulted in its breakage. Wherever people had walked much the ash was firmly packed, but in umtrampled places our feet sank to a depth of three or four inches with each step, and the sensation was like walking in fresh wet snow. Although the trees standing here were leafless they did not seem to be injured structurally and even small twigs were still completely intact. Perhaps they are dead but I wouldn't be sure until spring.

An ash covered flow: Extending in gently sloping surface toward us from the base of the main cone of the volcano was a lava flow that had been formed in the spring. It had subsequently been deeply buried by ash and had formed a series of small cones, probably local vents, releasing some of the pressure within the flow. These small cones had ceased being active except to emit gases from which have been precipitated white and yellow salts, said to be ammonium and iron chlorides. Dr. Foshag told us about one of these older flows that had been moving when a heavy ash shower occurred, burying it deeply, and as the underlying lava continued to flow, cracks and pressure ridges formed in the ash blanket. In places where the hot rocks of the flow pushed up through the overlying ash to the surface, Dr. Foshag said the adjacent ash had been oxidized to a pink color. They must have looked much the same as the colored cinder mounds I have seen at Cinder Cone at the northeastern corner of Lassen National Park. Probably those colored cinder mounds were formed in this same way.

A floating island flow: On our right, extending northwestward from the main volcano cone was a high spur studded along its ridge with huge boulders. According to Dr. Foshag this spur had been a portion of the crater wall that had been so undermined by a lava flow that it was detached from the cone in June and floated along on top of the flow for a period of several weeks and for a distance of a thousand feet or so while its progress was being closely watched. Now the ridge stood so high that it seemed incredible that it could have floated to that position on a lava flow.

The Volcano at Night

The night views of the volcanic activity were, of course, more exciting than anything else. As dusk of our first evening at the volcano approached we climbed a high ridge about a mile northeast of the volcano and from there we could look southwestward up the new lava flow to its source in the open face of the little cone, El Chico. While the sky was still well lighted, the smoking main cinder cone just behind El Chico loomed as the most outstanding feature: but, at about sunset when the clouds behind the smoke column were tinted pink by the sun, the incandescent rocks being showered from El Chico began to assume prominence. As the sky darkened the main cinder cone sank into black oblivion from which it emerged only momentarily at its half-hourly periods when a thunderous roar, a dull vertical flash within the cloud, probably of lightning, and a small shower of falling red sparks showed that it too, though overgrown, was active enough to be throwing out small incandescent bombs

Meanwhile El Chico had completely stolen the show. The sight was as of a gigantic red fireworks display with showers of molten frothy rock being projected about once a second, mainly vertically, but also obliquely in gently arched trajectories, until they either fell back within the crater walls or landed on the outside of the cone and rolled or slid down the slope, outlining the external form of the cone as they moved. Many of the bombs were so filled with gas bubbles and hence so light for their size that they seemed to float motionless for an instant at the top of their paths and then fell slowly while others were coming up from the next explosion and still others were falling from the previous shower. It was a thrilling, unforgettable sight, to which only a moving picture with color and sound effects could possibly do justice.

After we had watched the sight for several hours from our vantage point a mile away, we approached El Chico to within about an eighth of a mile on the north and we felt, as moths must feel, an impulse to go ever closer. But the choking hydrochloric acid fumes from the vents on the ash-blanketed flow which we watched made us turn back. We spent the night lying on thin rush mats on the floor of the cabin, wrapped in our hand woven woolen blankets and feeling none too warm. Whenever we awoke we would sit up and look out of the window and see El Chico still regularly showering the air with gleaming bombs, hear the explosions, and feel the cabin shake.

A Tour of the Volcanic Area

A buried town: Lt. Oliver, our traveling companion, was up early next morning, so he walked about a mile westward to deserted Paricutin, the nearest village to the volcano. People had lived there as long as they could, but eventually the Mexican Government forced them to evacuate and gave them all new farms in Caltzontzin, near Uruapan. The houses in Paracutin had been almost buried in ashes and just the roofs were now to be seen. In June a lava flow had threatened to overwhelm the village, but it stopped just short of the town. Since the beginning of the volcano, we learned, there had been only one major human casualty. A woman had some ribs broken as a cabin roof fell in on her from excessive weight of ash. Such an unromantic way to get hurt at a volcano, we thought.

The main cone: That morning, December 7, on our tour of the area we got as intimate with the active craters as one could and still live to tell about them. As we approached the base of the main cone from the north we had to traverse the ash-blanketed lava flow, and cold cinders up to 3/4-inch long pelted down on us from El Chico's eruptions. To get to a point on the southeast side of El Chico to look into its open face at close range and still keep away from the area where bombs were falling rather often, we had to go considerably higher on the north slope of the main cone than Dr. Foshag had suggested, and since we were so high on the big cone we decided to see how high on it we could get. We thought we might even reach the very top, since he had told us it had been done the day before. There was a strong southeast wind blowing this day and we made the mistake of trying to climb up in the lee of a line of hydrochloric acid vents that extended up the east face. By the time we were two-thirds of the way up we had breathed all of the fumes we could take, so we gave up the ascent and started down again. I wasn't quite happy at the idea of giving up yet, so when we had descended low enough to climb around to the windward side of the fumes I climbed on again toward the summit. Climbing on the soft cinder slope was difficult because our feet sank in several inches with each step. Although the very surface was cool to the hand, about four inches down the heat was too great for comfort and was perceptible even through heavy boots and socks. I climbed to within about 100 yards of the top and from there got the impression that there were about three separate vents in the summit crater. As I sat resting there on the southeast cone surface I felt myself shaking. I didn't know at first whether it was the wind shaking me or the cone itself quivering so I got out a little spirit level and set it in the cinders beside me. The bubble wandered back and forth as I felt the cone lurch; and before I had time to wonder what was coming next, the volcano went into one of its half-hourly periods of heightened activity. Violent bursts of smoke were rising from the crater above me and with them showers of rocks, some as large as my head; these rocks began falling all around, sometimes as close as fifty feet. Those that landed on the slope above didn't stop when they struck, but came whirling along down the slope making a swishing sound as they spun through the air. Dodging hot rocks whirring down the slope as well as those coming toward me out of the curls of gray volcano cloud directly overhead soon got to be too complicated a problem, and it wasn't many minutes before I was down at the base of the cone. On my way I stopped one of the hot rocks with my foot as it rolled down the slope near me, and carried it along hanging it in a handkerchief. It burned a hole in the handkerchief, of course, but it was worth a handkerchief to get such a souvenir home. It was about an hour before the rock was cool enough to handle. The rocks that the big cone was throwing out were very solid and heavy while those from the little cone were full of gas spaces and almost as light as pumice. I rushed over to see a bomb of the frothy stone from the little cone that landed about 50 yards from us and reached it while it was still red hot and so plastic that I could kick a copper coin into it with my foot. I had planned to bring that imbedded coin home as a souvenir too; but we returned to our cabin by a different route, so the coin is still there, now buried in the cinders, perhaps to puzzle some geologist of a future generation.

The new lava flow: The rest of that day we spent making a complete circuit of the new lava flow. Since this flow was so very similar to many of the flows I had studied on Mt. St. Helens and elsewhere in the Cascade Mountains I was particularly interested in noting the pattern of longitudinal and transverse flow-lines and trying to understand how they form. We could see these most clearly from high on the main cinder cone. Looking out along its full length one could distinguish by color difference the newest, hottest, moving lava at the center of the flow from the underlying and adjacent older, semi-cooled, quiescent lava along the edges. Long curving lines roughly parallel to the sides of the flow showed very plainly the boundary between the dark central active part and the

lighter-colored colder side portions - these boundaries formed the longitudinal flow lines. The transverse flow lines were visible as horseshoe-shaped ridges, convex downstream, extending across the flow between the longitudinal lines; possibly they indicate changes in rate of activity at the source.

Our next view of the flow was a closeup near the source. By picking our way from the south base of El Chico northward across a portion of the cool edge of the flow that was lightly coated with ash we approached to within two hundred yards or so of the belching vent. There we were out of range of all but the most wayward bombs and yet close enough to get the detailed photographs we wanted. Our view from here across the flow showed that the dark-colored central active part was at a slightly higher level than we were. The heat radiating from the flow and focused on us from the center of El Chico was unbearable before many minutes, and the sound was deafening. The flow of the lava was very slow, and even here at the narrow source where the speed would be expected to be greatest we could not see any forward movement in the lava stream. Dr. Foshag said he had detected the movement by sighting a line across, using easily recognized floating blocks; but we didn't have time to do that.

Our trip around the flow took the whole afternoon. Each time we rounded another tongue of lava we thought it would prove to be the longest one, but we kept on finding longer and more active ones. Finally we did reach the very tip and we were amazed to find how far down the valley we were - about two miles from the source. Evidences of lava movement were most noticeable here. We could see giant rough-surfaced blocks and high pinnacles standing at all angles and we watched them change position, lose equilibrium and noisily roll down the 15 or 20-foot steep-walled flow edge amid clouds of dust, and land with an earth-quivering jar on the volcanic ash blanket over which the flow was moving. As each piece fell away from the flow edge it left behind a brilliant glowing niche of red but not liquid lava which within a few minutes would be as dark as the cooler adjacent rock. We watched this process take place repeatedly within a few minutes and saw the burial of sledge roads that the Indians had used the day before to haul away tree trunks that they were frantically harvesting before the lava flow could bury them. We found we could not stand closer to the most actively advancing edges than 10 or 15 feet because of the withering heat, and even at that distance we were decidedly uncomfortable.

At night the flow edge was still more interesting because then the most active places were easily located by the red gleam of the incandescent lava. As dark surface blocks would tilt, totter, and fall, they would often carry behind them a fire-fall of incandescent dust, and the blocks themselves would often come to rest on the ash floor with the hot side uppermost and send out a dull red glow for four or five minutes. Gradually those blocks would cool to blackness and others would roll out beyond them and so the lava front would move ahead, continually reburying and remelting itself. In a place where the rate of advance seemed rather slow on the afternoon of our first day, we established a photographic station about 50 feet from the margin, hoping to show the change in location of the flow edge by a second photograph the following day. When we returned 24 hours later we discovered much to our amazement that the place from which we had made photographs was already buried.

Places where the flow was advancing into the pine forest were especially interesting to watch by day. First the tree trunks would become scarred on the flow side by the jagged boulders rolling against them and then the trunks would begin to lean more and more away from the flow as the boulders piled up.

While they leaned at a dizzy angle the base of the exposed trunk would begin to emit a fragrant blue smoke, and then sometimes a small flame would suddenly flare up at the point of contact of rock and trunk. All the while the tip of the tree would be quivering; suddenly, with an initial jerk, the whole thing would plunge to earth and send up a cloud of volcanic ash that had become dried to dust on twigs and needles by the heat from the adjacent flow. In no case did we see whole trees flame up at once or even upper parts of vertical trees on fire. On one occasion we watched this whole process of forest destruction from a point close to the base of a doomed pine a foot and a half in diameter, and when the crash appeared imminent we all scrambled to safer terrain just in time. Where a number of pines had been thrown over and engulfed by the lava the fragrance of distilling pine pitch was very strong. It doesn't take much imagination to visualize how pine pitch could become deposited in the vesicles of lava under conditions like these. (I refer to the pine tar that Jack Leach found in vesicles within basalt rock at his home on Johnson Creek, near Portland.)

Another particularly interesting effect of the lava flow was its heating of the atmosphere above. As one result, the shapes of objects viewed across the lava surface appeared distorted and shimmering. Frequently, too, whirling funnels and columns of rising dusty air commonly called "dust devils" would extend to levels several hundred feet above the flow surface as the heated air found its way aloft, spinning sometimes in a clockwise direction and at other times in the reverse way.

Increase of Activity in the Volcanic Area

As we regretfully left the volcanic area at dusk that last evening, the abnormal number of tourists pouring in along the trail reminded us of the prediction made by Dr. Foshag when we arrived that an increase in volcanic activity would occur, because he had noted that for a week past the main cone seemed more active. Now the tourists had come to see the new activity. There had indeed been a striking increase in activity of all features within the 30 hours we spent in the volcanic area so that we had an opportunity of seeing not only the usual gradual changes, but also an acceleration in activity for which we could hardly have hoped. As we looked back toward the new lava flow we could see the whole edge of it outlined now by what appeared to be hundreds of little campfires, whereas just 24 hours before only an occasional red gleam had been visible along that part of the flow.

While waiting for the bus at San Juan that night, we thought the noise of the explosions seemed much more regular, frequent, and intense than when we had arrived at noon the previous day, and inside the enormous church in the center of the town the sound seemed intensified and altered to an eerie hollowness. From the square in front of the church we could see incandescent rocks flying upward from El Chico to a level even with the top of the main cinder cone, a vertical path of at least 1300 feet, and we tried to visualize what a sight it must have been when incandescent rocks were being projected from the main cone to a height of over 4,000 feet according to Dr. Foshag's measurement.

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For readers interested in more detailed accounts of the history of the volcano and of descriptions at different stages in its development, I submit the following partial bibliography.

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9. Trask, Parker D., "The Mexican volcano Paricutin." Science 98:501-505. 1943 (Dec.10)

IN SPANISH (All published in the same issue of the same journal):
Irrigacion en Mexico 24 (4): 1943 (Julio-Agosto). Illustrated.
Published by Comision Nacional de Irrigacion. Balderas, 94, Mexico, D.F.

1. Carreno, Alfonso de la O., "El volcan de Paricutin en las primeras fases de su erupcion. Consideraciones de caracter geofisico sobre el volcanismo." Pages 49-80.

2. Ordonez, Ezequiel, "El volcan de Paricutin." Pages 5-36.

3. Ramos, Ramiro Robles, "El volcan de Paricutin y el neo-volcanismo Mexicano." Pages 81-122.

4. Waitz, Paul, "El nuevo volcan de Paricutin, Mich., historia del fenomeno." Pages 37-48.

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NIXON NAMED TO NEW POST

Earl K. Nixon, former director of the State Department of Geology and Mineral Industries, has been appointed manager of western exploration for Freeport Sulphur Company, according to an announcement Friday by Langbourne M. Williams, president. Nixon will replace David St. Clair, who was transferred to the Company's headquarters in New York.

A widely-experienced miner, field geologist and consultant, Nixon has served as technical consultant to the war production board and Metals Reserve Company since the start of the war. Prior to his appointment as state mining chief in 1937, Nixon was engaged in mineral exploration for the M.A.Hanna Company. His resignation from the state mining post was announced on March 28.

President of the Association of American State Geologists, Nixon is also a member of the Oregon state technical council, the Oregon Postwar planning committee, and the American Institute of Mining and Metallurgical Engineers.

Headquarters for the exploration department of the western district of Freeport Sulphur Company will be moved from Spokane to San Francisco, according to the announcement, in order to afford a centralized location for mining districts of western United States, Canada, and Alaska.

--Oregonian.

LIBBEY REPLACES NIXON

F. W. Libbey has been appointed acting director of the State Department of Geology and Mineral Industries where he has been serving as Mining Engineer since soon after the department's inception in 1937. Mr. Libbey is a native of Maine and a graduate of M.I.T. After more than twenty years mining work in Canada and the southwestern states, especially Arizona, he came to Oregon in 1936 to work on the Army Engineer's mineral survey, joining the Department in 1938. The Society wishes Mr. Libbey the best of luck in his new position.

****

SURVEY MAPS AVAILABLE

A new printing of the United States geological survey map of the Mount Angel quadrangle has just been released. Restrictions on the sale of topographic maps made by the survey have been removed. The new map contains a number of additions and corrections and a newly compiled red overprint which shows present highway conditions. Among other Oregon maps not heretofore available to the public are sheets on the scale of one inch to the mile for these areas, all printed in four or five colors: Cape Foulweather, Yaquina, Aldrich Mountain, Mount Vernon, John Day, Camas, Euchre Mountain, Mapleton, and Goodwin Peak.

-- Oregon Journal.

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WATER SUPPLY PAPER ISSUED

The U.S.Geological Survey has just announced the following publication: WATER SUPPLY PAPER 889-B. Water-table fluctuations in the Spokane Valley and contiguous area, Washington-Idaho, by A.M.Piper and G.A.LaRocque, Jr., 1944. pp. i-iii, 83-139, pls. 4-7, fig. 4. Price, 30 cents.

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GEOLOGICAL NEWS LETTER

OFFICIAL PUBLICATION OF THE

VOL. 10 NO. 10 PORTLAND, OREGON May 25, 1944

GEOLOGICAL NEWS-LETTER
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Geological Society of the Oregon Country
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THE GEOLOGICAL NEWS - LETTER
Official publication of the
GEOLOGICAL SOCIETY OF THE OREGON COUNTRY

The Geological News-Letter is issued semi-monthly on the 10th and 25th.
Yearly subscription: $2.00 Single copies: $0.15
Communications and material for publication should be sent to the Editor. Change of address and subscriptions are required 30 days in advance of date of change, and should be sent to Emily M. Moltzner, Morgan Building.

MEMBERSHIP APPLICATION
GEOLOGICAL SOCIETY OF THE OREGON COUNTRY

Qualifications and Dues: Applicant must be sponsored by a member and recommended by the Membership Committee. A knowledge of geology is not a requisite. There is no initiation fee. A Member shall be over 21 years of age; or a husband and wife and all children under 18 years of age. The dues are $3.50 per year, payable in advance, which includes one subscription to the Geological News-Letter. A Junior is an individual between the ages of 18 and 21. Dues are $1.50 per year, payable in advance, and include one subscription to the Geological News-Letter.

Date . . . . . .

I, ...(please print full name) do hereby apply for membership (junior membership) in the Geological Society of the Oregon Country, subject to the provisions of the By-Laws.

Home address. . . . . .Phone . . . . . .

Business address. . . . . .Phone . . . . . .

Occupation. . . . . Hobbies . . . . . .

I am particularly interested in the following branches of geology: . . . . . .

. . . . . .

I enclose $ . . . for the year's dues, March 1 to March 1. (Checks payable to the Society).

. . . . . Sponsored by. . . . . .
(signature) (member)

SOCIETY ACTIVITIES

LECTURES: On the 2nd and 4th Fridays of each month at the Auditorium (3rd floor) of the Public Service Building, 920 S.W.6th Avenue at 8:00 p.m.

TRIPS: On the Sunday following the second meeting of each month for the balance of the summer - see special announcements.

LUNCHEONS: Every Thursday noon in the Victory Room of the Winter Garden restaurant, 425 S.W.Taylor St. between S.W.4th and S.W.5th Aves. Luncheon 60¢.

MEETING ANNOUNCEMENTS

Friday May 26 — Dr. Ethel I. Sanborn of the Department of Botany, Oregon State College, will address the Society. Her talk will be along her paleobotanical field of endeavor. The subject will be "How Plants Acquired the Land Habit." The talk will be illustrated with projections by means of the Balloptican. This story will take us right back to the beginning - shall we say - of the buttercup and equisetum or will it go beyond? The exhibit committee will have on hand some illustrative fossil plant material.

Friday June 9 — Mr. J. H. Christ, Regional Conservator for the Pacific Coast Region, Soil Conservation Service, will give a talk on Soil Conservation. A sound track color film entitled The River will be shown after the lecture. This picture shows the life span of a river in its erosional activity.

Friday June 23 — Dr. Earl L. Packard, Oregon State College, will discuss "Turtles of Ancient Days."

Friday July 14 — Geology of the Coos Bay Coal Region by John Eliot Allen.

WORK NIGHT

Sunday June 11 — The next regular meeting of the Study Group will be on June 11. The subject will be Erosion by Running Water.

FIELD TRIP

Sunday May 28 — Leader: H. B. Schminky.
Visit to the gravel bars at the mouth of the Clackamas River. Agates, petrified wood, and Indian artifacts have been found in these deposits. We will assemble at the Super-Highway bridge over the Clackamas at 10:00 A. M. First explorations will be on the south bank of the river. The afternoon will be spent on the north bank. There will be about two miles of walking for those who wish to take in more territory. Oregon City busses cross the bridge. Oregon City car or auto can be used also. If you can take your auto, make arrangements for passengers at lecture on May 26. Good walking shoes are advisable for the gravels are large and make hard travel for high heels or soft soles. Bring lunch and drinking water.

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NEWS OF MEMBERS

There appeared in Robert Ripley's column in the Oregonian recently a "Believe It or Not" on the Hermiston Ordnance Depot explosion being heard twice. The information was submitted by Mrs. Courtland L. Booth.

Proof that program chairman Davis is on the job is contained in the following letter from Captain W. D. Wilkinson: "Thank you for your kind invitation to appear before the Geological Society of the Oregon Country - but as you can see from my address, (APO 832, c/o PM. New Orleans, Louisiana) it is quite impossible. I have been on a tour of duty for the past year at a station in the Galapagos Islands and recently have been transferred to this new post in the Zone area. During this time I have had some time to make observations which, I hope, at some future date will be of interest to the Society. At present all I can do is make the observations. My work with the army isn't very closely connected with geology but has been interesting.

"I also note that the Society will pay my travel expenses. If you can arrange with Uncle Sam I would be glad to come on any date. My traveling expenses would amount to approximately $500.00.

"Seriously - at the first opportunity I will be glad to come and will let you know."

W.P.W.

****

LUNCHEON NOTES - APRIL 20, 1944

Miss Margaret Hughes appeared at the luncheon today - her first visit since returning from Vancouver, B.C. She expects a collection of rocks and shells soon from the Vancouver area.....This was also a homecoming for John Allen who, with Dr. Ewart M. Baldwin, returned from the Coos Bay coal survey. John brings a story of Hathaway Jones' caliber about some lava in the Tillamook area which has square holes in it. - Page Ripley.....Bill Reeves of Salem dropped in, his first visit in many months - reports that Carl Righards is doing very nicely and working part time now.....Several specimens were passed around. Franklin Davis had some crinoid specimens from New Mexico - acquired in a deal of some sort. Mr. Vance dropped an almost identical specimen (from N.W.Oregon) in the box and it wasn't discovered by either the professionals or the amateurs. Tom Carney had been improving on nature again and this time it was a sulphur 'geode'. President Bates showed something he found in his garden which had the color of emerald.....Ray Baldwin called attention to the current showing at the News Reel Theater which included the Snake River Canyon run of the mail boat Idaho and the construction of an aircraft carrier...Someone reported that the Mazamas had been on a geological field trip. The highlights of the trip were a visit to E. H. Rockwell's basement, a study of Mt. Tabor, and as the final lap, a visit to A. W. Hancock's basement museum.

L.L.R.

****

NEW MEMBERS

Miss Lucile Jordan, 1609 S.E.16th Avenue, East 6396
Miss Kathryn Brown, 5402 S.E.Taylor Street, East 8474.

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NOTES ON THE FOSSIL WOODS OF CALIFORNIA
No. 4, The Central Sierra Nevada.

By Geo. F. Beck, Ellensburg, Washington.

We concern ourselves here with the region long known as that of the "auriferous gravels." This area was introduced by the Forty-niners and their successors who, according to Harry MacGinitie (A Middle Eocene Flora from Central Sierra Nevada, Carnegie Inst. Bul. No. 534, 1941, p. 2), "became, indirectly fossil collectors, since they piled the silicified logs (Chaney 1934, p. 124) which occur in abundance, in windrows along the edge of the sluicing channels in order to facilitate the movement of the finer gravel."

On page 53 Dr. MacGinitie returns to a discussion of these fossil woods: "Silicified wood is abundant in the deposits of the Tertiary Yuba River. The greater part of the fossil wood is not well enough preserved to permit identification, although occasionally dark, agatized material is found in which preservation of the wood structure is excellent. A large collection of this material is deposited at the University of California."

"In 1907, Paul Platen - described woods from Nevada County, California. Part of these woods appear to be from Miocene deposits, but some of them undoubtedly came from the Chalk Bluffs (Eocene) deposits ---. Unfortunately Platen is somewhat vague concerning localities --."

MacGinitie lists the woods under the scientific names employed by Platen and goes on to say that "the fossil wood genera may correspond to the genera Diospyros (ebony), Persea (avocado), Platanus (sycamore), Quercus (oak) and Ailanthus of the Chalk Bluffs (leaf) flora." Words in parenthesis mine.

Platen in his "investigations", to which reference is made here as well as in paper No. 1, allots pages 30-94 to the woods of Nevada County and the remainder of California (exclusive of Calistoga). Those from the given county clearly belong to the area now under consideration.

Platen lists:
- Oak, 2 types
- Avocada (Persea) (?)
- Simarubaceae, 2 members of
- Anacardiaceae, a member of
- Aralia, 3 types
- Sycamore
- Ebony (Diospyros) (?)

His description of the oaks and the sycamore are adequate (if descriptions without photographs are ever sufficient) and there need be but little hesitation to accept them. The avocado and ebony are undoubtedly of the families in question and are with propriety listed provisionally as given genera. I place little confidence in the three types from the mid-section of the list.

In 1934 there appeared an interesting paper under the auspices of the Forest Products Laboratory of Madison, Wisconsin, entitled, "Composition of Three Fossil Woods Mined from the Miocene Auriferous gravels of California." The authors, G. J. Ritter and R. L. Mitchell, quoting the introduction, and portions of the summary, have this contribution to make to our topic:

"The Forest Products Laboratory has recently analyzed three old woods which were mined from the Miocene auriferous gravels of California and submitted to the laboratory by Prof. I. W. Bailey of Bussey Institute of Boston, Mass.

The woods are a pine of the hard-pine class of which Ponderosa pine is a member, a cedrus, which family is extinct in the Western Hemisphere, and a sequoia of the family of which redwood is a member. These woods were mined about 200 feet below the surface of the ground. For the want of a better name these old residual materials are referred to here as fossil woods."

"These fossil woods have developed a pronounced brown discoloration, extreme brashness, and in some small areas of the structure, mineral-like properties characteristic of petrified woods. An examination with the aid of a microscope revealed no signs of fungus attack. Many of the structural elements were observed to be twisted and crushed perhaps as the result of excessive pressures during their burial underground. Fibers which had undergone no deformation still manifested a preferred orientation of their cellulosic structure when observed between nicol prisms with corresponding axes arranged at 90 degrees to one another."

"A marked decrease has occurred in the extraneous and the carbohydrate content of the woods. On the other hand, the lignin content of the residuals is abnormally high as compared with that of a normal wood of the same genus. On the basis of the original wood, the lignin has decreased less than any other constituent."

"Microscopial examinations of the residue and the relation between the alkali solubility and cellulose content of the fossil woods indicate that decomposition was due to agencies other than fungus attack. Hydrolysis appears likely."

Dr. I. W. Bailey (E.S.Barghoorn, Jr., co-author) takes up these woods in the American Journal of Botany, vol. 25, No. 8, 641-647, 1938 under the title "The Occurrence of Cedrus in the Auriferous Gravels of California." We quote the first four paragraphs of the summary:

> "The auriferous gravels of California frequently contain logs and smaller fragments of wood which are not mineralized, lignitized, or carbonized, yet exhibit such a remarkable state of preservation after millions of years that they have aroused much interest among both laymen and scientists.
>
> "Many of the specimens exhibit superficial resemblances in color and texture to the wood of SEQUOIA, to which genus they have commonly been assigned.
>
> "A detailed study of such specimens from Eldorado, Placer, and Yuba counties indicates that the woods are derived from at least three different genera -- viz., SEQUOIA, LIBOCEDRUS (incense cedar) and CEDRUS (cedar of Lebanon).
>
> "The occurrence of the wood of CEDRUS is particularly interesting, since this genus has not been recorded previously from the Cretaceous or Tertiary deposits of western North America."

This paper includes some very fine photographic studies, and gives exact locations for specimens considered.

At the University of California I saw a small collection of woods from the general area in question that according to my notes includes, (1) a soft-pine akin to the single leaf pinon (Pinus monophylla), (2) a Douglas fir, (3) a sycamore, and (4) one of the laurels (Machilus).

Mineral News and Notes - Bull. 77 - February, 1944.

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LEAP YEAR MERELY INVENTION TO KEEP CALENDAR STRAIGHT

By J. Hugh Pruett, Astronomer, General Extension, University of Oregon.

Within this week comes that postfixed day of February which, once in four years, transforms an entire year into a period of apprehension for the more timid of masculine souls. Certain of the feminine persuasion assume leap year was instituted solely for them, and - so some say - take full advantage of this rare opportunity.

Leap year's reversal of wooing customs is of ancient origin. A Scottish law of 1288 A.D. declared: "It is ordained that during the reign of her most blessed majesty, for each year known as leap year each maiden lady shall have the liberty to bespeak the man she likes; albeit he refuses to take her as his lawful wife, she shall be mulct of the sum of one pound . . . except that he can make it appear he is betrothed to another, he shall then be free." Entanglement in the bonds of matrimony also assured acquittal.

Whatever the general opinion, leap year is not a social but an astronomical institution. Most of the ancient peoples had very unsatisfactory calendars. The year of the Assyrians and Hebrews consisted of 12 lunar months, or 354 days, to which a 13th month was added every two or three years in an attempt to keep the calendar fairly in step with the seasons. The Mohammedan countries to this day use a 354-day year without a correcting leap-month. The Egyptians used a 365-day year from very ancient times. This was the best of all, although after 730 years midwinter came when the calendar said it was midsummer.

Many ancient scientists knew the true year was very close to 365¼ days. Julius Caesar in 45 B.C. established what is known as the Julian calendar. It has continued almost unchanged to the present. In this there are three years of 365 days and a leap year of 366, an average of 365¼ days. The vernal equinox,"beginning of spring," in Caesar's original calendar occurred March 25.

But the year is actually about 11 minutes less than 365¼ days. By 1582 A.D., the equinox had fallen back to March 11. That year Pope Gregory, after consultation with the astronomer Clavius, decreed the establishment of the Gregorian calendar, the one we now use.

It is like the Julian excepting that during 400 years three of the usual fourth years are not leap years. These are the years divisible by 100 but not by 400. Thus 1600 and 2000 are leap years, while 1700, 1800, and 1900 are not. This calendar makes the year only 26 seconds too long. There will not be an error of one entire day until after 5000 A.D., a fact that need not worry us.

Ten days were arbitrarily added to the Gregorian revision, thus bringing the equinox to March 21.

Oregonian, Feb. 26, 1944.

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Anyone interested in securing back volumes of the Geological News - Letter see Raymond Baldwin. A number of these are available at $2.50 per volume.

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LUNCHEON NOTES - MAY 4, 1944

Today's guest of honor was Miss Sally Allen, an embryo geologist who carries her four years with dignity - and peeked shyly around her mother when being formally introduced by President Bates. Another guest was Clifford Tillotson, who accompanied Miss Arline Shaw. Miss Shaw has just renewed her membership of two years ago.....Dr. Booth brought another door prize, an attractive piece of fluorescent calcite, which went to Mr. Libbey in the ensuing drawing. Other specimens shown by the Doctor were a coxcomb marcasite from the Tri-State area, and from Terlingua, Texas, a very heavy globular mass, on which he asked for identification, testing our geological knowledge. Several correct answers were received on the slips passed around, viz., marcasite or black iron pyrite. Mr. Vance produced an interesting looking fossil (the name was too long for this reporter to catch); Mr. Hancock a small Cretaceous fossil, and Miss Hughes some axinite crystals from Vancouver Island. Mr. Carney's specimen was outstanding, as usual - a perfect topaz crystal in gray matrix, from St. Thomas Mountain, Utah.....A map showing the route of Darwin's trip around the world was shown by Mr. Davis.....Another addition to the library was announced by Mr. Bates, who in his capacity as a member of the library committee of the U.S. Department of Agriculture is in position to receive contributions of out-of-date material that is still valuable to our Society. This time it is nine or ten copies of back numbers of the California Journal of Mines and Geology..... Enthusiastic applause greeted the announcement that the new Director of the State Department of Geology and Mineral Industries is Mr. F. W. Libbey..... Dr. Booth announced that one of today's contributions to Ripley's "Believe It or Not" was submitted by Mrs. Booth - the story of the explosibn of the igloo at Hermiston being heard over the telephone at Pendleton 32 miles away some minutes before the sound reached there through the ether. The Ripley post-card of acknowledgment bearing his photograph was shown by the Doctor.....An interesting letter from Mrs. Arthur Jones was read by Mr. Vance. Mrs. Jones wrote from the hospital where she was recovering from an operation, but expected to return home on May 2. She reports that Doctor Jones' schedule had been changed, permitting him to be at home two nights in succession out of three, with a half day off a week. They have bought a home in California, called Holly House, at 400 Throckmorton Avenue, Mill Valley, so expect to be comfortably domiciled for the duration, as they all love Mill Valley. Mrs.Jones and the children will be in Portland in late July or early August. An addition to the Jones family is Dorothy, born April 18, to Mr. and Mrs. Francis Jones..... Mr. Bates reports that his Cathedral Bells plant, grown from a leaf donated by Mr. Calef, has flourished and is now some ten or twelve inches high, with leaves as large as the original starter. (How does he do it? Ours, which we loved and cherished, simply languished and pined away.)

A.H.

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TALK BY DR. HODGE SCHEDULED FOR OCTOBER

Dr. Hodge will give a talk on October 26, 1944 on the Spokane flood. His choice of subject is creating considerable interest in this very speculative problem. For those who wish to make a preliminary study of the subject there is recommended the bulletin by Dr. Allison on the Spokane flood. Also the articles by Bretz and the recent work on Lake Missoula by Pardee.

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GEOLOGICAL NEWS LETTER

OFFICIAL PUBLICATION OF THE

VOL. 10 NO. 11 PORTLAND, OREGON June 10, 1944

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. . . . . Sponsored by. . . . . .
(signature) (member)

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Friday June 9 — Mr. J. H. Christ, Regional Conservator for the Pacific Coast Region, Soil Conservation Service, will give a talk on Soil Conservation. A sound track color film entitled The River will be shown after the lecture. This picture shows the life span of a river in its erosional activity.

Friday June 23 — Dr. Earl L. Packard, Oregon State College, will talk on the subject "Turtles of Ancient Days." Dr. Packard is recognized as one of the outstanding paleontologists of the Pacific Coast. Not long ago he published a brochure entitled "A New Turtle from the Marine Miocene of Oregon," in the introduction of which he acknowledged the assistance of certain members of the G.S.O.C. who had aided him in the field work. The Dr. J. C. Stevens turtle, found in the John Day country on one of the trips of the G.S.O.C. into that region under the leadership of Dr. Packard, now is on exhibit at Oregon State College. The lecture will be illustrated with slides, and should be extremely interesting.

Friday July 14 — Geology of the Coos Bay Coal Region by John Eliot Allen. This lecture will be illustrated, and the stratigraphy and structure of the area will be emphasized.

Friday July 28 — The subject and speaker will be announced later.

WORK NIGHT

Sunday June 11 — The next regular meeting of the Study Group will be on June 11. Erosion by Running Water will be the subject for discussion.

ANNUAL PICNIC

August 1944 — A. W. Hancock is general chairman of the Annual Picnic. Sub-committees will be announced later.

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LIVING CONDITIONS ON OTHER PLANETS

BY

J. HUGH PRUETT, ASTRONOMER

OREGON GENERAL EXTENSION DIVISION

In flights of fancy we earth-dwellers often wing our way upward through the silent blue and cross the great empty spaces beyond, reaching those other shining worlds of our far-flung solar system. There seems ever an enchanting mystery attracting us to those distant shores, to which no human navigator has yet learned to direct his course. Perhaps we may at sometime perfect space-ships capable of carrying us safely across the interplanetary void, but at present such an achievement seems quite remote.

But should we succeed in reaching the other planets, what pleasure of existence would await us there? Likely nowhere could we for long even remain alive without extreme artificial aids. That the natives of the other worlds - if such there be - might find living conditions congenial would be no assurance that we, reared under entirely different environments, would find any comfort in such surroundings.

It is a well-known fact that in our own world those who live near sea level find breathing very difficult on fairly high mountains. The composition of the air, approximately four-fifths nitrogen and one-fifth oxygen, remains practically the same on a mountain at a height of three miles as at sea level, but it is greatly expanded and decreased in weight per cubic foot; in fact, only about half as dense. By the time we reach an altitude of five or six miles, that region where airplanes leave their snowy vapor trails of cirrus against the sky, and where the lofty peaks of Mt. Everest pierce the high clouds, both the air density and temperature are so low that none of us could long exist without heating and breathing aids.

Theory and actual tests indicate that the density of our atmosphere continues to decrease rapidly as greater and greater heights are reached. At 100 miles above the surface, air is almost too thin to measure. At 600 miles, the faintest remnants are sometimes indicated by one form of northern lights. Beyond that, the space-traveler would surely find himself flying in vast oceans of nothingness.

Possibly it seems strange that we should have to go only four or five miles up into the sunshine from our present comfortable surroundings to encounter conditions which would make living impossible. Why then should we hope that other planets millions of miles from us would support life, such as ours, even should we in some inconceivable way manage to arrive there. The glamour of such romantic, idly contemplated journeys fades away in the light of known facts. We are native of one planet and all our bodily functions are conditioned for it. Our chances elsewhere are seemingly as remote as those of a fish in the air.

From recent news we learned that by means of the spectroscope it has definitely been shown that Titan, the largest of Saturn's moons, has a detectable atmosphere of methane and ammonia gases. Nearly 20 years ago, Jeans of England reported that Titan had an atmosphere but that its composition had not been determined. Since that time, the spectroscope has been used quite effectively in analyzing the sunlight reflected from various planets.

By the use of this instrument it is possible to find many of the constituents of the planetary atmospheres, at least the outer portions from which we receive light.

As an argument against a general migration of earth-dwellers to the fairy landscapes of other planets, let us briefly review the known facts of their atmospheres. The precise methods of obtaining this information will not be described, but only the results as we now think we know them. Let us take the planets in their order outward from the sun.

Mercury seems to have almost no gaseous envelope. Some have at times thought they found indications of faint cloudiness or dust storms on the intensely hot surface of this little world, yet there is no certainty about it. The evidence now available indicates that Mercury constantly keeps one side toward the sun. On this daytime side temperatures have been measured as high as 770 degrees Fahrenheit, enough heat to melt tin and lead. On the other side is eternal night and intense cold. The suggestion has been made that this globe might well have been named for the god of the lower regions, Pluto, for conditions there remind one of the "fierce heat and ice" imposed upon the hopeless souls as described in Dante's Inferno. Let us pass up this seething and freezing little sphere as a place of abode - or even for a summer's vacation.

The surface of Venus, the planet whose orbit lies between that of Mercury and the earth, is constantly covered with heavy clouds, a condition requiring a considerable atmosphere. Ordinary observing and photographic methods show practically no detail in the brilliant white cloud covering, but photography in ultraviolet light reveals many darker rifts which are changing shape and position from day to day. It is doubtful if the solid surface is ever glimpsed through the clouds. That there is atmosphere extending considerably above the top of the clouds layer seems well proved.

The spectroscope shows no oxygen nor water vapor in the Venusian covering. This does not mean there is none of these present, but that they must exist, if at all, under the clouds or in amounts too small to be detected with our present spectroscopes. However, an abundance of carbon dioxide gas has been found above the clouds. These clouds themselves were formerly assumed to be composed of water droplets. But recent reasoning concerning their chemical composition indicates that these may be clouds of formaldehyde, that strong pungent-smelling antiseptic often used for the extermination of bacteria.

What the atmospheric conditions below the cloud tops may be, is of course not certain. But if formaldehyde makes up the clouds, there must be a considerable amount of it throughout the entire atmosphere. If you have an antipathy for antiseptic vapors, perhaps you had better postpone a visit to Venus until a more pleasant air can be definitely assured.

Mars holds the greatest charm for interplanetary wanderers. There the skies are generally clear so we know considerable regarding its surface features. Localized clouds sometimes seen floating about indicate that the planet has some atmosphere. Certain types of clouds are thought to be low dust while others are actual water droplets or ice crystals. The white polar caps seemingly are real snow. But the nights, even at the equator, are bitterly cold and the air very thin, likely about like that at the top of an imaginary terrestrial mountain eleven miles high. The composition of this rarefied air is more uncertain than that of more distant planets. Astronomers conclude that it has no more than five percent of the water content or one-tenth of one percent of the oxygen content of our air. However, the Martian atmosphere seems to have a depth of at least 60 miles.

The giant planet Jupiter has recently, through spectroscopic studies, disclosed a great deal about the upper part of its cloud-filled atmosphere. This atmosphere has been estimated to be approximately 8000 miles in thickness. Two of the gases present in this covering are methane and ammonia.

Methane, or marsh gas, is a chemical combination of carbon and hydrogen. As its name implies, it is found in marshes and other places in which the decomposition or decay of vegetable matter is taking place under water. In coal mines, where it also occurs, it is called "fire-damp." Combined with certain proportions of air a very explosive mixture is formed.

Ammonia, composed of nitrogen and hydrogen, is too well known to require a description. By reasoning, but not by actual spectroscopic analyses, an immense amount of hydrogen gas must also be present in the Jovian atmosphere. In fact some think hydrogen makes up its greater portion.

As for the composition of the clouds which constantly cover Jupiter and which show considerable detail on their outer visible surface, it seems likely that they are made up of small crystals of frozen ammonia floating in the atmosphere as do the cirrus clouds of frozen water in our air. Whipple of Harvard suggests that some of the more permanent cloud effects, such as the Great Red Spot, may be due to volcanic action on the solid surface of Jupiter.

We find that Saturn's gas covering contains more methane and less ammonia than is found in Jupiter's atmosphere, for Saturn's surface is so much colder that undoubtedly more of the ammonia has been frozen out into the clouds.

Uranus and Neptune, still farther from the sun than Saturn, show only a trace of atmospheric ammonia but a great abundance of methane. This gas absorbs so much of the red and yellow from the light leaving the planetary surfaces that to us they have a distinctly greenish color. One with good color perception using only a three-inch telescope will note almost instantly that even the more distant Neptune does not have the yellowish appearance of most of the little stars in the same field of view, although it may appear no larger. Atmospheric conditions around the planet Pluto are unknown.

Although our survey of the atmospheres of the planets, other than our earth, reveals conditions very unfavorable for life such as we know it, this by no means indicates that life in other forms could not thrive on those distant worlds. But it does suggest that those of us accustomed to the old earth should stay at home - save in flights of fancy.

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DR. ALLISON'S LECTURE - FRIDAY, MAY 12, 1944

On the evening of Friday, May 12, the G.S.O.C. gathered in the Turn Verein Hall to hear Dr. Ira S. Allison of Oregon State College talk on the volcanic ash deposits of the Summer Lake basin of south central Oregon and the relation of these ash beds to the eruptions of Mt. Mazama and Newberry Crater. Because of a conflict in schedule, the Society had to give up, at the last minute, its usual meeting place in the Public Service Building, with the result that the attendance was not as large as had been expected. However, those who found their way over to the Turn Verein Hall at SW 13th & Main Streets were well rewarded by a most interesting and entertaining lecture.

After the meeting had been called to order by Mrs. James and a few announcements made, Mr. Davis introduced Dr. Allison, the speaker of the evening. Dr. Allison spoke of his field work in studying the Pleistocene and Recent lake-bed deposits of central Oregon, and told of his good luck in finding and further uncovering some exposures of volcanic ash layers associated with the lake beds in the northwestern portion of the Summer Lake basin, where the Ana River has cut a small canyon in these soft deposits. Six distinctly different layers of volcanic ash occur here, separated by layers of sedimentary lake deposits. The lower five ash layers are thought to have come from Mt. Mazama, and the physical and mineralogical characteristics of each layer tie in very well with the several eruptions, as reported by Williams, which led to the formation of Crater Lake. The material of the sixth and uppermost layer resembles the ash occurring near Newberry Crater, and is supposedly from that source.

Human remains and artifacts have been found in the region, underlying the ash layers, and it is reasonable to suppose that man was present in the area when Crater Lake was formed. Williams has stated that he thought Crater Lake was about 5000 years old. However, Dr. Allison pointed out that the ash layers he studied in the Ana River Canyon were interstratified with lake deposits, therefore large bodies of water were still present when the eruptions took place. It is thought that the last of these glacial lakes disappeared not less than 8000 years ago, therefore Crater Lake must have come into existence about ten or fifteen thousand years ago, and Newberry Crater a couple of thousand years later.

At the conclusion of his talk, Dr. Allison answered various questions by the audience and displayed samples of the various ash layers, which he had collected. As usual, the meeting was slow to break up.

F.W.T.

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LUNCHEON NOTES - THURSDAY, MAY 18, 1944

Eighteen persons were present at the rather poorly attended luncheon meeting to hear Jack Stevens give an emphatic political talk in which he advised members to vote, tomorrow, for <u>all</u> the candidates and <u>all</u> the measures on the ballot. Still more heated were remarks by Franklin Davis on the subject of the attendance at the last lecture, a fine lecture by an eminent scientist with an original message, and all the good work of the program committee (chairman, Franklin Davis) gone to pot because only forty members showed up. There seemed to be contributary causes, however, among them being the unreported change in the lecture place --- which will not happen again, since the regular meeting place in the Public Service Building has now been reserved for a year in advance.....No samples were shown, (Tom Carney was absent), but several pamphlets published in color by the University of Chicago on geological subjects for junior high school students were recommended by Lloyd Ruff as being well worth adding to anyone's collection, at 35¢ each from Gill's. .....A field notebook for fossil hunters was shown by John Allen, containing forty odd plates of Tertiary fossils for use in quick identification in the field. This is obtainable from Stanford University, Box 1528, (Miss A.Myra Keen) for $2.00 each, and well worth while for those paleontologically inclined..... Mr. Stewart N. Twiss, geologist for the Soil Conservation Service, Mrs. May Dale, and Dr. Adams were members in attendance not usually seen at the luncheon.

J.E.A.

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MUDFLOW AS A GEOLOGIC AGENT IN SEMIARID MOUNTAINS by Eliot Blackwelder,

Geological Society of America, Bull., Vol. 39, No. 2, pp. 465-483, June 1928 with discussion by Joseph T. Singewald, Jr.

(An abstract of the discussion by Rickmers, pp 471-472)

"The typical mudspate consists of mire charged with a great number of rocksplinters and blocks, but sometimes it may be composed almost entirely of clean stones ranging in size from a peppercorn to large boulders..... As to the limits of definition, they cannot, of course, be drawn with mathematical precision, being comprised within a wet landslip and a flooded torrent overcharged with rubble.

"When a gentle slope of grit and shingle has been soaked like a sponge by rain or melting snows, there may come a time when it bulges out and slides off in the manner of a bogburst on Irish moors. Slipping into channels and gullies, this mass is mixed with more water, attains a higher speed, and carries away soft material as well as rocks which it finds on its way. It is during this descent that the mudspate generally acquires its characteristic composition, for only by movement can an even mixture of liquid and solids be maintained. It is neither dry nor is there much free water, but the whole mass appears like a rapid flush of mud, although frequently the rock waste is so rough as not to suggest what is popularly called mud. Enormous boulders will float in this thick porridge like cork on water or iron on quicksilver.....

"The typical mudspate track does not, however, readily associate itself with the ravine of a permanent or powerful mountain stream, for the simple reason that the catchment area and bed of a torrent that works throughout the year are already deprived of the bulk of easily shifted material. Operating with a minimum of water, the mudspate liquefies itself automatically when, during its descent, it has become too thick. Stopping for a while, it dams up the water runlet in the gully and then proceeds again, repeating, if needs be, the process several times.

"Intermittent water supply owing to a dry climate, absence of a strong vegetation, and barren mountain flanks reaching up to the snowline are the conditions which favor the mudspate as a habitual and periodical phenomenon.

"When not too liquid, the discharge forms a snout or tongue.....This is the lobate shape assumed by all viscous matter, such as snow avalanches, glaciers, lava, honey, peat-bogs, and the like. But this happens only when the mixture is fairly thick and is allowed to rest on gentle inclines. The other extreme is represented by narrow gorges ending in a river which prevents accumulation. Usually the mudspates build up an irregular cone or delta furrowed by one or more characteristic gullies. These are deep and narrow trenches with very steep and smooth sides. The sudden gushes loaded with angular fragments act like a rapid liquid file, which rakes and rasps the channel, at the same time plastering it with mud pressed against the wall. Most of the smaller dejections regularly use this gully, which also serves as bed to an insignificant or intermittent stream. But many downpours miss this chute and large ones overflow it, so that in this way a talus is raised.....

"When left to itself on an even slope, the middle of the mud runs faster, because there is less friction, while at the sides, retarded by friction, deposition takes place, giving rise to an embankment, so that the crawling Leviathan builds its own track. It consists of a shallow rill with a welt on either side."

R.C.T.

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GEOLOGICAL NEWS LETTER

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MEMBERSHIP APPLICATION
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Qualifications and Dues: Applicant must be sponsored by a member and recommended by the Membership Committee. A knowledge of geology is not a requisite. There is no initiation fee. A Member shall be over 21 years of age; or a husband and wife and all children under 18 years of age. The dues are $3.50 per year, payable in advance, which includes one subscription to the Geological News-Letter. A Junior is an individual between the ages of 18 and 21. Dues are $1.50 per year, payable in advance, and include one subscription to the Geological News-Letter.

Date . . . . . .

I, ...(please print full name) do hereby apply for membership (junior membership) in the Geological Society of the Oregon Country, subject to the provisions of the By-Laws.

Home address. . . . . .Phone . . . . . .

Business address. . . . . .Phone . . . . . .

Occupation. . . . . Hobbies . . . . . .

I am particularly interested in the following branches of geology: . . . . . .

. . . . . .

I enclose $ . . . for the year's dues, March 1 to March 1. (Checks payable to the Society).

. . . . . Sponsored by. . . . . .
(signature) (member)

SOCIETY ACTIVITIES

LECTURES: On the 2nd and 4th Fridays of each month at the Auditorium (3rd floor) of the Public Service Building, 920 S.W.6th Avenue at 8:00 p.m.

TRIPS: On the Sunday following the second meeting of each month for the balance of the summer - see special announcements.

LUNCHEONS: Every Thursday noon in the Victory Room of the Winter Garden restaurant, 425 S.W.Taylor St., between S.W.4th and S.W.5th Aves. Luncheon 60¢.

MEETING ANNOUNCEMENTS

Friday June 23 — Dr. Earl L. Packard, Oregon State College, will talk on the subject "Turtles of Ancient Days." Dr. Packard is recogniz ed as one of the outstanding paleontologists of the Pacific Coast. Not long ago he published a brochure entitled "A New Turtle from the Marine Miocene of Oregon," in the introduction of which he acknowledged the assistance of certain members of the G.S.O.C. who had aided him in the field work. The Dr. J. C. Stevens turtle, found in the John Day country on one of the trips of the G.S.O.C. into that region under the leadership of Dr. Packard, now is on exhibit at Oregon State College. The lecture will be illustrated with slides, and should be extremely interesting.

Friday July 14 — Geology of the Coos Bay Coal Region by John Eliot Allen. This lecture will be illustrated, and the stratigraphy and structure of the area will be emphasized.

Friday July 28 — The subject and speaker will be announced later.

FIELD TRIP

Sunday June 25 — H. Bruce Schminky is planning a field trip. Details will be announced at the luncheon and lecture meetings.

WORK NIGHT

Sunday July 16 — The study group will meet at the usual place - 3105 N.E.45th Ave. - for a continuation of the work on Erosion by Running Water and the introduction of the subject of Ground Water.

ANNUAL PICNIC

August 1944 — A.W.Hancock is general chairman of the Annual Picnic. Subcommittees will be announced later.

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An informal dinner meeting with Dr. Packard is being planned for Friday evening, June 23rd. Anyone interested in attending should contact Franklin Davis.

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LUNCHEON NOTES - MAY 11,1944

An attendance of twenty-one, with no president or vice-president, was the occasion for Secretary Henley to fire up the steam roller, and with but little show of parliamentary procedure, to declare Lloyd Ruff duly elected chairman..... Bill Reeves of Salem had almost been declared winner of the "Last-to-Arrive" trophy when in dashed Leo Simon with his hands full of rocks to claim the title for this meeting. Dr. (M.D.) Booth and Dr. (D.E.) Stevens had preceded Reeves by a short neck.....There was some general discussion of election measures. One claimed that it was foolish to spend good money to carry sewage to the Columbia river since it is a well known fact that running water purifies itself...Chairman Ruff had brought a piece of rock containing amethyst with bands of agate and chalcedony. The specimen was secured from the Dorena dam site near Cottage Grove, Oregon.- - - - -Mr. Reeves showed a specimen from his rock pile (origin unknown) for identification. Your reporter did not learn the name, if anyone identified it,- - - - -Leo Simon's two specimens came from boulders found east of Mt. Vernon, Washington, and were said to be magnesite.- - - - -Dr. (Ph.D.) E.M.Baldwin had a specimen of fluorite and an unidentified stone which looked as though it might polish nicely.....Franklin L. Davis and A.D.Vance indulged in extended repartee under the guise of a report of the program committee. The meetings about which they argued will be matters of history before these notes are printed.....Mr. Ruff called attention to the next work night, the subject to be "Weathering."....Mr. Vance had heard a radio story that was new to most of those present and which brought forth loud and prolonged laughter. Ask him to tell it to you the next time you are feeling blue.....R.L.Baldwin had received a letter from Carl Richards of Salem, acknowledging receipt of the bound volume of the News-Letter which he claims to value highly and to consult frequently. This is evidence of Carl's superior mentality.

O.E.S.

LUNCHEON NOTES - MAY 25, 1944

Twenty pounds of samples of the various types of clay from Hobart Butte in Lane County were introduced by Franklin Davis, who succeeded in getting his guest, Miles Belden, Portland mining engineer, to furnish them and carry them for him. Mr. Davis left early, so Mr. Libbey had to carry them back. The samples showed the pure white kaolin type of rock, the gray clay with relict fragments of the original but now altered volcanic material, and one large sample with veinlets of realgar.....Mr. Stanley had a sample to show of "chicken-salad-rock," but when he got ready to send it around, found he had left it at his office. We are now all on tenderhooks to see what this type of material may be....Mr. Minar showed a sample of chalcopyrite from the St. Helens copper district.....Two new (to the G.S.O.C.) books were introduced: Field's "Outline of Geology" (90 cents): and Weaver's "Invertebrate Paleontology of the Marine Tertiary Formations of Oregon and Washington" Volume 5, three parts ($13.75).

J.E.A.

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NOTE: The Mineralogist June, 1944 has one of Mr. Stanley's pictures of the G.S.O.C. banquet on page 177.

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LATE TERTIARY WOODS OF SOUTHWESTERN IDAHO AND ADJACENT OREGON

By Geo. F. Beck, Ellensburg, Washington.

The area under discussion in this paper includes the Idaho county of Washington and those south, plus the opposing Malheur County, Oregon. The horizons have been mapped as predominantly Columbia lavas, and Payette and Idaho sediments ranging from Miocene into the Pliocene. The author has not visited the region in question but from details provided by the donors of the larger collections it seems that the specimens come largely from the sediments.

Little has appeared in the geological literature concerning these fossil woods. Somewhere along the line, the precise place and time forgotten, there has been mention of a petrified oak, which is not surprising when we note that fully half of the specimens in this report belong to that genus. Paul Platen in his "Investigations" of 1908 has described no fossil woods from the Pacific Northwest at all. But the ancient forests of the area, to the extent that we may base our concept upon impressions of leaves and fruits have been well set up by previous workers. Knowlton (98), Chaney (22), Brooks (35), Dorf (38) , and Smith (38 a and b, 39 a and b, 41), as listed in the appended bibliography, are the sources known to the writer.

The bulk of the specimens herein reported have been contributed by Howard Rice of Boise, Julian Field of Payette, and C.A.McGee of Caldwell.

One of the surprises in the collections is the occurrence of a chinquapin (Castanopsis) among the specimens from Rockville, Oregon. Characteristic leaves of the chestnuts have been recognized in various Late Tertiary sediments of the region, particularly in the Latah Formation of Spokane. But until this date we have been at loss to account for failure of its wood to appear.

The consistent occurrence of sour or tupelo gum (Nyssa), suggests that some of the redwood-like cedars may in fact represent the swamp cypress (Taxodium). That redwood (Sequoia) is present is proved by the occasional presence of traumatic duct rows. No other cedar types have been accounted for. A striking feature of these woods is the virtual absence of all members of the pine family, particularly the true pine, itself. Among the hardwoods, conspicuous by its absence may be mentioned maple and possibly elm.

A list of localities and the better specimens (numbers refer to my catalog) follows:

Idaho-Oregon Woods

Mann Creek 35 Mi.NE of Payette		Willow Creek 20 Mi. east of Payette		Cambridge on NS highway		Hog Creek 12 Mi.NW of Payette	
1620	Tupelo gum	983	oak	1358	oak	1353	sycamore
1932	redwood (?)	985	oak	1359	Tupelo gum	1355	elm (?)
1933	redwood (?)	989	oak	1360	redwood(?)	1356	conifer
1934	Tupelo gum	993	buckeye	1937	oak	1629	redwood (d)
1935	Tupelo gum	1376	oak				
1936	redwood (?)	1378	oak				

Washington Co.		Sand Hollow 20 Mi.SE of Payette	
984	elm (?)	992	oak
988	hickory	944	oak
990	oak	1381	oak
991	redwood (?)		

Oregon-Malheur County

Nigger Rock 35 Mi. SW of Vale		Rockville 1357 Chinquapin, Malheur Co.	
1625	cottonwood	1627	redwood (?)
1626	Douglas fir (?)	1938	Tupelo gum
1628	Osage orange	1939	oak
1631	honey locust (?)		
1931	oak		

General Area

986	oak	1350	Tupelo gum
1192	redwood (d)	1352	redwood
1193	hackberry	1606	sycamore
1195	redwood (?)	1873	sycamore
1348	oak	1874	oak
1349	persimmon	1875	oak

Oak, elm, cottonwood, chinquapin, sycamore, and redwood have been reported quite generally from the associated leaf beds. Hickory is reported from Thorn and Sucker creeks. Douglas fir has been found at Thorn and Hog creeks, tupelo gum at Sucker creek; and hackberry, buckeye, and keteleeria have not been reported as leaves at all. The few woods found at Hog creek have been recognized as genera in the leaf bed of the same local area. There are more unknown hardwoods than implied in this listing for some inferior specimens of such have not been sectioned and cataloged.

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_____(39b): Flora -- Miocene of Idaho. Bull. Torrey Bot. C., vol. 66, pp. 465-481, 1939.

_____(41): Miocene Flora of Thorn Creek, Idaho. Amer. Midland Naturalist, vol. 25, No. 3, pp. 473-522, 1941.

NOTE: After the foregoing was completed a collection of woods was sent in by D.H.Snowberger of Payette. These add considerably to the picture, particularly the specimens from Nigger Rock which include a maple (1963), a cedar type (1964), and a birch (1965). Birch woods have been rare in the western Tertiary considering the abundance of foliage remains referred to this tree.

G.F.B.

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GEOLOGISTS HELP WITH INVASION

Soldier-scientists landing secretly months ago on the beaches of Normandy paved the way for invasion troops, headquarters disclosed Saturday.

Digging through old geology books in French, the scientists discovered that proposed invasion beaches which appeared sandy and well suited really had clay underneath which would bog down heavy equipment.

So the soldier-scientists were sent over in darkness and crawled on their stomachs for miles along the beaches making borings which proved the old books right.

Special equipment then was prepared and tested in England to overcome this problem.

Oregonian - June 10, 1944.

BOMBS NO AID IN ERUPTIONS

Blasting volcanoes in order to bring destruction in the form of molten lava upon our enemies is "highly impractical," Dr. Warren D. Smith, head of the department of geology at the University of Oregon, said here Saturday.

Smith made his reply to a reader of the Eugene Register-Guard who thought such methods would eliminate the whole island of Japan in a few days.

"Many amateur scientists in this country have advanced this theory lately," he said, disagreeing with Dr. Harold O. Whitelow of Colgate university, who held the idea to be practical, "and as a scientist I resent statements that 'God made volcanoes to kill Japs anyway,' and the like."

"If people live too close to volcanoes and live long enough they are bound to get hurt sooner or later," he said. "This has been happening for many years, and the eruption which is now going on in Italy is similar, on a smaller scale, to the one which destroyed two important cities there in 79 A.D. Undoubtedly many innocent and good people not to be confused with the Japanese, were killed at that time.

"Unless a bomb dropped directly into a crater of a volcano which was almost ready to erupt, thus forcing the trigger, I can see no reason why the method would work. Unless people live within ten miles of a crater there is very little possibility of a lava flow endangering them.

"If you would add up all the people who have been killed by volcanoes since the beginning of written history you would find the total less than the number of traffic fatalities which have been suffered on the nation's highways within the last ten years. That is something to stop and think about.

"The war department has rejected the suggestion, and as a scientist I can agree with them. The best place to drop bombs is on the troops and supply lines and factories of the nazis and the Japanese instead of wasting them on volcanoes."

Oregonian - Mar. 26, 1944.

NEW MEMBERS

Mrs. M. J. Wilkinson, 2807 N.E.23rd Avenue, City, Phone GA 2579.
Miss Jeanne Pruett, 1903 S.E.12th Street, City, Phone EA 2724 (Junior Member).

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LUNCHEON NOTES - APRIL 27, 1944

Today was Navy day at the luncheon - Hugh Miller Sr. presented his family, Lt. & Mrs. John S. Miller and Mr. & Mrs. Hugh Miller, Jr. (newlyweds). Dr. John is a navy medical officer and Hugh Jr. is in training at Camp Farragut..... Mrs. Haaser and Mr. Sandoz were among the infrequent visitors.....Dr. J.C.Stevens had the honor of being the last arrival.....Mr. Davis called attention to Dr. Warren D. Smith's article on "A Scientist's View of Religion" in a past issue of the Commonwealth Review. This article will be reprinted in the NEWS - LETTER..... Tom Carney showed some crystals which he had grown.....Mr. Sandoz had some talc from the Skagit River in Washington and Dr. Stevens brought several specimens of pyrite, galena, covellite, etc. from the 2800 foot level of the Leonard Mine near Butte, Montana. The specimens were "for-free" - first grab, first served..... John Allen had a diamond drill core from the Coaledo - Eocene of Coos Bay..... Lloyd Ruff presented a specimen of clay from a drill hole at Nation Dam Site on the middle fork of the Willamette.

L.L.R.

LUNCHEON NOTES - JUNE 1, 1944

Twenty persons met at the regular luncheon time, with Mr. Bates presiding. Lt.(jg) Hiram Woods, member of the Society, on his way from San Francisco Bay to join the S.S.Hazel, for active duty in the North Atlantic as a submarine net-tender, was a visitor. He told us about some of the trouble they had setting buoys in the bay, due to mud boils, currents set up during the incoming tide around pinnacles which stick up from the bottom of the bay. Mr. W. D. Miller, geologist for Amarada Petroleum Co., was introduced and averred that although he had done work in South America, New Zealand, and throughout the United States, Oregon coastal geology was the"toughest nut he had yet found to crack." He is scouting for oil "possibilities" in the Coast Range.

Frank Cleaver, engineer for the State Department of Geology, was introduced and spoke of the work of the department in the "iron country" north of Hillsboro, during the last few weeks.

Mrs. Stockwell passed around the prize specimen from last Sunday's field trip to the mouth of the Clackamas, a sample of iron oolite, typical of the Washington and Columbia County iron formations. How it got as far east as the Clackamas is still a moot point. Mr. Hancock passed around a polished cabochon of silicified oolite of gem grade.

Mrs. Stockwell called the attention of the group to a letter from Vancouver inclosing two new subscriptions to the NEWS - LETTER. One person had received a copy of the Letter from Louisiana and became interested.

J.E.A.

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WATER AND WINE

A glass contains a certain volume of wine and another glass an equal volume of water. A teaspoonful of wine is taken from the wine glass and mixed thoroughly with the water in the water glass. A teaspoonful of this blend is then mixed with the wine in the wine glass. Is the percentage of water in the wine glass greater or less than the percentage of wine in the water glass?

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Business address. . . . . .Phone . . . . . .

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I am particularly interested in the following branches of geology: . . . . . .

. . . . . .

I enclose $ . . . for the year's dues, March 1 to March 1. (Checks payable to the Society).

. . . . . Sponsored by. . . . . .
(signature) (member)

SOCIETY ACTIVITIES

LECTURES: On the 2nd and 4th Fridays of each month at the Auditorium (3rd floor) of the Public Service Building, 920 S.W.6th Avenue at 8:00 p.m.

TRIPS: On the Sunday following the second meeting of each month for the balance of the summer - see special announcements.

LUNCHEONS: Every Thursday noon in the Victory Room of the Winter Garden restaurant, 425 S.W.Taylor St. between S.W.4th and S.W.5th Aves. Luncheon 60¢.

MEETING ANNOUNCEMENTS

Friday July 14 — Geology of the Coos Bay Coal Region by John Eliot Allen. This lecture will be illustrated, and the stratigraphy and structure of the area will be emphasized.

Friday July 28 — This will be a moving picture program showing Hydro, the story of the construction of the great Bonneville Dam on the Columbia River in Oregon; the distribution of Electric Energy and protection of the Salmon Fishing Industry.

There will also be a short film entitled "The Earth's Rocky Crust." This film presents physiography in its dynamic aspects, and aims to show that the same forces which have shaped the earth as it is today are still at work further changing it. In the slower processes, this effect is obtained by the use of models and diagrams.

Friday August 11 — ANNUAL PICNIC - Mark this date on your calendar and make plans to bring your picnic lunch to Mt. Tabor Park for the big outdoor event of the year. The picnic committee is as follows:

A.W.Hancock, General Chairman

Master of Ceremonies - K.N.Phillips
Stunt Committee
- Miss Lotus Simon - Chairman
- Mrs. Earl Minar
- Mrs. Mildred James

Park Committee - A.D.Vance

Main Speaker - Lloyd L. Ruff
Coffee Committee
- Miss Myrtice Fowler - Chairman
- Miss Kate Rose
- Miss Alameda Smith

Song Leader - Dr.W.C.Adams

WORK NIGHT

Sunday July 16 — The study group will meet at the usual place - 3105 N.E.45th Ave.- for a continuation of the work on Erosion by Running Water and the introduction of the subject Ground Water.

MEMBERSHIP LIST

The next issue of the Geological News - Letter will contain the 1944 membership list to date. We want the list to be complete so be sure and check up on your dues. There are still a few names missing!

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MAZAMA ANNUAL OUTING

The following letter from the President of the Mazamas will be of interest to many of the Geological Society members:

"Mr. E. N. Bates, President
Geological Society of the Oregon Country,
5639 S. W. Menefee Drive,
Portland, Oregon.

Dear Mr. Bates:

The members of the Geological Society are cordially invited to participate in the Annual Outing of the Mazamas at Phlox Point near Timberline Lodge on Mt. Hood, July 16-30, 1944, and particularly to our Jubilee Celebration Saturday and Sunday, July 22nd and 23rd.

Of special interest is a play, 'Mazamapanorama' written and directed by Miss Arlene Shaw, to be given on Saturday evening the 22nd. I believe this has been announced on the last Thursday dinner.

We should be glad to have the G.S.O.C. help us celebrate our fiftieth birthday in as much as the aims of our two organizations are mutual, and many of our members belong to both.

Sincerely yours,

/s/ D. J. Henderson, President."

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PUBLICATION PRESENTED

The Society is indebted to Dr. H.C.Dake for a library copy of the fourth Annual Report of the U.S.Geological Survey published in 1884 which contains I.C.Russell's "A Geologic Reconnaissance in Southern Oregon." Just for good measure, Dr. Dake also presented President Bates with a duplicate copy of the same publication. Who said the President doesn't get a break?

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LUNCHEON NOTES - JUNE 8, 1944

Only 13 members today and no guests - No honors for late arrival were bestowed. Fay Libbey was the only exhibitor of specimens, having gathered a few on a recent trip into southeastern Oregon in connection with some studies on Oregon saline deposits. The specimens were obsidian from Newberry Craters and porphyritic andesite from Abert Rim.....President Bates circulated a pamphlet illustrating the turbosupercharger which is used extensively on our war planes. Much of its development is credited to one of his former professors. Mrs. Stockwell told of the manufacture of rock wool for insulating materials.

L.L.R.

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A SCIENTIST'S VIEW OF RELIGION *

By

Warren D. Smith

In these troubled times there is on every hand a deep questioning of the meaning of life and of man's relation to God, and even a questioning as to the reality of God himself. Man finds himself defeated and almost in despair. With physical bombs and strange new ideas exploding about him, he looks longingly and bewildered in this direction and that, hoping for a sign.

A humble geologist contributes his thoughts in these dark days, in the hope that he may bring some comfort to his disturbed fellow beings. This geologist is not gifted with any second sight nor has he any idea that he is in possession of a divine mission to enlighten others with final revelation of truth. However, because of his constant study of Nature, he may have seen in action some of the mechanism of the Universe not visible to the untrained layman. He also has the long geological record open before him, from which some important truths may be gleaned which throw some light on man's place in the Universe. The long perspective of the past may afford us some prevision of the future.

As we understand it, religion is man's attempt to explain his relation to the Creator of the Universe. A part of it is based upon some knowledge of that Universe and a part of it is founded, not upon knowledge, but upon belief.

Of course there are many conflicting ideas about religion and especially about the relation of science to religion. We shall not enter into any long and fruitless academic discussion concerning most of these ideas, but we should like to say something about the relation of science and religion. Some scientists and scholars are asserting that science has nothing to do with religion. We disagree with this point of view; science in our opinion is a very fundamental part of religion. It is true that science deals primarily with the objective phenomena of the Universe, and is not concerned with those things that cannot be proved; particularly it rules out the supernatural from its speculations. But we should always bear in mind that there is much we may believe that cannot be proved now, but which may be proved later. There once were people who believed in the power of transmitting thought through space without visible lines of communication - no one could prove it then. Today we can do it and prove it. The statement that only those things which can be proved are valid has always seemed to me unscientific.

My conception of religion is that of an ideological superstructure resting upon a tripod of science, philosophy, and art. Science furnishes us data from two great fields; the physical sciences tell us about our Universe; the social sciences tell us about human society. The one is concerned with man's place in the Universe, the other with man's relations to his fellow men.

Philosophy validates and interprets the findings in these two great fields. By various means, one of which is logic, philosophy attempts to test not only the conclusions but the methods of science; and it is very important that the work of the scientists be subjected to this impartial and often ruthless scrutiny.

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* From The Commonwealth Review, November 1940.

Art, the third support of the tripod, expressed through painting, sculpture, music, poetry, and other forms, attempts to give expression to our ideas and emotions and yearnings.

These three, science, philosophy, and art, make up for me what I call religion.

Now, because we are constantly learning new facts and relationships and new ways of expressing these facts and ideas, religion, or the particular complexion of it, must change. We see this best exemplified in the Bible; there is a world of difference between the religion of the Old Testament and that of the New. Of one thing we are perfectly certain in our Universe, and that is change; nothing is permanently static.

This being so, we can understand why there are so many different expressions of religion in the world. They differ because men living in different environments and at such different levels of culture cannot have the same ideas about these things. This is natural and not altogether bad, as some would think. The negrito has a very crude sort of religion according to our point of view; but to him it is very real and quite satisfactory and he is just as sincere about it as we are.

A vast amount of misery has resulted in the past and will result because men have expected all other men to have the same ideas as themselves about these things. We hear some people talk much about the "old-time religion." Well, the old-time religion would not do for new times any more than old "T" model Fords will do on modern highways. And the religion of the future will in some respects outmode our present-day religion.

A word should be interpolated here concerning theology. Theology to a scientist is speculation about God. Theologies are man-made, and there have been many of them. Masses of people still think of God as an anthropomorphic individual, an exalted superbeing; others think of Him as the Divine Principle, the moral law, or a force working for righteousness. Some consider Him to be a jealous, vengeful God, others a loving God. Scientists are interested in these different interpretations but do not accept any of them as final. As scientists we are interested in knowing what other men think about these things; but we consider religion as something more fundamental and deeper than theology.

What are some of the facts that I, as a geologist, can accept concerning the Universe and man?

The outstanding thing about the Universe is that it is based upon law and order. The physical world in times of hurricanes and earthquakes seems to be quite disorderly; but, when you know what is back of these phenomena, they are seen to be no exception.

The Universe is evolving and man as a part of it is evolving also. No competent scientist doubts this today.

We must also recognize the great fact of the animal heritage of man, which explains so much in his history and behavior.

And finally we must realize that, as far as physical immortality is concerned, that can be realized only through our children. Spiritual immortality is something else, which the scientist does not pretend to know about.

In the realm of social relations, we must admit that all men are related biologically, and that the brotherhood of man is biologically a sound doctrine.

Those animals, including man, that have cooperated, either with others of their own species or with other species, have fared better than those that have not. The so-called "law of the jungle" has not been the most workable principle, but the doctrine of mutual aid has; that is to say, altruism pays. To put it another way, the rule of love is more powerful than the rule of hate. For these facts and principles we have ample proof.

The social state is a natural development and subject to change.

Man was created first and he in turn created the state. Man is therefore more important than the state. This gives the lie to those who maintain that the individual exists merely for the state and that the state is supreme. This false doctrine is at the root of our present world conflict.

We come now to some things which seem to be true and which, though we cannot furnish proof of them, we firmly believe in. They are:

Man is evolving spiritually as he has evolved physically and mentally. And just as man can die physically and mentally, he can also die spiritually. The divinity of man is proved, to my satisfaction at least, by the great and noble lives of good men and women who have lived, and in some cases sacrificed themselves, for others. We think we know, whether we can prove it or not, that in these human beings there is something more than mere physical stimuli and chemical reactions on the physical plane alone. Such lives should give pause to the behaviorists. Materialism is not the whole story.

We like to think of human life as in some measure analogous to the life of a river. From the sea, moisture is carried upward and over the land where it is condensed and falls as rain. At first it collects into tiny rivulets, then into a turbulent rushing stream hurtling down over the rocks, growing and gathering strength along the way until it becomes a mature river with both greater volume and more uniform velocity. Eventually the river reaches the plain and becomes more sluggish, and winds in majestic meanders. At last it reaches the coast and loses its identity in the great open sea. The tiny rivulets correspond to man's infancy, the high mountain stream in its swift impetuous dash corresponds to man's dashing carefree youth. A full wide river typifies man's maturity when his personality has acquired knowledge, judgment, and wisdom. Then comes old age with uncertain movements and faltering steps and feebleness. Finally the human life ends in the silence of the unknown. You will ask, "Is this the end?" We do not know. But may it not be that life is resumed again very much as the moisture is picked up from the sea and brought aloft to begin another course down through the years? May not man's soul be reborn from the great cosmic soul again and again? Many men have had such ideas.

I want now to consider briefly the third part of this tripod of religion, namely, art. Man has from the earliest times attempted to express his ideas and longings about himself and his Universe in various emotional ways through dancing, painting, music, and poetry. In the earliest times of which we have record these art expressions were crude yet full of meaning. Today we have great artistic expressions in such creations as the "Last Supper" or the "Transfiguration," cathedrals, inspiring oratories, and great poems like "In Memoriam."

We shall probably never be able to express all we know and feel by means of scientific statements and formulae, and, as for ourselves, we would not want to do it we could. Another language is needed and the various expressions of art seem to be absolutely indispensable in meeting this need. At times man must lift his voice in great hymns of praise, sound the depths of his emotion in some great and questioning poem, or paint a fade like Da Vinci's delineation of the Christ in which is reflected his conception of the human soul. Others without such gifts of expression sing these hymns, read these poems, or gaze upon these pictures, and are uplifted and comforted.

Art is in some respects the highest achievement of man. Only one animal, the famous bowerbird of New Guinea, appears to have tried to give artistic expression to its emotions. Let your mind contemplate the gap between this bird's efforts and that of man as expressed in the Cathedral of Milan, and then ponder on the oft-challenged term "progress."

Men and women will never be satisfied with simply a full stomach, an easy-riding automobile, or a steam-heated apartment. The mind of man has not been content with knowing simply where and how much. It has constantly asked the questions: Why? Whence came I? Whither am I going?

A study of the long geological pageant has given the geologist some insight into the meaning of things, which I pass on to the reader for what it may be worth. This study has helped to build a philosophy of life and give hope for the future. Man has had a long painful struggle with Nature and with his fellow creatures; but he has at last been able very considerably to subdue Nature and now lives in no great fear of the phenomena of Nature. He now works with Nature and not always against her. Man has subdued most of the beasts, but is still struggling with the beast in himself. This he will, in time, conquer also, it is hoped.

It does not seem likely, in times like the present, that he will do this in the lifetime of this generation. But there will come a time when the roar of guns and bombs will cease. When man realizes that by using the scientific method, which has enabled him to control the physical world and bring so many material conforts to himself, he can also shape and regulate his society in a more rational and sensible way, he will discard some of his ways and reach out for a new and immeasurably higher kind of life. Then he will have peace and leisure for spiritual growth. The millenium will not come through some divine far-off intervention. It will and can come only when man wills that it come through his own efforts. Each good life, contributing something to make the lives of others better and happier even to the point of sacrifice of comfort for itself, leaves a heritage to the next generation.

The "second coming" of Christ, as we envision it, will not be, as some have dreamed, in a blazing chariot from on high, but in the hearts of men. Sickened and disgusted with the internecine strife of our times, we shall eventually turn to the ways of the Master Teacher, who uttered those immortal words emblazoned over the doorways of the new University of Oregon Library, "Ye shall know the truth, and the truth shall make you free." We fondly believe that a tremendous spiritual awakening is ahead. Man will turn from the horrible blood baths and inhumanities of these times to the City of God. It will not be easy, this transformation. It will not be without, perhaps, many more struggles. But it <u>will</u> come about. Reason and love will eventually prevail.

The present struggle has all the signs of the birth pains of a new order. Geologists are fortunate in being able to draw upon their science for support of their faith, because throughout the geological ages new and better orders have succeeded the old, and new orders grow out of cataclysms. The progress of human society seems to have followed the same pattern. After the killers have done their worst and have killed themselves off, surviving humble men of good will will slowly and painfully build themselves a new society based on the same qualities of helpfulness and cooperation which have given us social progress in the past. Through the smoke and din of the present catastrophe the devout believer in humanity can discern the outlines of a Kingdom of God, of which we have been too sure, but in which we can still believe. Perhaps the "terrible meek" will prevail, after all.

As a conclusion to this discussion, we find ourselves in harmony with the great Southern poet, Sydney Lanier. The following is from his poem, "The Marshes of Glynn":

Ye marshes, how candid and simple and nothing-withholding
and free
Ye publish yourselves to the sky and offer yourselves to
the sea!
Tolerant plains, that suffer the sea and the rains and
the sun,
Ye spread and span like the catholic man who hath
mightily won
God out of knowledge and good out of infinite pain
And sight out of blindness and purity out of a stain.

As the marsh-hen secretly builds on the watery sod,
Behold I will build me a nest on the greatness of God:
I will fly in the greatness of God as the marsh-hen flies
In the freedom that fills all the space 'twixt the marsh
and the skies:
By so many roots as the marsh-grass sends in the sod
I will heartily lay me a-hold on the greatness of God:
Oh, like to the greatness of God is the greatness within
The range of the marshes, the liberal marshes of Glynn.

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WEDDING BELLS

Dr. and Mrs. Ira S. Allison of Corvallis announce the marriage of their daughter, Margaret Lillian, to James Kilbourn Clauss of Palisade, N.J., son of Mr. and Mrs. George J. Clauss of Portland. The ceremony was performed by Rev. R. Wilbur Simmons, June 14 at the Federated Church in Corvallis.

Mrs. Genevieve Baum Gaskins played the wedding music, and Eugene Lieberg was soloist. Miss Frances Allison was maid of honor for her sister, and bridesmaids were Misses Ruth Blakely, Marjorie Chase, Mary Louise Phupe, and Peggy Vincent.

Oregonian, July 2, 1944.

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SOIL CONSERVATION

The Geological Society gathered in the men's lounge at the Public Service Building on Friday June 9th to hear Conservator J.H.Christ tell about soil conservation. This was followed by the showing of Peter Lorenz's sound movies on the Mississippi River entitled The River.

Mr. Christ pointed out that everyone should have a deep appreciation of the products of nature which give us food, clothing, and shelter.

"Soil conservation," said the speaker, "was initiated only 15 years ago, when some 11 experiment stations were set up to explore the complexities of soils. Five years later, practical soil conservation practices were initiated in many areas."

An inventory of our arable land shows that 50 million acres out of a total of 400 million acres are completely ruined...50 million acres in very bad condition...100 million acres have one half to one third of the topsoil wasted, and on an additional 100 million acres erosion has started.

Conservation not only includes the saving of the topsoil but the adapting of crops to topography and to land types. Better soil practices have resulted in a 20% increase in production over areas of non-conservation practices and thereby aided the war effort in food production.

Precautions are being taken to prevent the recurrence of another dust bowl such as that which was in part caused by the expanded agricultural program during the last war.

One of the activities of the Soil Conservation Service is to sell the conservation program, especially in the critical areas. This is facilitated by enabling legislation which provides for soil conservation districts under state authority. There are 85 of these districts in the western region of California, Oregon, Nevada, Idaho, and Washington. Oregon has eleven.

Mr. Christ showed a number of colored slides illustrating what the Service calls geologic or natural erosion versus induced erosion. Other slides gave a good conception of the problems of soil conservation and their solution.

Mr. Christ's talk was followed by "The River," a striking motion-picture account of the unbridled exploitation of the Mississippi watershed, the floods and subsequent damage resulting from such exploitation, and the beginnings of a coordinated attempt to control the streams of the valley. The efforts of the TVA are shown, but due to the fact that the film was released in 1937, the results of the last six years' work are not included.

L.L.R.

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LUNCHEON NOTES - JUNE 15, 1944

No President today - Mr. Bates was on a trip to Montana. Secretary Henley refused to preside without the gavel and was rescued by the late arrival of Ray Baldwin (and the gavel).....Today's guests were Miss Avery, a former member, and C.W.Read, head of the U.S.Engineers Seismograph party, presented by Mr.Ruff.... The State Department of Geology provided all the specimens. Mr. Libbey had some pumice from Newberry Craters and Dr. Baldwin passed around a Coos Bay Venericardia and a clear crystal of halite from New York....The program committee indulged in the usual repartee....J.C.Stevens was just back from Laramie, Wyo., and expressed the opinion that the so-called oil shortage was 'bunkum.' He had observed two pilot plants near Laramie, one operated by Monolith Cement Co. for the extraction of alumina from clay and one built by the Government for the processing of oil shales.

L.L.R.

GEOLOGICAL NEWS LETTER

OFFICIAL PUBLICATION OF THE

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MEMBERSHIP APPLICATION
GEOLOGICAL SOCIETY OF THE OREGON COUNTRY

Qualifications and Dues: Applicant must be sponsored by a member and recommended by the Membership Committee. A knowledge of geology is not a requisite. There is no initiation fee. A Member shall be over 21 years of age; or a husband and wife and all children under 18 years of age. The dues are $3.50 per year, payable in advance, which includes one subscription to the Geological News-Letter. A Junior is an individual between the ages of 18 and 21. Dues are $1.50 per year, payable in advance, and include one subscription to the Geological News-Letter.

Date . . . . . .

I,. . . . . .(please print full name) do hereby apply for membership (junior membership) in the Geological Society of the Oregon Country, subject to the provisions of the By-Laws.

Home address. . . . . .Phone . . . . . .

Business address. . . . . .Phone . . . . . .

Occupation. . . . . Hobbies . . . . . .

I am particularly interested in the following branches of geology: . . . . . .

. . . . . .

I enclose $ . . . for the year's dues, March 1 to March 1. (Checks payable to the Society).

. . . . . Sponsored by. . . . . .
(signature) (member)

SOCIETY ACTIVITIES

LECTURES: On the 2nd and 4th Fridays of each month at the Auditorium (3rd floor) of the Public Service Building, 920 S.W.6th Avenue at 8:00 p.m.

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LUNCHEONS: Every Thursday noon in the Victory Room of the Winter Garden restaurant, 425 S.W.Taylor St. between S.W.4th and S.W.5th Aves. Luncheon 60¢.

MEETING ANNOUNCEMENTS

Friday July 28 — Two motion pictures - Hydro the story of Bonneville Dam and The Earth's Rocky Crust an illustration of dynamical geology will be shown.

Friday Aug.11 — ANNUAL PICNIC in Mt. Tabor Park - watch for detailed announcements in the next NEWS - LETTER.

Friday Aug.25 — Dr. E. M. Baldwin will tell us about Some Aspects of the Late Cenozoic History of the Coasts of Oregon and Washington.

FIELD TRIP

Sunday July 30 — Geology of Johnson Creek Canyon and A Visit to the Willamette Stone. Mr. Geary Kimbrell will demonstrate the use of the transit in surveying; John Allen will show how the plane table is used in geologic surveying; and Bruce Schminky will have information on the history of the Willamette Stone. The party will meet at N.W. 23rd Avenue and Burnside St. at 1:30 p.m. Bring Portland quadrangle map and Treasher's geologic map of the Portland area.

NEWS NOTES

WORK NIGHT will be resumed in September - watch for announcements.

Miss Lucile Jordan has moved to 1533 S.W. 13th Avenue.

First Lt. Howard B. Stanley, who has been serving with the Air Corps in Newfoundland for the past year and a half, spent his leave in Portland visiting his wife and his parents, Mr. and Mrs. Orrin E. Stanley.

The Geological Society and the Oregon Agate & Mineral Society have lost a faithful member and an enthusiastic amateur geologist and mineralogist in the sudden passing of Charles R. Meyer on July 10. His friendly smile and lively conversation will be missed by all. In behalf of the Geological Society we wish to extend to the Meyer family our sincerest sympathy.

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OSCILLATIONS OF THE COAST OF CALIFORNIA DURING THE PLIOCENE AND PLEISTOCENE: American Geologist, vol.20, pp. 213-245, 1897, by Harold W. Fairbanks.

The more important movements of the coast during the time under discussion are believed to have been as follows:

(1) Post-Miocene disturbance, resulting in an elevation much greater than the present land features and originating or enlarging some of the marine valleys.

(2) Pliocene depression and accompanying sedimentation in favored localities.

(3) Post-Pliocene disturbance accompanied with folding, faulting, and upheaval to a greater elevation than the present; a movement probably felt in the Sierra Navadas and resulting finally in the glaciation of that region. During the erosion of this early Pleistocene the existing valleys of the Coast region were wholly or partly re-excavated in conjunction with the present marine ones. During the period of elevation, probably not later than the middle Pleistocene, the mammoth and other extinct mammals occupied the Pacific coast and spread over what are now known as the Santa Barbara islands.

(4) After a comparatively brief period as shown by the steepness of the submerged valleys a downward movement began and continued until the land was at 1200 to 1500 feet below the present.

(5) In the recovery from this sunken condition the terraces were formed and an elevation reached which was somewhat greater than that now shown.

(6) Last of all took place the subsidence recognized by Mr. Diller in Oregon, by professor Lawson at the Golden Gate, and by the writer along the coast to the south.

A present discussion of this subject must be far from exhaustive and future study may bring out modifications of the above outline, but it is hoped that some permanent addition has been made to the knowledge of the history of this region.

R.C.T.

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LUNCHEON NOTES - JUNE 22, 1944

A good attendance, due partly to the closing of schools - Ellen James, Louis Oberson, and J.Martin Weber being with us again.....Eliza Stevens of Bonneville presented as her guest, Dr. Edna Landros, head of the Language Department of the University of Oregon.....No specimens but several publications were shown, including Dr. Booth's bound volume of the Mineralogist for 1943, brought by Mr. Baldwin, in one number of which is a history of our Society. Dr. Ewart Baldwin brought the three volumes of the Paleontology of the Marine Tertiary Formations of Oregon and Washington, by Chas. E. Weaver, which sells for $13.75. If ten copies are ordered, the discount of 10% will be given at Gill's. Another booklet exhibited was the Volcanoes of the Three Sisters Region, Oregon Cascades, by Howel Williams, priced at 75¢.....Franklin Davis announced that Bill Reeves was at Providence Hospital convalescing from an operation but would be able to receive visitors on Sunday....Mr. Baldwin, who presided in the absence of President Bates, read a card from the latter saying he had arrived in Great Falls at midnight, in a hard rain, with no taxi service available. Just retribution, says Mr. Baldwin, for not taking his overcoat as advised to do by himself and Mrs. Bates.

A.H.

****

MEMBERSHIP LIST*

Name	Address	Zone	Telephone
Adams, Dr. & Mrs. W. Claude,	2614 N.E.Bryce	12	GA 8747
Allen, Mr. & Mrs. John Eliot,	3925 N.E.Couch	15	BR 2276
Allison, Dr. & Mrs. Ira S.,	2310 Harrison St., Corvallis, Ore.		
Bach, Miss Alwina,	7607 N. Fowler Avenue	3	UN 1796
Baldwin, Dr. & Mrs. Ewart M.,	Box 256 Lower Drive, Lake Grove, Ore.		OS 22251
Baldwin, Mr. & Mrs. Raymond L.,	4804 S.W.Laurelwood Drive	1	CH 1452
Barr, Mr. & Mrs. Amza,	5417 S.E.99th Avenue	6	SU 4081
*Bartow, Lt. Leslie W.			
Bates, Mr. & Mrs. E. N.,	5639 S.W.Menefee Drive	1	BE 6925
*Bickner, Lt. Ava A., ANC	N-742981-46 General Hospital c/o P.M., New York City		
Booth, Dr. & Mrs. C.L.,	2444 S.E.Clinton	2	LA 1450
Boylan, Bert C.,	9509 S.E.Knight	6	SU 2153
Brady, Helen C.,	3738 N.W.Appleton, Washington, D.C.		
Brown, Miss Kathryn	5402 S.E.Taylor St.,	15	EA 8474
Butler, Mr. & Mrs. J. Dean,	Rt.16, Box 1272, Hill Road, Oak Grove, Ore.		Oak Grove 3-7967
Calef, Mr. & Mrs. M.H.,	2405 N.E.41st Avenue,	13	GA 3642
Campbell, Mr. Robert	S.E.6th Ave. at Washington St	14	EA 4633
Carney, Mr. & Mrs. Thos. A.,	7269 S.E.Thorburn	16	SU 9290
Charlton, Dr. & Mrs. David B.,	Charlton Lab., Box 1084	7	BE 2070
Cooper, Dr. H. C.,	206 N.E.31st Avenue	15	EA 0631
Dake, Dr. & Mrs. H. C.,	703 Couch Bldg.,	4	BE 2539
Davis, Mr. & Mrs. F.L.,	4317 N.E.Tillamook	13	GA 5228
Flood, Mr. & Mrs. Lloyd F.,	2324 S.E.Burnside	15	
Fowler, Miss Myrtice E.	4933 N.E.Garfield Avenue	11	MU 6385
Haaser, Mr. & Mrs. S.L.,	6132 N.E.Failing	13	
Hancock, Mr. & Mrs. A.W.,	2704 S.E.84th Avenue	16	SU 5285
*Harrison, Lt. Harold C.,	c/o Navy Office, Polaroid Corporation, 730 Main St. Bldg., Cambridge, Mass.		
Henderson, Mr. & Mrs. Dwight J.,	838 S.E.Peacock Lane	15	EA 0814
Henley, Miss Ada,	2015 S.E.Pine	15	EA 1475
Hodge, Dr. & Mrs. Edwin T.,	2915 N.W.Luray Terrace	10	BE 4821
Hughes, Miss Margaret A.,	1524 S.W.10th Avenue	1	AT 7066
Iverson, Miss Florence	5125 N.E.Couch	15	LA 7504
James, Mrs. Mildred P.,	135 S.E.52nd Avenue	15	EA 5456
Jennings, Rose H.,	3535 S.E.Morrison	15	LA 0288
Jennison, Harry L.,	1561 S.E.Linn	2	LA 5594
Johnson, Mr. & Mrs. E. C.,	Route 9, Box 3600, 12311 S.E.Stark (16)		SU 0652
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GEOLOGY OF THE COOS BAY QUADRANGLE

by

John Eliot Allen

Work during the last year by Allen and Baldwin has revised the geology as mapped by Diller in the Coos Bay Atlas in a number of important particulars. A much greater number of formational units have been areally mapped; the structures within the area have been determined in large part on the basis of stratigraphy, since landsliding and the deep soil cover prevents determination of accurate dips and strikes; it has been discovered that the basaltic rocks previously thought to be intrusive into the Eocene rocks actually are volcanic in nature and occupy an unconformity at the base of the Coaledo formation; and reverse strike faulting, so common in the California Coast Ranges, has been recognized in Oregon for the first time.

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LUNCHEON NOTES - JUNE 29, 1944

The warm sunshine (or something) of late June brought out twenty-one members and four guests who, from the lively conversation, apparently greatly enjoyed this meeting.....Miss White introduced Virginia Tyler, a fellow teacher in the Vanport schools, and told of the enthusiastic interest of the Vanport youngsters in rock collecting. She said they would appreciate gifts of surplus specimens from members of our society. John Allen introducted Walter Warren who, upon the suggestion of Mr. Vance, told about the studies he is making of the rocks and stratigraphy of the Cascade Range in Oregon for the purpose of helping in the search for oil. Miss James' guest was Lloyd Woolfe.....Mr. Bates, who was again in the chair after a long absence, introduced Bert C. Boylan, former president of the DesChutes Geological Society, who is now living in Portland.....The only specimen exhibited was a small slab of "diamond pink" granite brought by Mr.Minar who said that it comes from a quarry in Minnesota which can cut blocks of one hundred tons should any of our members feel that he is worthy of so large a memorial.....Miss Shaw has written a show for the Mazamas to be given at the Timberline Lodge out-door theatre on July 22, and she suggested that the members of our society will be welcomed as guests of the Mazama Club at this, the fiftieth anniversary of the founding of that organization. Franklin L. Davis said (among other things) that he was sure that the Mazamas would be delighted to have the G.S.O.C. members share in this celebration.....During a transitory pause in the debates between Mr. Davis and Mr. Vance, Orrin Stanley scrambled to his feet to read part of a letter that he had received from the Pemex Travel Club, Bucareli 35, P.O.Box 55 Bis, Mexico City, Mexico....."The word Paricutin bears the accent on the first 'i' and is pronounced Pa REE' coo teen and spelled Pari'cutin.".....Whether this pronunciation will be accepted by members of this organization as final depends upon a number of things.....Miss White said that Kenneth N. Phillips is to talk to the Vanport School about the birth and growth of the volcano Paricutin in the near future.....C.D.Phillips commented on the almost universal practice of his clients of bringing an extra rush of important business for his consideration on Thursday noons. However he had hurried to this meeting hoping to be ahead of Dr. Booth. He appeared quite downcast when the doctor failed to appear.....Mr. Davis occupied the floor on several occasions, but it is assumed that his remarks were confidential or of a transitory nature, as they were not audible at the lower end of the table and were not available for re-broadcast by transcription.

O.E.S.

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GEOLOGICAL NEWS LETTER

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MEMBERSHIP APPLICATION
GEOLOGICAL SOCIETY OF THE OREGON COUNTRY

Qualifications and Dues: Applicant must be sponsored by a member and recommended by the Membership Committee. A knowledge of geology is not a requisite. There is no initiation fee. A Member shall be over 21 years of age; or a husband and wife and all children under 18 years of age. The dues are $3.50 per year, payable in advance, which includes one subscription to the Geological News-Letter. A Junior is an individual between the ages of 18 and 21. Dues are $1.50 per year, payable in advance, and include one subscription to the Geological News-Letter.

Date . . . . . .

I,. . . . . .(please print full name) do hereby apply for membership (junior membership) in the Geological Society of the Oregon Country, subject to the provisions of the By-Laws.

Home address. . . . . .Phone . . . . . .

Business address. . . . . .Phone . . . . . .

Occupation. . . . . Hobbies . . . . . .

I am particularly interested in the following branches of geology: . . . . . .

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I enclose $ . . . for the year's dues, March 1 to March 1. (Checks payable to the Society).

. . . . . Sponsored by. . . . . .
(signature) (member)

SOCIETY ACTIVITIES

LECTURES: On the 2nd and 4th Fridays of each month at the Auditorium (3rd floor) of the Public Service Building, 920 S.W.6th Avenue at 8:00 p.m.

TRIPS: On the Sunday following the second meeting of each month for the balance of the summer - see special announcements.

LUNCHEONS: Every Thursday noon in the Victory Room of the Winter Garden restaurant, 425 S.W.Taylor St. between S.W.4th and S.W.5th Aves. Luncheon 60¢.

MEETING ANNOUNCEMENTS

Friday Aug.11 — ANNUAL PICNIC: Gorge near old crater in Mt. Tabor Park; 6:30 p.m.; program starts when gorge is filled in. Due to O.P.A. ceiling regulation, coffee, cream, and sugar remain free. Admission by gastrolith only (Gastroliths may be obtained at the park through the courtesy of Hancock Mines Ltd.) Entertainment guaranteed to be more colossal than the Laramide Revolution, with wider scope than the Nebular Hypothesis, moving at a rate of 186,000 miles per second. The first radio broadcast from the heart of a volcano, with interstellar hookup.

Friday Aug.25 — Dr. E. M. Baldwin will tell us about Some Aspects of the Late Cenozoic History of the Coasts of Oregon and Washington, dealing particularly with the changes in sea level recorded by terraces, drowned valleys, and terrace and valley deposits.

September 1944 — WORK NIGHT will be resumed. Watch for announcements.

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G.S.O.C. MEMBER APPOINTED HEAD OF D.O.G.A.M.I.

"Fay W. Libbey, a graduate of the Massachusetts Institute of Technology and with a 30-year record as engineer of geology and mining in Western states, was named director of the Oregon state department of geology and mining industries by the state board meeting in the Woodlark building.

"Libbey, who has been acting director since the resignation of E. K. Nixon, former director, was chosen unanimously by members of the board, consisting of State Senator W. S. Strayer, Baker, chairman; S. H. Williston, Portland, and Niel R. Allen, Grants Pass. Other matters pertaining to development of Oregon mineral resources, pronounced by Senator Strayer as having a great postwar future were disposed of by the board.

"Williston and Allen concurred in Strayer's declaration that Oregon is fortunate in having services of Libbey, a man conversant with all Western minerals and the mining of them.

"Libbey came to Oregon from Arizona in 1936 to make a survey for the federal government, mainly of non-metallic minerals, consisting mostly of limestone, silica, magnesite and some iron deposits, to determine mineral possibilities in connection with use of Bonneville power. That survey showed that Oregon and Washington have a considerable supply of minerals yet to be developed and put into use. When Libbey had finished the government project in 1937, he joined the Oregon state department and has continued study of Oregon possibilities....."

Oregon Journal, July 29, 1944

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LUNCHEON NOTES - JULY 6, 1944

If today's menu at the Winter Garden was not up to standard, the deficiency was compensated by the "feast of reason and flow of soul" of an unusually lively meeting.....Present among others were Mr. Nixon with his guest, Mr. Doble of Palo Alto; Lloyd Wolf, the guest of Ellen James; Mr. and Mrs. Oberson, Dr. Hodge, and several returned travelers, including Lloyd Ruff and Mr. Hancock.....Mr. Ruff told briefly of his recent trip on the Snake River in a boat of the same type as that used by the National Geographic Society in 1935, built by two old river men. The region traveled is the place to go, he says, to see metamorphic rocks, pre-Cambrian altered rocks, schist, mica schist, massive granite, etc. He obtained a few samples from Ruby Rapids, a misnomer, as the rubies were garnets, of which he secured some nice crystals. The party also saw deer, mountain sheep, mountain goats, and caught four or five varieties of fish. "If," he says, "this isn't the wildest ride in America, you get your money back."....Mr. Hancock, returned from a motor trip beyond Huntington, Oregon, reports having prospected the hills for calcite, which he found in generous quantity but of poor quality; says he had a lot of fun and picked up some other rocks. He exhibited an interesting geode which showed the earth's movements during its formation, and a larger one containing three calcite crystals joined together in unusual formation.....Mr. Nixon announced that he has just been running around the country but has a perfectly clear conscience and promises to look in on us occasionally. He says if anyone finds any beryllium to let him know. It would probably occur in schist and its general appearance is that of a greenish chalcedonyx, a type of quartz.....Mr. Oberson, asked by President Bates for an account of his activities, referred the question to Mrs. Oberson, who says attending a radio institute put on by a local station to which 300 Portland teachers were invited is the most interesting thing she has done for a long time.....Dr. Stevens spoke briefly of the proposed museum, which he says will not be built unless all agencies work together to have a part in it.....A letter from Mr. Henderson, president of the Mazamas, was read, inviting our Society to participate in their 50th anniversary celebration to be held at Mt. Hood on the week end of July 22.....Mr. Minar showed specimens of Chatt-Chatt Sand from Joplin, Mo.

A.H.

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LUNCHEON NOTES - JULY 13, 1944

Flash! -- Miss Ada Henley was drafted - yes, drafted by the luncheon members to be chief Cinderella a la gavel, in the absence of the President, Mr. E.N.Bates, in theCinderella Room of the Winter Garden, as the Victory Room was otherwise occupied....."Names make news" and so did these names: Lt. Ava Bickner sends greetings from North Africa.....Ray Baldwin says"These hot days will interest all of you in this report, Geological Survey of Water Supply." (Does, too, since we've been scheduled to water only every other day.).....From Carl and Mrs. Richards, "Glad to see all your faces again. (Wonder where the rest of me is?) You know, I haven't seen many of you since we heard Dr. Merriam speak. (Two years, methinks.) Do come and visit the young Salem Society, and remember the dates - the third Thursday of the month we meet, and the first Tuesday we work." (Nice life, I'd say.).....From Courtland L. Booth, M.D., "I'm glad to be back after visiting Chicago; the Medic Convention; Ohio, the old home - Cleveland, Oberlin;the Republican Convention; Kansas City; San Francisco; Mr. Kraft (the cheese man) and his'Sermon in Stone'; Mill Valley; the happy Arthur C. Jones family; and finally landing in God's country - home!" (Wish we could get around like that. Hitler and gas coupons just can't last forever.).....Ellen James and Lloyd Wolfe were observed leaving early. Wonder where there's a better place than the Cinderella Room (to eat)?.....Al Vance says, "Those huge turnips? Oh yes, I'm really amazed myself that they get as big around as pieplates. All I do is put the seeds in the ground." (Wonder how he does that? Whatta man!)

V.L.O.

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REVIEW

Volcanoes of the Three Sisters Region, Oregon Cascades:
by Howel Williams, University of California Press, 1944, 75 cents.

"Mount Multnomah," that prodigious peak, conceived by Dr. Hodge (1925) twenty years ago as having once towered far above the present-day site of the Three Sisters, is due to vanish like a mirage of something that never did exist, if we are to believe the conclusions of Dr. Williams, in his 80-page report of six weeks' field work in that area.

Our knowledge of the phases of volcanism exhibited in the Cascade Range and elsewhere has grown tremendously in these twenty years. Little was known in 1924 concerning the types of calderas and their origin; volcanic domes had been described in France but had not been recognized in the west, nor had the technique of mapping the internal structures of volcanic domes been applied to western lavas, and lava sequences had not been established for any of the western volcanoes. Since that time calderas throughout the Pacific basin have been studied and classified (Smith, 1925; Williams, 1935, 1938, 1941a, 1941b, 1942), many volcanic domes have been described in detail (Williams, 1929, 1932a, 1932b, 1933; Kelley and Soske, 1936; Allen, 1936; Coats, 1936; Anderson, 1941), and the volcanic sequences have been more thoroughly outlined (Thayer, 1937; Callaghan, 1933).

With his tremendous background of experience, which, indeed, qualifies him as one of the foremost volcanologists in the United States, and with the aid of all the advances made by other workers in the field of volcanology, Williams has done his usual workmanlike and highly readable job in presenting the modern interpretation of the history of the Sisters region. Few other scientists in this country have the literary ability to present technical data in a form that is of interest to the layman, few take the pains necessary to illustrate their papers with as attractive charts and diagrams as does Dr. Williams. English scientists seem always to have been able to present their ideas to the public in readable form, and Williams' early training in Great Britain (his first geologic work was a study of Mt. Snowden in Wales) stands him in good stead.

Unfortunately, it has been his scientific duty, as a volcanologist studying California and Oregon volcanoes one by one, to amiably blast the early theories of Oregon geologists in no uncertain terms. First Dr. Smith (1936) came under the gun when Williams published his classic monograph on Crater Lake, settling, so far as the geological world is concerned, that perennial question as to whether it blew up or collapsed. Now the attractive concept of "Mount Multnomah, ancestor to the Three Sisters," seems to have been pretty thoroughly discredited, and Dr. Hodge himself was one of the first to admit that the evidence presented by Williams appears to be conclusive. Those interested in Oregon volcanoes, as well as those who wish to see a model of geologic presentation, will do well to read this paper, the abstract of which is as follows:

> "During Pliocene time a cluster of basaltic and basaltic andesite shield volcanoes was built in the Three Sisters region. Included in this cluster are the North Sister, Little Brother, Husband, Wife, Sphinx and Broken Top, the radial dikes and conduit fillings of which have been laid bare by glacial erosion. The view that this arcuate line of peaks marks the rim of a caldera formed by decapitation of an enormous central volcano, Mount Multnomah, is shown to be erroneous. During the Pleistocene, andesites and dacites were erupted, principally by the Middle and South Sisters, while new basaltic cones

were growing elsewhere. During Recent time, still other cones of basaltic lava and scoria were formed and vast flows were poured from some of them, notably from the Belknap Craters near McKenzie Pass, while showers of pumice and viscous domes of obsidian were erupted by neighboring vents. Some of these eruptions ended only a few centuries ago; nowhere in the High Cascades has there been more volcanic activity within the last millennium. Taken as a whole, the magmatic history closely resembles that of the Crater Lake region and the post-Miocene activity of other parts of the Cascade Range farther south."

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J.E.A.

****

TO BE INVESTIGATED:

A geological phenomenon of considerable interest has been brought to our attention by Mr. George Nisbet of Estacada, Oregon. It is located on the west bank of the Clackamas River below the mouth of Bull Creek and above the mouth of Cripple Creek. It is most easily reached by way of the new road which runs up the west side of the river from near the power plant, crosses over to the east again near the mouth of Cripple Creek, and will eventually tie into the road on the Oak Grove fork of the Clackamas.

At the river level, partly above and partly below water, fine-grained gray andesite is exposed for a distance of 20 feet up and down the river, with a width of 10 or 15 feet. This wide surface slopes about 5° upstream and is covered with a number of grooves up to one-half inch deep and 2 to 4 inches across. There are some scratches and smaller grooves, a few of them being at a slight angle to the main direction of grooving. At one point, this surface is reported to be overlain by solid lava. Outcrops of the "Bull Creek Formation" (Oligocene?) with numerous leaves and pieces of carbonized wood appear for a mile upstream. The walls of the canyon are composed predominantly of Columbia River basalt. Mr. Nesbit has considered the possibilities of this grooving being due to mud flow, being a form of flow structure in the rock, being jointing, but has arrived at the conclusion that it is a true glacial rock pavement. If it is actually overlain by Columbia River basalt, it is Miocene in age; if the lava belongs to the later andesites, it is Pleistocene in age.

Large chunks of solid coal over 2 feet square were noted by Mr. Nesbit in the river gravels between Bull Creek and Alder Flat. A coal prospect and an old miner's cabin is located on the west slope of Granite Peak at an elevation of about 3500 feet, 200 or 300 yards south of the trail. A sign on the trail points to the location of the old cabin. This is in the extreme NW¼ of the Mt. Jefferson quadrangle. These sandstones, conglomerates and shales, all badly disturbed by landsliding, seem to be the same as the Bull Creek Formation, since they contain fossil leaves and wood.

J.E.A.

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NEW MEMBERS

Mr. and Mrs. Bert C. Boylan, 9509 S.E.Knight Street, SU 2153.

****

SYMPATHY

The Geological Society members wish to extend their sympathy to Alwina Bach upon the recent loss of her mother.

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JOHN ALLEN'S LECTURE - GEOLOGY OF THE COOS BAY AREA

On the evening of Friday, July 14, the Geological Society gathered together in the Public Service Auditorium to hear John Allen of the State Department of Geology and Mineral Industries give an illustrated lecture on the geology of the Coos Bay area, with particular emphasis on the coal bearing formations of the region.

In the absence of President Bates, the meeting was called to order by Mrs. James. After a few announcements, Mr. Libbey introduced the speaker of the evening. Mr. Allen spoke of the main problem at hand - to map the coal bearing formations in detail and to make a new estimate of the coal reserves in the area. He mentioned the previous geological work there, and pointed out that the work of J. S. Diller, done at the turn of the century, had in general withstood very well the test of time, although it was necessary to make some revisions in Diller's map. In order to map the formations intelligently throughout the coal basin, it was necessary for the field party to familiarize themselves with the Eocene and Oligocene sediments occurring along the coast, which have been studied in detail by H. G. Schenck and Earl Turner and then to trace these formations inland by means of lithology and fossil content. By these methods the party was able to show that there was a larger member of coal bearing horizons than Diller had recognized, and also that there were large faults in the strata that Diller had not encountered, these faults offsetting the coal horizons and unfortunately reducing the estimate of coal reserves. Here Mr. Allen pointed out a practical application of paleontology to an economic problem, showing that the different coal horizons were recognized by the fossil content of the associated sandstones and shales. Revisions in the igneous geology of the region were necessary, in that rocks which Diller had thought to be intrusive into the Eocene sediments actually were lavas and associated volcanics, overlying the Umpqua and Tyee sediments and underlying the coal bearing Coaledo formation. The revisions of Diller's work were further upheld by the drilling of the Phillips Petroleum Company's oil well in the middle of the coal basin, which brought in no oil but which substantiated the new interpretations of the geology.

Mr. Allen showed a number of slides, both maps of the area and photographs showing the relation of the physiography to the underlying rocks. He spoke of the production of coal in the area, stating that in two or three instances about 25 years ago production reached 100,000 tons a year, but that in recent years there has been only slight production, especially since the Southern Pacific Railroad changed from coal to oil for fuel. There is at present, however, enough of a local demand for coal so that it is being shipped in from Wyoming, and steps are being taken to reopen some of the Coos Bay mines. Mr. Allen said that the coal reserves around Coos Bay could be estimated at about 10,000,000 tons.

After the lecture, Mr. Allen answered numerous questions, and the meeting was slow to break up, as usual.

F.W.T.

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GEOLOGICAL NEWS LETTER

OFFICIAL PUBLICATION OF THE

VOL. 10 NO. 16 PORTLAND, OREGON August 25, 1944

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THE GEOLOGICAL NEWS - LETTER
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Date . . . . . .

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Home address. . . . . Phone . . . . . .

Business address. . . . . Phone . . . . . .

Occupation. . . . . Hobbies . . . . . .

I am particularly interested in the following branches of geology: . . . . . .

. . . . . .

I enclose $ . . . for the year's dues, March 1 to March 1. (Checks payable to the Society).

. . . . . Sponsored by. . . . . .
(signature) (member)

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LUNCHEONS: Every Thursday noon in the Victory Room of the Winter Garden restaurant, 425 S.W.Taylor St. between S.W.4th and S.W.5th Aves. Luncheon 60¢.

MEETING ANNOUNCEMENTS

(NOTE: Change in program)

Friday Aug.25 — PICNIC PROFILES OF PROMINENT PERSONALITIES - by Orrin E. Stanley member and Society Historian. By long experience with the group Mr. Stanley is entitled to the position of Photographer Laureate of the Society. By means of a special process the minatures Mr. Stanley snapped the evening of the picnic will be thrown on the screen. This should be a scream for he caught us all in a happy mood. Come and live over the scenes again. Those unable to be present at the picnic should come and get a last chance to see what they missed. On the same program:

THE EARTH AND ITS SEASONS. This is another short movie with sound effects. Explains by photography and animated drawings why we have changes of seasons. Our school teacher members should be particularly interested in this educational film.

Friday Sept.8 — While it cannot be announced definitely, plans are under way to secure Mr. Hancock for one of his celebrated talks.

CORRECTION

H. M. Stiles should be listed as Mr. and Mrs. H. M. Stiles, 4025 Jackson St., Milwaukie 2, Oregon.

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COINCIDENCE

The following excerpt is from the June 7, Journal which reported the "Invasion Meteor" of June 5, 1944. --"Initial report of the display was made by Ben Pruitt of Thurston. He said that everything became lighted up and then he saw the meteor falling toward the west, breaking up in three pieces which left trails of sparks."------"Mrs. Marion Adams of Springfield, driving along the McKenzie Highway with her husband, also saw the meteor, which she at first feared was the moon falling."

Mr. and Mrs. Lloyd Flood, Geological Society members, were driving home in Portland on the same evening when Mrs. Flood saw the meteor and also exclaimed, "The moon is falling!" -----Astronomer Pruett believes the meteor fell into the ocean.

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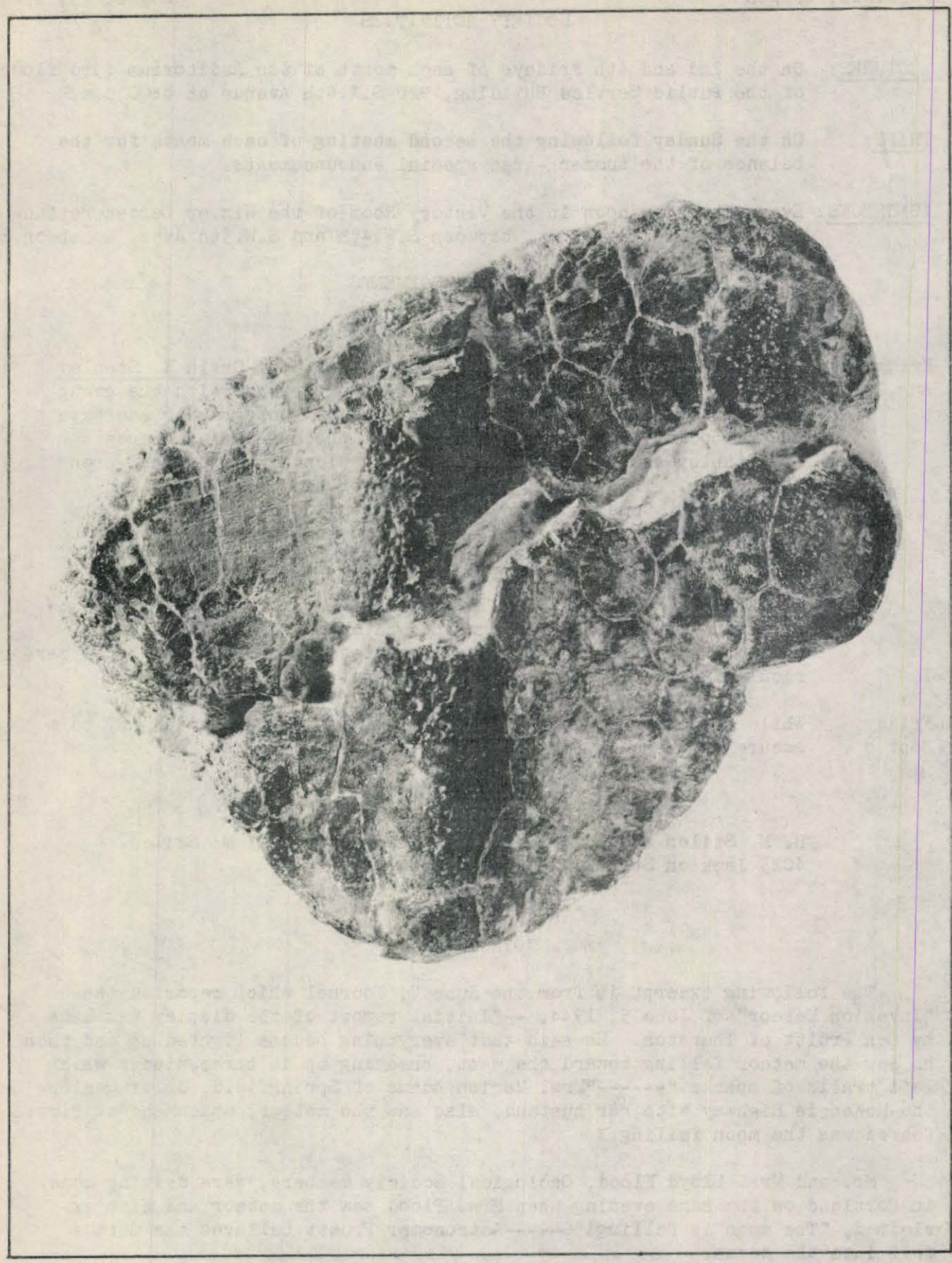

PSEPHOPHORUS(?) OREGONENSIS PACKARD

ADDITIONAL INFORMATION ON THE CARAPACE OF PSEPHOPHORUS (?) OREGONENSIS PACKARD

by
E. L. Packard
Paleontological Laboratory, Oregon State College
June 23, 1940

The lower beds of the Astoria formation of Oregon have recently yielded Mr. Albert D. Vance his second piece of the carapace of Psephophorus (?) oregonensis Packard.* The specimen was obtained along the beach near the mouth of Schooner Creek about 3 miles below the type locality of that Oregon species of ancient leather back turtle. Since his original specimen represented only a small part of the carapace and this later discovery obviously came from a different region of the shield, a brief description is justified.

This second specimen is irregular in shape, consisting of two pieces, slightly dislocated but representing the dorsal surface of some 32 complete or partial polagonal bony plates. Two smaller masses of bone lacking any markings of plates are exposed on the reverse side of this fossil specimen.

These plates are firmly cemented in a hard calcareous matrix, characteristic of the many concretions found within the lower beds of the Astoria formation and not unlike that in which the type of this species was imbedded. The plates are of different sizes and shapes and form a mosaic characteristic of all known fossil and living leather back turtles. No two plates are alike in shape or size, one is nearly circular, but the great majority are longer than wide with their longer axes roughly paralleling the pronounced ridge which crosses the specimen and which serves to orient the fragment along the longitudinal axis of the carapace. Each plate, as in the type of this species, has a smooth upper surface, is relatively flat, except those of the plate-ridge, and is separated from its neighboring plates by clearly defined slightly depressed sutures. The exposed margins of the plates do not seem to indicate that the sutures extended through the bony mass. In this latter respect they appear to differ from the condition previously described for this species in which the sutures appeared indistinctly on the ventral side. Possibly such a difference might be attributed to the more advanced age of the herein described specimen. These inter-ridge plates have a thickness of 8-10 millimeters which agrees closely with that dimension of similar plates of the type of the species.**

This specimen fortunately includes a very prominent ridge bordered on either side by a concave area which rises laterally especially on one side to form secondary low ridges. The plates of this prominent ridge are very different in shape and thickness from those of the ridge described in the earlier paper. The lateral ridges do conform more closely with the condition previously reported. It thus appears that the new specimen includes a portion of the median ridge of the carapace and parts of two laterals, each having the general characteristics of the ridge earlier described as a probable lateral.

This median ridge includes two complete and two partial ridge-plates which have a maximum thickness of nearly 20 millimeters more than a half centimeter greater than the ridge-plates already described and more than twice as thick as the inter-rib plates. This increased thickness adds that amount to the height of the ridge since the under surfaces of the ridge and the inter-ridge plates are even.

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* Packard, E. L., "A new turtle from the Marine Miocene of Oregon." Oregon State Monographs, Geology no.2, 31 pp., 4 pls., 3 figs., 1940.

**Packard, E. L., Op. Cit. p.26.

Two of the median ridge-plates are well preserved, though somewhat pitted evidently through differential solution of part of the surface. One has a longitudinal median length of 46 and an average width of about 30 millimeters. That plate is bordered laterally by three plates of dissimilar shapes. The second less well preserved ridge-plate is of similar dimensions but differs in detailed shape conforming to its bordering ossicles. These ridge-plates are evenly rounded on top and slope symmetrically onto the somewhat curved adjoining row of inter-ridge plates.

The secondary ridge is represented on one side by parts of three plates. These are somewhat wider than long, are roughly rounded in outline and appear to be nearly symmetrical in profile. Those plates have dimensions similar to the ridge-plates of the type. They have a thickness of about 12 millimeters which also adds support to the original contention that the first described specimen included a lateral ridge. Only fragments of the lateral ridge-plates on the other border of this specimen have been preserved. They correspond to those located on the inner slopes of the opposite side.

It is evident that this specimen includes a well defined median ridge bordered by a concave inter-ridge area, the surface of which rises to the low secondary ridges, which lie a distance of about 75 millimeters from the median one.

The bone on the reverse side has lost much of its original surface. The areas that are quite well preserved exceed those of any of the larger ossicles just described. The surface is somewhat irregular, unornamented, but does not appear to have been as even as the dorsal side of the ossicles on the opposite side of the block. No indication of a sutural pattern is observable. These two fragments might have been considered, because of their position, as representing the ventral shield. The reverse side of a portion of one of these bony pieces was prepared and a polish section was made having a dimension of about 50 x 20 millimeters. The plane polished surface shows cracks or sutures dividing the area into what appears to be parts of 4 or 5 plates not unlike the inter-ridge ones in shape and thickness. It is thus likely that those masses also represent the dorsal shield with their inferior surfaces exposed.

Psephophorus calvertensis Palmer from the Miocene of Chesapeake Bay is based upon fragments of the carapace, one of which shows a median ridge composed of plates having much the same shape, size and thickness as those now being described. The author also figures a fragment along the margin of the plastron, which except at the outer edge differs in no way from the pattern of the carapace.

It is now evident that the Oregon species possessed at least three longitudinal ridges on the carapace, the median one being the most conspicuous. Furthermore the general pattern of the plates, their shapes, size and thickness are similar to those of other described fossil species ranging in age from late Eocene into the Pliocene. This find does not yet make it possible to reconstruct the carapace nor to determine the diagnostic value of individual bony plates.

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LUNCHEON NOTES - JULY 27, 1944

No guests today but Mr. Bert C. Boylan, one of our new members, was present...A.W.Hancock passed around a specimen of Baculites, an ammonite from Montana...Pres.Bates had an interesting exhibit of brass and copper pieces from Iran, which included a coffee grinder, a coffee pot, a camel bell, and a small urn-shaped container used for perfume...H.B.Schminky announced the coming field trip to Johnson canyon...Dr. Booth arrived late and brought a picture of some glacial grooves in limestone at Kelley's Island, Ohio...F.W.Libbey spoke briefly on the subject of "Alumina from Clay."He mentioned the possibility of getting away from the import of bauxite.

L.L.R.

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LIBRARY NOTES

702 Woodlark Bldg., 813 S. W. Alder

Attention is again directed to the change of address. The Oregon Department of Geology and Mineral Industries has provided quarters in their office for the library. This office is open from 8:30 a.m. to 5:00 p.m. each week day except Saturday when the hours are from 8:30 a.m. to 12:30 p.m. There are tables and chairs for the convenience of members who desire to read at the library.

The following report of books received by the library covers the period from 10/25/43 to 8/25/44. The Society expresses its thanks to those who have made contributions to the library.

The library has received the following:

From Dr. H.C.Dake, A geological Reconnaissance of Southern Oregon. An extract from the Fourth Annual Report of the U.S.Geological Survey, 1884. By Israel C. Russell.

From U.S.Department of Agriculture, Regional Library, Portland, through the courtesy of E.N.Bates, Geologic formations and economic development of the oil and gas fields of California. Bulletin 118. California Division of Mines, Geologic Branch, by Olaf P. Jenkins and others, 1943.

California Journal of Mines and Geology. Quarterly publication by State Division of Mines. Vol. 35, 1939, No. 4
Vol. 36, 1940, Nos. 1, 2, 3, 4.
Vol. 37, 1941, " 1, 2, 3, 4.

National Research Council of National Academy of Science, Washington, D.C.
American Geophysical Union Transactions, 1937-1938.
" " " " 1943, Part III.

Hart Mountain Antelope Refuge, By Stanley G. Jewett, 1939.

Washington Geological Survey, Vol. 2, Annual Report for 1802, by Henry Landes and others.

From John Eliot Allen, Geological Survey, West Virginia Greenbrier County, by Paul H. Price and E.T.Heck, 1939. Also large maps of area surveyed.

From Oregon Department of Geology and Mineral Industries, Bulletin 26, SOIL: Its Origin, Destruction, and Preservation, by W.H.Twenhofel, 1944.

Ore.-Bin, October 1943 to August 1944.

From California Federation of Mineralogical Societies, Bakersfield, California, Mineral Notes and News. (Published monthly) Bulletins: September 1943-August 1944.

From the Mazamas: Vol. XXV, No. 12, 1943.

From Ewart M. Baldwin: Three Forks Fauna in the Lost Range, Idaho. In Bulletin of American Paleontology, Vol. 28, No. 110, 1943, by Ewart M. Baldwin.

From the authors: Surface ablation and movement of the ice on Eliot Glacier. Reprint from "Mazama", 1943, by Francis E. Matthes and Kenneth Phillips.

LIBRARY NOTES (Cont.)

From U.S. Geological Survey, Washington D. C.:

Professional Papers,

No. 197 D, The Basin and Range Provinces in Utah, Nevada, and California. By Thomas B. Nolan, 1943.

No. 202, Geology and Ore Deposits of the Metaline Quadrangle, Washington. By C. F. Parks Jr. and R. S. Cannon Jr., 1943.

Bulletins,

No. 931, Part 1, A-J, Part 2, K-S, Strategic Mineral Investigations, 1941.

No. 931-H, Tin and Tungsten Deposits at Silver Hill, Spokane County, Wash. By Lincoln R. Page, 1942.

Ground-Water Papers,

No. 888, Steam-Gaging Procedure - A manual describing the methods and practices of the Geographical Survey. By Don M. Corbett and others, 1943.

No. 932, Surface Water Supply of the United States, 1941, by Glenn L. Parker and others, 1942.

From Ward's Natural Science Establishment, Inc., Rochester N.Y.:

Natural Science Bulletin, October 1943 - August 1944.

Trade Catalogs, No. 31, 1943; No. 433, 1943; No. 441, 1944.

From V. D. Hill, Salem, Oregon:

Trade Catalog, No. 17, 1943.

Margaret Hughes, Librarian.

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LUNCHEON NOTES - JULY 20, 1944

The best attended luncheon in the memory of the writer brought 29 members of the society and guests. Feature of the meeting was an impromptu talk by Dr. Hodge who described a gold-like mineral from the old tunnel above Leif Erickson Drive north of Portland. After raising our hopes that there might actually be a gold strike in town, they were dashed by the continuation of the story, where microscopic work determined it to be a green glassy hypersthene (amphibole) characteristic of the later andesites of the Cascades rather than of Columbia River Basalt. John Allen again raised the hopes by telling of analyses of the red material from the same tunnel, which proved it to contain appreciable amounts of quicksilver. During Dr. Hodge's talk, someone must have overheard the report of a gold mine, for workmen on the roof spilled a barrel of hot tar in the rush, drenching a car and burning two bystanders, while fire or ambulance sirens punctuated the remainder of Dr. Hodge's remarks...The presence of foreign gravels high on Leif Erickson Drive was pointed out by Dr. Hodge as being a problem of considerable interest to be solved. Are they Troutdale or river gravels? Over or under the lavas?...Ewart Baldwin passed around a spectacular sample of igneous basalt-breccia-cemented in two stages, first by quartz and then by lime, the latte being stained pink by iron-rich juices, probably dissolved out of the basalt...The NEWS-LETT article on Paricutin is attracting widespread interest. The last request for a copy came fr the American Museum of Natural History...The library of the G.S.O.C. has been moved (courtesy of Robinson, Allen, Mason, & Lowry Moving Co.) to the back room of the Department, where it can be used from 8:30 a.m. - 5:00 p.m. weekdays (Sats.8:30 a.m. - 12:30 noon).

J.E.A.

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GEOLOGICAL NEWS LETTER

OFFICIAL PUBLICATION OF THE

VOL. 10 NO. 17 PORTLAND, OREGON September 10, 1944

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Occupation. . . . . Hobbies . . . . . .

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MEETING ANNOUNCEMENTS

Friday Sept.8 — Kodachrome Stills of Alaska by Mr. Walter A. Morgan of the Portland office of the U.S. Army Engineers. Mr. Morgan has recently returned from Alaska where he spent several years on the staff of the Civil Aeronautical Administration. Don't forget to chalk this date on your calendar. You cannot afford to miss it.

Friday Sept.22 — Sedimentation in the Rio Grande and the Colorado River by Dr.J.C.Stevens,C.E. This talk will have particular reference to the sedimentation in Lake Mead impounded by Boulder Dam and Elephant Butte Reservoir impounded by Elephant Butte Dam. Dr. Stevens has spent considerable time on studies of sedimentation in man made reservoirs and speaks with authority. The society is honored to have our able fellow member present this talk before our group.

ANNUAL PICNIC

The eighth annual picnic of the G.S.O.C. in Mt. Tabor Park upheld all traditions of preceding events and surpassed them in some ways. Two tables, so long that even Paul Bunyan couldn't have reached the butter at either end had he been seated in the middle, were filled with the best products from scores of kitchens and surrounded by happy diners. Then came Dr. and Mrs. Courtland L. Booth to uphold the doctor's record of latest arrival, only to have their time beaten by Miss Jones, Miss Hewitt, and Dr. Arthur Jones' son and daughter who had come from California to take part in the festivities. The Jones children were awarded the honor of having come the greatest distance to the picnic.

Coffee, prepared and served by Myrtice Fowler and an able corps of assistants, was a welcome addition to the picnic dinners.

A "sea hag" wandered about the tables swapping "gastroliths" for food. Some of the babies were frightened while others were fascinated by the weird creature, later identified as Mrs. James.

After an enjoyable hour or more at the tables the picnickers stowed their empty dishes in baskets, boxes and autos and drifted down the hill to the extinct crater where benches were arranged for the evening program.

Chairman Hancock and his committee including Mrs. Oberson, Mrs. James, Lotus Simon, Mrs. Minar, and radio announcer Clarence Phillips went into a huddle to discuss last minute details. Energetic men carried additional benches from the picnic ground to the crater as the crowd swelled, and self-appointed photographer Stanley annoyed the members of the audience by poking his camera in their faces. Modest ladies hid behind their hands and a small boy frankly expressed his opinion by making a wry face.

The program, managed by Announcer Clarence Phillips was "broadcast" over station G.S.O.C., was greatly enjoyed by the guests assembled in the "studio."

A song leader's contest was first on the program, featuring Mildred Stockwell, Franklin L. Davis, Leo Simon, and John Eliot Allen. Each character donned the appropriate costume and did his darndest to win the big money. A. W. Hancock and Ellen James carefully measured the volume of applause following each contestant's effort, using a paperhanger's yardstick, and awarded the honors to John Allen. The prize was the privilege of leading the closing song of the evening.

Lloyd Ruff, in the costume of a Brahman swami who "knows all and sees all" gave an accurate (we hope) description of the formation of Mt. Tabor - so realistic was this that sneezes were heard when he spoke of the cold.

Mrs. Minar, as Pansy Yokum, worked diligently to get her pipe to draw before she came before her audience, but without satisfactory results. Her description of a trip to Friday's ranch in search of geodes was clever and was made more realistic by Hancock's sound effects. The ripping of Vance's trousers on a barbed-wire fence when escaping from a bull being particularly moving.

Dean Butler as Chief Bim Bam Boo from Timbucktu very thoroughly cleared up the account of Dr. Hodge's recent trip to Africa. Judging from the authentic costume in which this noted chief appeared, no one should question his statements. The failure of the censorship and sound effects to stop the chief's jokes may have been deplored by the more prudish members of the audience.

Dr. J. C. Stevens, introduced as Pluto, but denying that identity, staged a trial of Allen, Robinson, and Tisdel who were threatening the continuance of the fires of Hades, by developing coal regions or water resources on the earth. He was ably assisted by "Delilah" Avery. There was plenty of oratory in this.

President Bates, evidently made nervous by his first appearance before a microphone, as well as by a hastily prepared script, did nobly in announcing the names of members of the cast.

The "Commercials" interspersed throughout the program by "Sixty-Seconds Soap Box Sally," known in private life as Ellen James, were well done and should net substantial results to her sponsors.

John Allen led the group in singing the closing number and the crowd melted into the darkness to watch the meteor shower or to slumber.

O.E.S.

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NEW MEMBER

K. S. Latourette, 409 Prospect Street, New Haven 11, Connecticut.

CHANGE IN ADDRESS

Lt. D. B. Lawrence, 0913267 AAF - ADTIC, Orlando, Florida.

ADD TO MEMBERSHIP LIST

Dr. and Mrs. Adolph Weinzirl, 3536 N.E. 27th Avenue, Zone 12, GA 5706.
Mr. and Mrs. H. F. Travis 7225 S.W. Corbett Street," 1.

****

NOTES ON THE FOSSIL WOODS OF NEVADA

by
Geo. F. Beck, Ellensburg, Wash.

Paul Platen in his "Investigations" (Leipzig, 1908) gives us in the main a report of the fossil woods found in California. He grants 10 pages (94-104) to four woods from the state of Nevada. Among these, two carry the label of the state only and cannot be listed as from a given locality. Both of these are of the general cedar type and he suspects that each might represent an extinct redwood or swamp cypress. Since he recognizes in the one the precise form that occurs at Calistoga it is reasonably certain that the given specimen is really a redwood. Krausel, the more recent German authority is also of this opinion.

The third specimen listed by Platen came from near Austin (Smokey Valley) and Platen assigns it to the swamp cypress, but from his description and the photograph it is clear that a traumatic duct row is present and that the specimen represents a true redwood. The wood he reports from the Comstock mines, seems according to his description to be more primitive than a typical conifer, but if so it can hardly be as young as the Tertiary he indicates. This specimen he has compared to the South American "pine" (Araucaria).

Within the last ten years I have received two small and one large collection of petrified woods from Nevada. One of these is from Ernest W. Chapman of Pasadena and contains the counterparts of the redwood and spruce reported in the June 1936 MINERALOGIST by Paul Walker under the title "Fossil Redwood from Nevada." Identifications were made by Prof. L. H. Daugherty of San Jose State and are reliable. He gave a third conifer, CUPRESSUS(California cypress) as the only other wood present.

Concerning the locality Walker cites Nye County, near Goldfield and goes on to give precise directions that we shall not repeat. Of the forest he reports "(it) covers about a quarter section of the mountain side. Exposed and weathered specimens are numerous and serve to define the area. To date six large trees have been completely uncovered. The largest tree is forty-four inches in diameter and about forty feet long. The others are very little smaller." The age of the forest could be Cretaceous or Tertiary from the trees indicated.

Several years ago I received a small collection of woods from Prof. Vincent P. Gianella, of the University of Nevada. Among these are five from different sections of the state. Two of these are derived ". . .from the tuffs underlying the Esmeralda (Truckee) formation at Nigger Wells, Churchill County--about 7 miles northeast of Quartz Mt. and 8 miles from Broken Hills." One is a well preserved hardwood of unknown affinity--the other is a poorly preserved conifer. A third Nevada specimen in this collection comes "from andesite breccia in Truckee River canyon about ½ mile east of the Nevada-California boundary" and is too poorly preserved to classify beyond a possible fir. A fourth specimen from "Rhyolitic tuff at the north end of Spanish Springs Valley, Washoe County," seems to represent a badly crushed oak. The fifth specimen could represent one of the Cactus Range redwoods of the Walker report referred to above.

The largest collection I have seen from Nevada was sent to me some ten years ago by Percy Train from his Rainbow Ridge opal mine (and immediate vicinity) in northwestern Nevada. The types represent in the main conifers and the few hardwoods are too plainly exotic to justify effort in their naming. The conifers

besides being numerous, belong to familiar modern genera and contain two, hemlock and Port Orford cedar, that I have not encountered previously or seen reported in the literature. Since the Train collection has never been described I shall report the specimens somewhat in detail.

757 Tsuga (hemlock-Western?)	972 Tsuga
758 Pseudotsuga (Douglas fir)	975 Tsuga
950 Chamaecyparis (Cedar-Port Orford?)	977 Tsuga
951 Sequoia? (redwood)	980 Psendotsuga
952 Pseudotsuga?	1540 Chamaecyparis
960 Pseudotsuga	1621 Tsuga
962 Chamaecyparis	1622 Tsuga
963 Tsuga	1624 Chamaecyparis
965 Pinus (pine-hard?)	1796 Abies (true fir)
966 Pseudotsuga	1799 Abies
970 Pseudotsuga	1816 Sequoia?
971 Pseudotsuga	1915 Chamaecyparis

Numbers refer to my catalog of specimens. Mrs. C. A. Foss contributed 1796; Miss E. F. Latta number 1799; and Mrs. Ted Gordon number 1816. The age of this area is said to be Miocene.

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LUNCHEON NOTES - AUGUST 3, 1944

Clifford and I favored a 60¢ luncheon with geological comments at the Winter Garden Grille & Coffee Shop to eating a 75¢ luncheon without intellectual progress elsewhere.

Early arrival at the Victory room on Thursday, August 3rd, provided the professors, doctors, and wives time to give me a mental test for purposes I could not foretell. An old Geological NEWS - LETTER, carrying lengthy minutes written by Mr. O. E. Stanley was presented to test my reading speed. I was questioned outright if I could write and type. I tried to pass the examination honestly, following which I was handed the grey side of what I presumed to be another old bulletin and a leaky pen. I was declared the "Secretary Pro tem."

I relied upon the facts that I knew no geological terms, no full names of those present or the time of day and even though I could take shorthand rapidly I could not read it, to release me from the responsibility of holding this temporary office but my protests were swallowed up in the tablespooning of tabloid consomme' by the other twenty-one present.

Mr. E. N. Bates, the President, pounded the table with a polished club. Upon inquiry I learned from a lady at my side that it was 12:30 o'clock which I hastened to jot down to impress Clifford. This was one thing I was certain I could record accurately if properly informed, and I wanted to impress Clifford I was an efficient Secretary as he sometimes doubts my versatility and fundamental ability.

Mr. Bates complimented and welcomed teachers and professors for attending the meeting when they didn't have anything else to do - Miss Myrtice Fowler, Miss Kate Rosa, Professor and Mrs. Louis Oberson.

Mr. Amza Barr, usually absent, was also welcomed. He attributed his enjoyment and attendance on the last Sunday's trip and the current meeting to this vacation.

Mrs. H. Mildred Stockwell, who doesn't carry a cane but taps well, reported on a trip by rail, boat and motor to Vancouver, Victoria, Whiffen and Spit. Her foot work was not mentioned. She presented evidence of her questionable research efforts by digging out of a paper bag various colorful specimens which had been given to her by the British Columbia Bureau of Mines at Vancouver. She passed them out like doughnuts for our dessert. They were poor substitutes, however, for the yellow pudding I had skipped eating thinking it was rationed oleomargarine. Even after the thrill of travel and spellbinding a cultured gentlemen enroute, Mrs. Stockwell claimed commission for having sold a NEWS - LETTER subscription to a Walla Walla professor.

Mr. Earl W. Minar, apparently desiring to have the meeting "jell" to more serious matters dropped in a sample of Quincy Granite.

Mr. Stanley reported that Mr. Clarence Phillips wanted him to announce specially a meeting specially to which ladies were specially not invited because it would cramp the room. After the ladies present were duly humbled, Mr. Stanley reported that the other side of the notice indicated the meeting was important to women and that ladies were specially invited to be specially present regardless of space required. The topic and the place were lost to my vibrating reactions but it all sounded very specially special. I deduced that Mr. Phillips was tempermental towards women and that Mr. Stanley was an accurate and unwavering reporter.

Mr. F. W. Libbey and Mrs. Mildred James, the Vice-President, announced a picnic a week from the next Friday and with two weeks allowed for recovery from inspection of Hancock's remains, black coffee, a network of blue broadcasting by Oberson and James, and deviled eggs, there would be a lecture by Dr. E.M.Baldwin on the "Late Cenozoic Historic Coasts of Oregon and Washington."

Clifford works nights. Geologists close windows on warm days and eat heavily of braised beef, hot soup, and spaghetti. At each meeting, the correct or incorrect pronunciation of the name of a mountain in Mexico is discussed - this time by Mr. A. D. Vance. I nudged him (Clifford not Mr. Vance) to straighten up which he did with a startling jerk. Then he sagged. I suggested he take a deep breath. He straightened and sucked in with a snort like a horse before it whinnies. I looked at Clifford again a moment later after hearing the forepart of the mountain's name. His head seemed to be on a pivot and centrifugal force had brought it to one side with a gaping crevasse from which it appeared there might momentarily emit the rumblings of geological time. I didn't quite hear the name in Mexico but it sounded like "Parrakeet"or "Parcheesi."

My pen leaked. My handkerchief dropped to the floor. And while keeping Clifford awake, drinking coffee and listening to Mr. Vance, Mr. Bates took advantage of the situation and called upon me to report relative to my outing with the Mazamas at Mt. Hood. I was unprepared but related experiences with white men and Indians (favorable to the Indians) in securing trees for Timberline Lodge Amphitheater for the presentation of "Mazamapanorama" commemorating fifty years of Mazama history.

A Dr. Courtland L. Booth arose and to comfort me for having told many things probably best unsaid, announced that it was impromptu mountain music that held the Thursday meetings together.

I believe things happen in this world for a reason. I turned over the grey side of the paper on which I was writing and discovered it to be a master recipe

from the Portland Gas & Coke Company for making all jams. Just why Mr. Bates had been carrying this in his pocket instead of Mr. Minar was unexplained. The significance to me was that I should study "A Master Recipe for All Jams" and avoid being a Secretary Pro tem.

Arline Shaw

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LUNCHEON NOTES - AUGUST 10, 1944

The attendance was so large today that the late arrivals had to set their own table. Total 32. The only guest was Mr. A.I.Gregerson, geologist with the Petroleum Administration for War, who was introduced by John Allen..... Chairman Hancock reminded the group of the picnic scheduled for the following evening in Mt. Tabor Park.....Pres. Bates had with him a copy of Vol.2 of the Annual Report of the Washington Geological Survey which was destined for the Society's library.....Ray Baldwin read a request from the California Institute of Technology library for a complete file of the Geological NEWS - LETTER. This was prompted by the recent article on Paricutin by Lt. Lawrence..... Several specimens made the rounds. Bruce Schminky had some fossils from Lincoln Beach which included a specimen of Miopleiona. By coincidence Leo Simon had been in the same vicinity on the same weekend and recovered a Miopleiona specimen from an Indian shell mound at the mouth of Fogarty Creek. Aboriginal paleontologists - Yes?.....A.D.Vance took orders for several copies of the newly issued D.O.G.A.M.I. bulletin on SOIL by Dr. Twenhofel.....Mr. Stanley and Dr. Booth commented on the recent talk which Dr. Lowdermilk gave before the City Club..... Dr. Booth recommended a recent book "Plowman's Folly."....Mr. Gregerson complimented the Society for its activities and expressed his appreciation for having been a luncheon guest.

L.L.R.

LUNCHEON NOTES - AUGUST 17, 1944

Cloudy skies seemed to curtail attendance at this luncheon, there being only 21 members present, including the "late Mr. Stevens," and no guests.....Ray Baldwin read another letter concerning the Lawrence article on Paricutin from the Philadelphia Academy of Sciences. This article has brought the NEWS - LETTER considerable notice. Paricutin, by the way was featured in a news-reel last week..... Mr. Baldwin also called to the attention of the group the W.P.A. series "Oregon Oddities," some of which were passed around. Only three samples made their way around the table, but they occasioned considerable discussion. A sample of coral from Woodlark Island near New Guinea was sent to Mr. Minar by his son Don; Bruce Schminky passed around some very coarse beach sand from near Fogarty Creek, Lincoln Beach.....Lloyd Ruff gave a scholarly discussion of the reasons for the coarseness and for the quartzose composition of the sand which apparently was being derived from the volcanic, amygdule-filled headlands to the south of Lincoln Beach.

J.E.A.

LUNCHEON NOTES - AUGUST 24, 1944

Luncheon feature: Preview of the Stanley picnic menagerie, to be shown at regular meeting Friday.....Guest: Mr. Miller presented Mr. Brooks, a visitor from S. Dakota.....Infrequent visitors: Mrs. Baldwin and Mrs. Minar.....New publications: D.O.G.A.M.I. Short Paper, No. 12, "High-Alumina Iron Ores in Washington County, Oregon," by Libbey, Lowry, and Mason; also "Manganese in California" by the California Bureau of Mines.....Specimens: Dolomitic limestone from near Everett, Washington, by Mr. Minar. Magnetic material found mixed with filbert shells by Mr. Bates. Fossils from Schooner Creek by Mr. Vance (Modiolus, Molopophorus, Macoma, Acila, Yoldia, Leda, Panope, and fish vertebra. Also black vesicular basalt with glassy rims around vesicles, and with crystalline calcite linings, from Lighthouse Point north of Agate Beach.....Present: twenty-five. J.E.A.

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GEOLOGICAL NEWS LETTER

OFFICIAL PUBLICATION OF THE

VOL. 10 NO. 18 PORTLAND, OREGON September 25, 1944

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Date . . . . . .

I, ...(please print full name) do hereby apply for membership (junior membership) in the Geological Society of the Oregon Country, subject to the provisions of the By-Laws.

Home address. . . . . .Phone . . . . . .

Business address. . . . . .Phone . . . . . .

Occupation. . . . . Hobbies . . . . . .

I am particularly interested in the following branches of geology: . . . . . .

. . . . . .

I enclose $ . . . for the year's dues, March 1 to March 1. (Checks payable to the Society).

. . . . . Sponsored by. . . . . .
(signature) (member)

SOCIETY ACTIVITIES

LECTURES: On the 2nd and 4th Fridays of each month at the Auditorium (3rd floor) of the Public Service Building, 920 S.W. 6th Avenue at 8:00 p.m.

TRIPS: On the Sunday following the second meeting of each month for the balance of the summer - see special announcements.

LUNCHEONS: Every Thursday noon in the Victory Room of the Winter Garden restaurant, 425 S.W.Taylor St., between S.W.4th & S.W.5th Aves. Luncheon 60¢.

MEETING ANNOUNCEMENTS

Friday Sept.22 — Sedimentation in the Rio Grande and the Colorado River by Dr.J.C.Stevens, C.E. This talk will have particular reference to the sedimentation in Lake Mead impounded by Boulder Dam and Elephant Butte Reservoir impounded by Elephant Butte Dam. Dr. Stevens has spent considerable time on studies of sedimentation in man made reservoirs and speaks with authority. The society is honored to have our able fellow member present this talk before our group.

Friday Oct.13 — Meeting to be announced.

Friday Oct.27 — Dr. Edwin T. Hodge will give a talk on The Spokane Flood. This will be of interest to amateurs and professionals alike, especially if they have visited Eastern Washington.

October 1944 — Work night will be resumed - watch for reopening date.

NEWS OF MEMBERS

Miss Mella White was one of the judges in the semi-finals of the "Quiz Kids" contest.

Dr. Adolph Weinzirl will teach a fall-term extension course entitled Public Health. Classes will begin September 28 and will be held on Thursdays from 7:15 to 9:15 p.m. in Room 215, Lincoln High School.

We hear that A.W.Hancock has suspended his fossil and calcite-gathering activities temporarily in favor of hop picking.

G.S.O.C.

Gathering geologic information, minerals, rocks, and fossils;
Studying them in the laboratory, library and lecture hall;
Observing how they reveal the past history of the earth;
Comrades all in a community of like interests.

J.E.A.

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LUNCHEON NOTES - AUGUST 31, 1944

Attendance was up to 29 today partially due to the last appearance of our teacher-members before returning to the classrooms. President Bates extended a special invitation to attend the luncheon as soon as vacation time would permit.....Mrs. Amanda O. Hart was a guest of Miss Stevens and Geary Kimbrell presented his daughter.....Several specimens were shown including Australian opal by Mr. Minar; carbonized wood filled with calcite from the Oregon coast by Mr. Hancock; and vanadium bearing sandstone and petrified wood containing carnotite from Southeastern Utah by Dr. Booth. Mr. Boylan had a piece of lava from the lava-cast forest near Bend showing an imprint of tree rings which was outstanding. Mr. Stanley brought a specimen which had a faint odor of linseed oil and was reported to be a fugitive from a paint refuse heap somewhere in N. W. Portland.

L.L.R.

LUNCHEON NOTES - SEPTEMBER 7, 1944

Visitors included Dr. Lloyd Staples of the Cordero Mining Company on leave for the duration from the University of Oregon, and PFC Hayden Kimbrell, also on leave but not for the duration, from Camp Hanna, Texas.....Franklin Davis donated several years of back files of the Science News Letter to the society library.

J.E.A.

LUNCHEON NOTES - SEPTEMBER 14, 1944

SOS call from Editor Ruff for material for publication in the NEWS - LETTER. Any material of geological or general interest by any member of the society is solicited, and will be published if it is of NEWS - LETTER caliber.....New members, Mr. and Mrs. Bert Boylan and Mr. and Mrs. Stiles, were present at the luncheon. Dr. Ewart Baldwin (DOGAMI) described his recent trip to British Columbia, and gave an interesting outline of the way copper ore is mined at the Howe Sound mine at Britannia Beach.....Samples included an agate interior cast of a pelecypod and some black "fossil jelly-beans" (basalts?) by Earl Minar, and a large sample of salt crystals from Alkali Lake (probably sodium carbonate) by John Allen.

J.E.A.

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This space is vacant for
lack of material.
(Please mail your contributions to L.L.Ruff,
3015 N.E.45th Ave., Portland 13, Oregon)

CRATER SPIRITS*

Make not light of the occult powers of Swami Riva! If you are to hear from the crater spirits of Mt. Tabor you must be serious - you must concentrate - absolute quiet must reign. I shall bring you not the spirits of mortal man but the spirits of mountains and rivers and seas - of the wooly mammoth, the sloth, the camel - of gingko, and palm and almond trees.

We of the geological world owe not our success to a crystal sphere but to the natural crystals such as hexoctahedrons, diploids, plagiohedrons, scalenohedrons. From this hexahedron of halite you will hear many things.

Ah spirits, come forth, that these earthly beings may know the panorama of time leading to this day and hour.

- - - (chimes) - - -

I am the spirit of Mt. Tabor. I am a young spirit, even though centuries and milleniums have passed since my light was reflected from yon western hills. Ah, but well I know the legends of the Oregon Country and the history of the foundations whereon I stand. Let us recall this passing of time.

- - - (chimes) - - -

Picture with me first the great Eocene sea which engulfed this very spot and had its shores where now stand the rolling Cascade foothills. Far to the west lay a strange land known as Cascadia. From its mountains come great rivers carrying the sands which now form the coastal mountains of today. Far to the east we see great mountain ranges - the Blues, the Wallowas, the Rockies - but our attention is focused in the middle distance where peccaries are feeding beneath the almond and pecan trees which grew in Clarno days. (They weren't all eaten. Hancock got some!)

Soon, though, the fires of Vulcan break forth to blot out the scene with fiery ash and spread the rhyolite (with thunder eggs for the nodule hunters of the coming psychozoic age).

- - - (chimes) - - -

Time passes - a million years - 10 million years - now we stand on the shores of an Oligocene sea which stretches far to the south and west. This is a restless shore which is ever changing, as the ancestral Cascade volcanoes belch mountains of ash. Some of it is quenched in the cool waters of the sea but the winds also carry it eastward in great clouds where it settles on the oreodon, the camel, and the three-toed horse. Gingko trees grow where the Columbia Gorge is to be and fig trees are abundant in the valleys which lead to the sea. The scene changes.

- - - (chimes) - - -

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* Given as a part of the entertainment program at the G.S.O.C. annual picnic, Mt. Tabor Park - August 11, 1944.

As a new period dawns this spot is no longer washed by the surging tide - Oregon has taken form - the shore line lies beyond what is later to become the Willamette Valley. Only one great Miocene estuary extends in to Molalla and Silverton. The sea teems with life, and pecten shells are found on its shores.

But look towards the rising sun! A firey flood is engulfing a peaceful land - molten rock that flows like water is spreading to the four winds - the Columbia River basalt - mile upon mile - flow after flow - 1000, 2000, 4000 feet thick - spreading westward beneath our very feet and on beyond the western hills.

At last quiet prevails again and the gentle rain cools a feverish land --

Now a river is born which is to withstand the assaults of the fire-god Vulcan and help shape the future events of the Oregon Country.

- - - (chimes) - - -

Now it is Pliocene time and the sea has retreated a hundred miles to the west. The Cascade Mountains are being built higher but the ancestral Columbia, not to be thwarted, maintains its course and spreads about us the sands and gravels and quartzite pebbles which Hodge and Treasher find in the Troutdale formation.

Great folds appear in the Cascades and in Central Oregon - The Columbia basalt and the Troutdale gravels sink beneath our feet - Portland Hills rise on yonder skyline. More hills appear to the south and west - the Waldo - the Salem - the Eola - the Nehalem.

A mountain range is folded up between here and the distant Pliocene shore and from the heart of that range the Geological Society will some day dig Acila, Neocardium, and Crinoids.

Now the Willamette basin has taken form and that river flows peacefully by on its way to Puget Sound. Erosion shapes new landscapes.

It was upon this serene landscape that I was born as one of a family of many. Our history has been varied and our exploits many. Proud sentinels among us are Mt. Scott, Larch Mountain, and Mt. Zion. Mt. Sylvania playfully dammed the Tualatin River at Oswego Lake. Mt. Pleasant forced the Willamette River out of its channel above Oregon City. Kelly Butte and Rocky Butte grew in handy places for making little stones out of big ones. Being the youngest and smallest, my specialty was throwing cinders and scaring the creatures of the forest at night.

Suddenly I grew cold - and no wonder - my distant cousins Mt. Hood, Mt. Adams, Mt. St. Helens, and Mt. Rainier were blanketed with snow and ice. Rivers of ice came down the Sandy, the Clackamas, the Lewis, the Cowlitz. Icebergers were not unknown in those days.

- - - (chimes) - - -

At last it warmed somewhat and a mere mortal named Bretz turned loose a flood from the upper Oregon Country. Suddenly there was a swirl of water around my feet which rolled large boulders and all kinds of debris. Icebergs floated by and grounded leaving their debris in the Willamette and Tualatin Valleys for Minar and Davis and Miller to locate. Elephants and camels and ground sloths scurried for the hills. After the waters subsided a great delta was visible which covered many square miles and extended from Troutdale to the mouth of the Willamette. Now the Columbia has bisected this delta, and what do you suppose Vance and Allen find in it? Faceted quartzite pebbles! Yes, and do they argue over the way the facets were made? Ah, yes, but I know the secret - for I am the spirit of Mt. Tabor - I was here.

L.L.R.

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G.S.O.C. PICNIC

PHOTOS BY O.E.S.

GEOLOGICAL NEWS LETTER

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VOL. 10 NO. 19 PORTLAND, OREGON October 10, 1944

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I am particularly interested in the following branches of geology: . . . . . .

. . . . . .

I enclose $ . . . for the year's dues, March 1 to March 1. (Checks payable to the Society).

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(signature) (member)

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LUNCHEONS: Every Thursday noon in the Victory Room of the Winter Garden restaurant, 425 S.W.Taylor St.,between S.W.4th & S.W.5th Aves. Luncheon 60¢.

MEETING ANNOUNCEMENTS

Friday Oct.13 — Colored motion picture "There is more than timber in Trees," a four-reel film by the Forest Service, describing the numerous wood products now being obtained from our forests.

Friday Oct.27 — Dr. Edwin T. Hodge will give a talk on The Spokane Flood. This will be of interest to amateur and professional alike, especially if they have visited Eastern Washington.

October 1944 — Work night will be resumed - watch for reopening date.

EXECUTIVE BOARD ACTION

At the August 26, 1944, Executive Board meeting of the Geological Society, it was voted that men and women members of the Society in the military service should receive the NEWS - LETTER during the war without charge; that those members in the service who have paid their current dues should have these dues transferred ahead one year after the war is over.

It was also voted to send a Christmas Greeting to each member of the Society in the service. Mr. Simon and Miss Henley were appointed to work out a suitable card.

E. N. Bates

NEWS OF MEMBERS

John Eliot Allen has been granted a leave of absence from the Department of Geology and Mineral Industries to complete post-graduate work at the University of California at Berkeley. He will leave next week, to be gone from 9 months to a year.

Mr. and Mrs. Charles C. Ralph, 2900 N. E. Knott Street, Phone MU 1053, are new members of the Society. Captain Ralph, of the Portland Fire Department, designed and constructed the very up-to-date communications system in use, and is well known for his inventive abilities.

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TWILIGHT

Teacher:"What do you know about nitrates?"

Joe:"After 7:00 p.m. they are lower than day rates."

Mich. Ed. Journal

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LUNCHEON NOTES - SEPTEMBER 21, 1944.

A few hardy souls braved the storm to attend the luncheon. Two guests were present, Mr. A. J. Brugger, attorney for the legal department of the U.S. District engineers office, and Mr. Vincent Vandiver, geologist for the Seaboard Oil Co.....Geary Kimbrell called the attention of the group to the August 25 (???) issue of LIFE, where photographs of the sun were taken at different times of the year and day. On one of these the course of the sun is a curve, concave side upwards. Two hypotheses were offered to explain this: refraction as the rays pass through thicker atmosphere closer to the horizon (this should be much the same on the other pictures if it were the cause) and, second, photographic distortion due to the angle with the camera. Any other suggestions?.....Mr. Minar passed around a pebble of basalt porphyry, the altered feldspar phenocrysts being a straw yellow color...Mrs. Stockwell showed a large sample of barite from a mine being operated on Vancouver Island for ships ballast.....Miss Henley had a very nice sample of stilbite (probably) with cinnabar.

J.E.A.

LUNCHEON NOTES - SEPTEMBER 28, 1944.

A varied program greeted those of the society who came to the last meeting in September.....Al Vance had a number of samples of Idaho minerals from near Wallace and Mullins. Quartz, pyrite and galena; limonite and quartz and possibly gold; galena; galena and stibnite; and malachite.....John Allen conducted a quiz to see if any of the group could identify a large hexagonal greenish-colored, hard crystal, with longitudinal striations. Can you? (See bottom of page*). Three members made the correct identification.....Mr. Libbey described several polished samples of white, banded and gray marble from southern Oregon, which are to be submitted to architects interested in post-war construction..... Franklin Davis announced that Gill's have for sale copies of the Mazama reprint "Flora of Mount Baker" by St. John, for 5 cents.....Miss Henley passed around a copy of "Frontiers" magazine with another article on Paricutin.....Hans Norbisrath, geologist for the U.S. Geological Survey, now engaged in surveying the stratigraphy of the northern coast range, gave an interesting short talk on the work being done.....The Oligocene Keasey formation, composed of sandstones that get progressively more ashy towards the top, rests upon lavas. Lavas also appear in the coast range in great blocks which are upfaulted.....Why can't the program committee arrange for similar short five-minute talks for every lunch period?

J.E.A.

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CONGRATULATIONS, MAZAMAS!

The September issue of the Mazama bulletin carries the welcome news that, by the terms of the will of the late Mr. W.P.Hardesty, a substantial legacy has been left in trust for the benefit of the Mazamas. We hasten to offer our congratulations to that society. With the prudent handling which is to be expected from their trustee members, such an endowment should go far toward assuring continuity of the club in existence and in policy, and should make possible substantial additions to their already well-organized program of entertainment, education, recreation, and research. The Mazamas deserve congratulations not only for having received the legacy, but even more for having merited its bestowal. Their former member has chosen the most effective way to ensure the continuance of the organization as well as to provide for himself a living memorial.

K.N.P.

****

* Beryl.

QUICKSILVER - A VISIT TO BLACK BUTTE MINE

by

Lloyd L. Ruff

Part I.

There are many unusual geological specimens in the University of Oregon Natural Science Museum but perhaps one of the most interesting of these is a large sample of ore containing cinnabar with native quicksilver from the Horse Heaven mine in the Ochoco District of Central Oregon. Many other specimens of quicksilver ore may be seen here but none show this liquid metal.

Aside from being fascinating in itself, quicksilver plays an important role in national and world affairs. Known as "silver" or "quick" to the miner and as mercury to the consumer, it is the only common metal which is liquid at ordinary temperature. It does solidify however at 40° below freezing. This was first observed in 1760 by a Russian scientist in St. Petersburg.

Quicksilver is one of the few elements found free in nature and therefore belongs to the mineral group known as "native elements." It occurs in varying quantities in some 25 other minerals of which only 3 or 4 are common. Practically the total supply of quicksilver comes from one of these, the red mercury sulfide, cinnabar.

The elusive metal was probably known to man before the advent of written history, and a process for the reduction of the ore was recorded by 415 B.C. It became an article of international trade in the first century A.D. when many tons were shipped from Spain to Rome. The alchemists of the dark ages found the white metal a favorite experimental material, and used it in the practice of their black arts.

Another outstanding property of quicksilver is its ability to combine or "amalgamate" with other metals, especially gold and silver. This fact was known at an early date but was of little practical importance until amalgamation was applied to the recovery of gold in 1557, in Mexico. This discovery along with discovery of additional uses increased the consumption until during the past 60 years over 100,000 flasks or approximately 7½ million pounds have been used annually.

The greatest users of quicksilver are the industrial nations; the United States, Great Britain, Germany, France, and Japan in order of amount consumed. These nations annually consume over three-fourths of the output. The United States alone uses from ¼ to 1/3 of the total production. Not only is the metal important industrially but it becomes of critical and strategic importance in time of war. Its importance in explosives will be pointed out later.

The uses of quicksilver are many and varied, as will soon become evident from the few which will be mentioned. These uses have gradually changed from early times until many of the earlier ones have become insignificant. Amalgamation in mining is an example of one of these. In peace time nearly half of the shiny metal is used for drugs and chemicals. They are known as "mercurials" and the list totals nearly a hundred. Many of them are extremely poisonous while others are less so and may be used as antiseptics. Who hasn't heard of mercurichrome or merthiolate?

Highly important, especially in war time, is mercuric fulminate used in munitions to set off their deadly charge. Even the peacetime consumption in explosives amounts to about 1/6 of the total.

Other uses are in the preparation of dental fillings, vermillion color, and felt. Amalgamation brought an increased demand after the 1933 rise in the price of gold, although the cyanide and oil flotation methods of recovery have replaced the older method to some extent. The quicksilver used in amalgamation is recovered and used many times and therefore the demand is not great.

Mercury lamps and other electrical uses including neon signs take about 5000 flasks annually. Mercury goes into thermometers and barometers and is found in paint used on the hulls of boats where it inhibits clinging marine life. It has many uses in the science laboratories of schools and colleges. Mercury boilers are becoming more numerous. The initial outlay is large but the vapor is condensed and re-used, as contrasted to the use of water in steam boilers.

Finally it finds a use in photography and is even used as an alloy. Many other minor uses might be added to a growing list and now uses are being discovered at frequent intervals.

This critical raw material is unique for several reasons. It is a rare metal, normally selling for approximately a dollar a pound. Among the better known metals it is exceeded in price only by gold and silver. It has a limited distribution both geologically and geographically. All industrial nations need it. It is an important war mineral. Generally speaking the ultimate consumer buys it only in small parcels; as for example, in modern warfare it takes but a small amount to send the unwilling consumer to eternity.

The ores of quicksilver are not limited to any particular kind of rock but are often found in regions of Tertiary and Quaternary rocks, which are young geologically and which have been associated with volcanic activity or the action of hot springs. Cinnabar is known as a low temperature mineral and apparently is deposited within a few hundred feet of the surface.

As the mineral bearing waters make their way toward the surface through a crack or fissure they may be deposited at the surface along with opal or calcite or they may find a favorable rock below the surface and be deposited there. Surface deposits of late geologic age may be seen at the Opalite mine in southern Malheur County in Oregon. Deposition of cinnabar from hot sulfurous water is going on today at Steamboat Springs, Nevada.

Underground deposits may occur in sandstones, lavas, volcanic ash, or any relatively porous rock with which the rising solutions may come in contact. At Black Butte mine the deposition is for the most part in altered lavas.

Since the chief quicksilver ores are deposited within a few hundred feet of the surface, we again see why the country must be young geologically. Had any of these occurred in older formations they would have long since been eroded away and carried down to the sea.

Accompanying cinnabar in its deposition are such minerals as arsenic sulfide, pyrite, silica, opal, and calcite. Secondary minerals from the alteration of the cinnabar ores may be metacinnabarite (the black sulfide), calomel, and associated oxide and carbonate minerals. (Part II, next issue)

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WAR MINERALS IN OREGON

Introduction

Oregon is not generally considered a mining State. Its average mineral production runs about $10,000,000 per year, half of this in normal times being for metals (gold and quicksilver being the most important) and half for non-metals (gravel, crushed rock, limestone, etc.). During the past few years certain minerals have become highly strategic. They are in great demand for use in the war effort. Most of these minerals, at least in the Oregon deposits, under normal conditions and prices are not economic. I am going to discuss 10 minerals which Oregon is now producing or may produce in the future. Except quicksilver, prewar production of these minerals in Oregon was negligible.

Minerals Formerly Imported in Large Part into the United States

Quicksilver: Quicksilver is used in the production of fulminates for explosive detonators. It is used for antifouling paint for ships bottoms, for medicine, and for many other chemical uses. Oregon has been the second largest producer (only California is greater) for several years, and for some time the Bonanza Mine near Sutherlin, producing at the rate of nearly $100,000 of quicksilver per month, was the largest mine in the United States. Three other mines contributed materially to the national production: Horseheaven near Ashwood in Central Oregon, and the Bretz and Opalite in the extreme southeast corner of the State. If the boundaries of the State were extended south and east ten miles, three other mines would be included (Cordero, Patrick's Creek, and Idaho Almaden) which would possibly increase the production by 50 percent. There are a number of small one or two-man high-grade mines operating in central Oregon.

Chromite: Chrome is one of the essential constituents of stainless steel, now used wherever strong, lightweight, corrosion-resistant material is required in trucks, airplanes, railways, and a multitude of other uses. Chromite is also largely used for refractory brick in the great steel furnaces and has a number of chemical uses. The normal importation of the entire United States supply from Turkey, New Caledonia, The Philippines, and South Africa has been in part or wholly cut off and the normal price of around $19 per ton has been raised to nearly $40 per ton, which however, is not yet enough to encourage domestic production on a large scale in view of the high labor and transportation costs in the United States. Even at this price Oregon in 1942 produced many thousand tons and the Grants Pass stockpile shipped more chrome than any other stockpile in the United States. A plant to produce 200 tons a day (50,000 tons a year) from the black sands of the coast operated for a short time. Large reserves, yet not in production, also exist in central Oregon.

Nickel: Nickel is used as one of the other essential constituents of stainless steel. It is also important in the electro-plating and chemical industries. The normal imports (largely from Canadian mines) are not now adequate due mainly to the tremendously increased production of steel, and possibly also to the scarcity of other alloy metals for which nickel-alloy may substitute. Oregon has the only large nickel deposit in the United States with reserves probably in the millions of tons. The ore is of a type which has previously been satisfactorily treated only in New Caledonia, but preparations to mine and smelt a similar deposit in Cuba are well advanced.

Minerals Ordinarily Produced in the United States But Now Short Due to Increased Demands

Antimony: This metal is used for bearing and babbitt alloys as well as in storage batteries and thus is of utmost importance in the transportation industries. Its normal price of around $75 per high-grade ton is now up to around $150 and this has resulted in small production from at least two Oregon mines.

Copper: Copper is used in the brass of shell-cases and other ammunition. It is used for all types of electrical materials, power lines, telephones, etc., and is extensively used in the automotive and shipbuilding industries. The pre-war price of 12 cents per pound has been raised to 17 cents for new producers, but in Oregon this so far has furnished insufficient incentive to do more than develop one or two of the more favorably located mines which have within the last year or so shipped some high-grade copper ore. There are three fairly well developed copper mines with large reserves in Oregon and two of them are being made ready for operation.

Zinc: This metal is used as one of the components of brass in shells and in die-castings for machine parts and is also largely used for galvanizing. There are three districts in the State in which large known reserves of zinc-bearing ore occur but the price is not an incentive since the nearest smelter is so far away that any profit would be consumed by transportation charges. Efforts to promote a local zinc smelter have so far been unavailing.

Aluminum: Aluminum ore in the form of bauxite comes largely from the Guianas of South America, and, since the war, from Arkansas. It is refined in the Mississippi Valley and shipped to Vancouver where it is made into metal. High-alumina clays can produce aluminum metal but this has not yet been done on a large commercial scale. The U. S. Bureau of Mines believes that these clays must be put to work and has been drilling deposits in the United States to determine clay reserves. Oregon has two of the outstanding high-alumina clay deposits in the west, located near Molalla and southeast of Cottage Grove, with reserves running into the tens of millions of tons. Chances are good that the combination of low Bonneville power and large clay reserves may result in a new Oregon industry.

Iron: Iron, the fundamental material for construction and transportation, also occurs in moderate-sized deposits in Oregon near Scappoose, Columbia County, where reserves have been proved by a recent Bureau of Mines drilling program to contain several millions of tons. Should local iron furnaces now being advocated be built, it is probable that this local ore will be utilized.

Coal: During the 90's and early 1900's, the Coos Bay coal district produced nearly 2-1/3 million tons. The city of San Francisco was heated by Oregon coal at that time. Reserves of many millions of tons are known to exist, and this coal can be used to alleviate the present fuel shortage, and to supply the necessary fuel and carbon for the metallurgical industries which should develop within the next few years.

Limestone: Limestone exists in large amounts in southwestern Oregon and there are unlimited reserves in the Wallowa mountains of northeastern Oregon. This material is also necessary for metallurgical processes in the smelting of nickel, iron, and zinc. At present Oregon limestone is used for cement and for paper-rock and for sugar mills.

John Eliot Allen,
February 10, 1943.

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GEOLOGICAL NEWS LETTER

OFFICIAL PUBLICATION OF THE

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THE GEOLOGICAL NEWS - LETTER
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Date . . . . . .

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Home address. . . . . .Phone . . . . . .

Business address. . . . . .Phone . . . . . .

Occupation. . . . . Hobbies . . . . . .

I am particularly interested in the following branches of geology: . . . . . .

. . . . . .

I enclose $ . . . for the year's dues, March 1 to March 1. (Checks payable to the Society).

. . . . . Sponsored by. . . . . .
(signature) (member)

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MEETING ANNOUNCEMENTS

Friday Oct.27 — The Spokane Flood: By Dr. Edwin T. Hodge, member of the faculty of the Department of Geology, Oregon State College, consulting geologist, and honorary member of G.S.O.C.

Dr. Hodge will discuss this catastrophic Pleistocene phenomenon of Oregon and Washington. He will present some new aspects for the consideration of the society. This talk will be outstanding because of the prestige of the speaker who has done considerable research upon this topic, and because of the geological implications of the subject.

Dr. Hodge has requested that a black board with plenty of chalk be available. This means a chalk talk which no member of the Society can afford to miss. Make it a date; come early in order to get a seat.

It has been suggested that this meeting be declared "Old Home Week" for the charter members to celebrate the 10th anniversary of the extension class which was taught by Dr. Hodge in the fall of 1934 and which became the nucleus for the Geological Society of the Oregon Country.

Friday Nov.10 — Some Aspects of the Pliocene and Pleistocene history of the Coast of Oregon and Washington: By Dr. Ewart M. Baldwin of the staff of the Oregon Dept. of Geology and Min. Industries and member of the Society.

Dr. Baldwin studied a portion of the Olympic Coast, Washington, during 1938, and more recently portions of the Oregon Coast. He took his undergraduate work at Washington State College and graduate work at Cornell University.

His discussion of the subject will be based largely upon original research, and it is hoped that it will be of assistance to members who like to study the Oregon beaches.

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QUICKSILVER - A VISIT TO BLACK BUTTE MINE

by

Lloyd L. Ruff

Part II.

Two areas are of outstanding importance in production of quicksilver: the region around the Mediterranean and the west coasts of North and South America. The quicksilver producers in order of importance are Spain, Italy, United States, Mexico, China, and Russia.

Total production by countries in the past closely parallels the leading producers of today. No story of quicksilver would be complete without a look at these past producers, a surprising few of which have been the source of most of the world's supply.

Spanish and Italian quicksilver has in the past been under one control in the form of a large holding company or Kartel which has had rather disastrous results on the producers of this country by the dumping of large quantities on our markets before the enactment of our tariff laws.

The largest and one of the oldest producers in the world is the Almaden mine in Eastern Spain. It has been in continuous production for over 2000 years. A total of five and one-half million flasks or nearly 200,000 tons has been produced to date. Furnaces installed at this mine in 1650 are still in use after nearly 300 years.

The second largest output has been from the Idria mine which fell into the hands of the Italians at the close of World War I. It has been in operation about 400 years and has produced in the neighborhood of two million flasks.

The third largest producer is located in Peru but has been idle for many years.

For such a strategic mineral it is evident that Great Britain and France must depend upon outside sources.

Turning now to the United States we find in California the names New Idria and New Almaden, the latter standing fourth in all-time production with over one million flasks.

The leading producer in the United States is California with Oregon rising in recent years to second place. Oregon has been able with the help of a tariff not only to sustain but to increase her output since 1927. The end of 1937 found 14 active plants in operation. The largest producing area then was the Ochocho District comprising parts of Crook, Wheeler, and Jefferson counties. The largest single mine in recent years is the Bonanza mine east of Sutherlin in Douglas County, which for several months in 1941-42 was the largest producing mine in the United States.

Oregon quicksilver was first discovered about 1865 in southwestern Oregon in Jackson County; consequently the mines of Jackson, Douglas, and Lane counties have a longer history and an earlier production.

Malheur and Clackamas counties have had some production in the past.

Reports of cinnabar have come from a number of other counties, bringing the total to nearly half of those of the state. Many others are not unlikely areas and important discoveries may yet be made.

Black Butte Mine

Black Butte Mine is unique in that it is one of the outstanding producers in the United States which have operated on low-grade ore.

Black Butte is 17 miles south of Cottage Grove on a branch of the Coast Fork of the Willamette. Travelling along a good surfaced road one passes through London and past Hobart Butte which stands on the right. Hobart Butte incidentally has some fine clay and arsenic deposits near the summit. A little further on, Black Butte is visible although perhaps at this time of year partially veiled in low clouds. As we near the Butte itself the most noticeable feature is the tremendous refuse pile of burned rock from which the quicksilver has been extracted. On past this and the Black Butte postoffice we make a partial ascent of the mountain to the reduction plant which we will visit later.

By a steep winding trail we now climb over a thousand feet past numerous tunnel adits and open cuts to the top of Black Butte. Here, as if the Paul Bunyan or some other legendary giant had cleaved the mountain top with a mighty blow of an axe, is a gaping hole overhung with brush and trees. This gash runs N. 69° west and gives a clue to the orientation of the workings below.

Let us take in fancy the wings of a bat and explore downward literally into the bowels of the earth. The passageway dips steeply to the northward at an angle of 65° from horizontal. We soon discover that we are following a fault plane or gigantic fracture in the mountain along which the solutions carrying the quicksilver ore rose and deposited their charge.

In the downward flight we pause and inspect various tunnels which are known as working levels. First, second, third, each one usually 100 feet lower in elevation than the previous one. Four, five, six, the workings becoming more extensive, the tunnels longer and the 'stopes or areas of worked out ore becoming great galleries.

Finally, sounds break the deathly silence and we find men at work drilling holes preparatory to blasting loose tons of new ore which goes down to the ninth or 900-foot level. Here, the horse drawn ore cars are loaded and start toward the outside world. We follow along and see the cars dumped into a huge hopper where the ore is sized and if too large, crushed and stored in an ore-bin. Connecting this tunnel outlet halfway up the mountain side with the reduction plant below is an aerial tramway. Buckets on a steel cable carry 90 pounds of ore at a time to another storage bin below.

But let us investigate further the man-made caverns inside the mountain. Even larger galleries greet our eyes and we pause for a few moments with our lights out to experience complete darkness. So intense is the blackness, one can almost feel it and shudders to think of ever becoming lost in such a forbidding place.

Downward again we pass the workings of the eleventh level and continue to the Dennis Creek level where several processes of nature may be observed. In the abandoned tunnels and shafts nature is at work. Yellow and red oxides of iron are being deposited. Green iron sulphate and white gypsum are sometimes to be found.

These minerals along with silica and calcium carbonate are the product of circulating waters which have descended through the mountain and are now giving up their load of dissolved material. During the driving of this lower tunnel, an underground lake was tapped which completely flooded the lower workings for a short time. This, however, was not a lake in the ordinary sense of the word, but a large opening lying in the plane of fracture down which we have just travelled.

Investigating a side tunnel nearby we find a large deposit of crystalline calcite and if we are lucky to find a cavity in the mass it may be lined with beautiful rosettes of calcite rhombs. But time is fleeting and we must scurry out of this lower tunnel to a waiting string of ore cars pulled by a gasoline locomotive. This soon takes us around the hillside where this time we look out over the top of the refuse dump. Farther around the hillside we come to the lower end of the aerial tramway and the storage bins at the reduction plant.

From the ore-bins the crushed rock is fed to the kiln which is an oil-heated steel cylinder four feet in diameter and sixty feet long, set on an incline so that when it revolves the ore slowly works to the lower end where it drops into the cooling pit below the furnace.

As the ore passes through the blazing inferno of the kiln it becomes red hot and the cinnabar breaks up into sulphur and mercury vapor. The vapor then passes through a dust collector and on through a series of water-cooled tile pipes where the mercury vapor cools until it condenses and becomes liquid mercury or quicksilver. From the base of these tiles it is removed, cleaned, and bottled in steel flasks of 76 pounds each. The metal is now ready for market and usually goes to San Francisco then to eastern and foreign markets.

As we turn to leave the plant we see below again the acres of burned rock, truly the heart of a mountain burned out to aid mankind in industry and to destroy him in warfare.

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LUNCHEON NOTES - OCTOBER 5, 1944

The feature of this meeting, which had a rather small attendance, was a discussion of the plan for a new museum in Portland. Dr. J.C.Stevens gave an interesting summary of the progress to date and the plans that are being made, which involves either setting up an independent board composed of representatives of the main societies and organizations interested, or letting the board of the Oregon Historical Society take over. The Geological Society (as represented at the meeting) unaminously went on record as opposed to turning over the museum to a board of governors representing only one feature of the museum.....Since eight of the G.S.O.C. board members were present, Pres. Bates called a board meeting to approve of the lowering of the dues for the remainder of the fiscal year, which was done. Why cannot this be incorporated into the by-laws to get away from such an awkward procedure?.....Specimens were numerous and varied. Ewart Baldwin had a large Crepidula (a fossil gastropod which lives on the back of its neighbor, and so on, until a circle of the individuals is completed); John Allen had a piece of crystalline gypsum, with the typical fish-tail twinning; Tom Carney had an unusual piece of rock with crystals of melanite garnet; Fay Libbey had a piece of stibnite, altered to stibiconite except in the very center; Dr. Booth had large crystals of beryl, tourmaline, some albite with microlite, and a sample of barite which was offered as a door prize; Miss Henley had a sample of actinolite schist.

J.E.A.

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LUNCHEON NOTES - OCTOBER 12, 1944

A cold rain greeted us on Columbus Day, but the 15 members of the Geological Crew who hadn't mutinied met at luncheon and enjoyed a lively hour. So much was being discussed and so many specimens were passed around that your reporter pro tem had only half her lunch eaten when it was whisked away by a busy waitress..... Mrs. Louis Oberson displayed a specimen of pectens. This particular sample had been bought in Oliver's Art Shop in Monterey, California, and had been tinted to enhance its salability. Mrs. Oberson was also the proud owner of a black charcoal burner which had supposedly been found in an Egyptian tomb and was marked "over 2000 years old." Members "h'md" and "ah'd" but no one stuck his neck out to make a statement that the little black handicraft was authentic. Mr. Vance passed around a Yoldia (belonging to the Oligocene) which he had found in the Wildwood Golf Course outside of Portland. Mr. Hancock showed a chalcedony hammer which natives had used to loosen rocks. This, together with an arrowhead, was found in a 15 by 20 foot cave on the north side of Pony Creek near Pony Butte in Oregon..... A local newspaper article was read, telling of Dr. J.C.Stevens having been nominated for National President of the American Society of Civil Engineers. This is the greatest honor that can be bestowed upon an engineer and we are proud that Dr. Stevens is one of our members.....Also shown was a newspaper picture of Carol Ann Schminky who has been the recipient of many blue ribbons for Victory Garden products exhibited at the Glencoe School.....We were all pleased to see Florence Iverson again after several months' absence.....I've often wondered why all the men seem to congregate at one table and the ladies over in the opposite corner. I'm sure that the reporter's notes would be more sparkling and entertaining if the men and women were a little more chummy. A rare exception to this routine is observed and appreciated.....Mr. Libbey read a letter from a man who lives somewhere in the Willamette Valley regarding a "gold lead" he believed he had, having found a few cents worth of gold in the gizzard of a chicken he had killed. Some of us might follow the chickens around and offer them a commission on the resultant gold mine. As one member remarked, "That would give us something to crow about." Something may develop at that for obviously the surface has only been scratched!

May R. Dale

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PAST PRESIDENTS TO PRESIDE AT THURSDAY LUNCHEONS

It has occurred to me that all of us would be delighted to have the pleasure of attending a luncheon meeting that will be reminiscent of each of the past ten years. I am, therefore, planning from time to time to have one of the past presidents preside at a Thursday luncheon. The dates will be announced, if possible, in the NEWS - LETTER.

The following arrangements have been made:

On November 2 - Mr. C. D. Phillips, President, 1936
" " 16 - Mr. A. D. Vance " 1937

Come and hear the past presidents conduct the luncheons - each in his own way we all so much enjoyed when he was president.

E. N. Bates,
President.

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LUNCHEON MEETING, THURSDAY, OCTOBER 19, 1944.

The complete lack of butter did not perceptibly slow down the tempo of the seventeen members and guests at the weekly luncheon at the Winter Garden restaurant. We only hope that what we didn't get is being fed to the enemy armies in the shape of explosives. When the beef stew was placed on the table, with its plentiful supply of gravy, the "beefing" about the butter shortage diminished.

Dr. Baldwin had two guests: David H. Sears, with the Shell Oil Co. at Corvallis, and Donald W. Baldwin, assistant pastor of the Centenary Wilbur M.E. Church.....Miss Agnes Jones took advantage of a temporary change in her schedule at the Central Library to meet with the group.....Mrs. Barr brought a specimen of Berea sandstone from near Cleveland, Ohio, and a copy of Natural History magazine containing a well illustrated article on Mexico's new volcano, Paricutin, with the accent mark properly placed over the first "i"..... Miss Henley exhibited a specimen of "natural iron ore" from Newcastle, Wyoming, and a sample of stibnite from Hollister, California. Both specimens were from the collection of her brother.....Franklin L. Davis, after announcing the program for the next evening meeting, stated that the Davis family has moved to its new home at 7114 S.W. Corbett Ave.....Mr. Minar said that his shop is making a monument to commemorate the Battleship Oregon, to be placed in the park near where the "Oregon" was moored for many years in commemoration of the War with Spain, and later sold for junk. We wonder how long it will be before the plaque is removed from the now new monument for the same purpose. Oh, well! The rock being used for this memorial is from the Rocky Butte quarry. A small fragment of it was on exhibition.....Mr. Minar also announced the resumption of work night in the basement of Mr. Ruff's home. He stated that Mr. Ruff had installed a stove, but that fuel is still lacking. He also said that he has a saw with which stones may be cut preparatory to polishing; and that none need hesitate about coming to the meetings fearing that he will be "behind the class," as the lectures can be appreciated by anyone without having heard the preceding ones.....Mrs. Stockwell offered a cherry tree for fuel if the "worknighters" would come and get it. This did not arouse too much enthusiasm in spite of the generous offer of President Bates to have R.L.Baldwin furnish the necessary equipment and supervise the falling of the tree.....H.B.Schminky said that he had heard of redwood stumps being found in the vicinity of Yachats, and Dr.Baldwin said that there were some redwood stumps found in a Pleistocene formation near Coquille.....Donald W. Baldwin spoke about the work that is being done by his church in guiding some of the boys in that neighborhood in their activities, and furnishing them with amusements to keep them off the streets.

O.E.S.

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NEWS ITEM

David Ogren, one of our active young members, had a display of minerals at the Agate and Mineral Society meeting on October 20th. Will A.W.Hancock our specimen chairman please take note?

A.D.V.

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Friday Nov.24 — To be scheduled.

Friday Dec.8 — A real surprise is in the making - watch for announcements.

Friday Dec.22 — No meeting.

WORK NIGHT

Sunday Nov.12 — The work night study group will convene in the Ruff basement at 3105 N.E. 45th Avenue - (corner 45th & Siskiyou) for a resumption of the general geology studies and other activities.

Prior to the evening meeting Bruce Schminky has something new planned in the way of a field trip. In order to provide fuel for heating the work room Mrs. Stockwell has very generously offered a cherry tree. Plans are under way to 'cut down the cherry tree and haul it away in cars.' The ladies are being persuaded to "cook up" a lunch at the work room prior to the opening of the study session. Final details will be announced at the Friday evening meeting.

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LUNCHEON MEETING, THURSDAY, OCTOBER 26, 1944

An attendance of 22, interesting visitors, returned members, fun and stories of travels, made this an outstanding luncheon meeting. The appearance of "Bill Reeves" after a long absence due to illness, and Carl Richards from Salem, was greeted with applause - both looking and professing to feel "as good as new"..... Geary Kimbrell was accompanied by his tall good looking nephew, Corporal Carl A. Thorne, a battle-seasoned marine on leave after 27 months in the South Pacific, wearing the four stars indicating participation in four major campaigns, in one of which he was wounded, for which he received the purple heart.....John Allen, who is going to be very much missed, was satisfactorily represented by Mrs. John. Her husband, she reports, went south on October 16, checked in at Berkeley, then went to Watsonville, where he is now located. He had spent one day in the field but was driven in by the extreme heat at 3:30 p.m. He stayed one night with the Earl Nixons, driving Audrey to school at Stanford the next day. The first night he spent in a hotel he was obliged to share his room with another traveler, due to congested travel conditions. The room mate, when he arrived, proved to be a returned Navy man on his way to surprise his family in Portland, who live just three blocks from the Allen's.....Franklin Davis, who always thinks of everything - (or nearly always) - displayed the box of colored chalks which he had provided for Dr. Hodge's lecture on the following evening - it being a well known fact that Dr. Hodge without a piece of chalk in his hand would be like Samson without his long locks; and also two elegant, streamlined rubber-tipped pointers, one for use on the same occasion, the other to be a permanent fixture for the convenience of future speakers. Mr. Davis likewise brought a copy of the "Bibliography of North American Geology," covering the publications on the geology of the United States from 1929 to 1939. Included among the authors listed were Dr. J. C. Stevens, John Eliot Allen, Carl Richards, Lloyd Ruff, and Mr. Bates, named for their contributions to the NEWS - LETTER; probably also many others, but these were all our brief inspection disclosed.....The only specimen shown was a yard long strip of granite from Nelson Island, 30 miles out in the ocean from British Columbia, brought by Earl Minar, together with the remnant of a carborundum wheel used to cut this material. When the wheel is thus reduced by wear from its original size of 14 inches in diameter, it is discarded and may then be used by amateurs (if they can get it) for cutting similar material. It will not cut harder substances like agate, etc.....Lloyd Ruff spoke entertainingly of his recent trip to the tributaries of the Snake River in southeastern Idaho and Wyoming. Among other things he saw the great landslide of 1925 in which 50 million cubic yards of earth came off the mountainside, making a fill in the river bottom 225 feet high and forming a large lake. Mr. Ruff promises to share some of these interesting sights and experiences in more detail at an opportune time in the future.

A.H.

****

NEW MEMBER

Margaret L. Steere	3025 S. E. 39th Avenue	VErmont 2970

****

FOSSIL WOODS OF OREGON

by
Geo. F. Beck - Ellensburg, Washington

1. Carya (hickory):

Among the fifty-odd specimens of Oregon petrified woods recently received from Fred Roner of Albany are several which can be identified without particular difficulty. The specimen here named is labeled "Post" and could be from the Gray ranch or an equivalent horizon. To the eye, under hand lens, this wood shows the faint lines of the walnut family and the cellular (non-chambered) pith indicates at once that it is hickory rather than true walnut (Juglans) or "Chinese walnut" (Pterocarya). Thin sections bear this out and also suggest the ring-porous character and narrow rays of the true rather than the pecan hickories. This small limb section is identical to, or very close to the Vantage hickory described in the NEWS - LETTER (8-14) of July 25, 1942. While this is the first hickory wood to be reported from Oregon we are reminded of the so-called hickory nuts long known from the John Day. Not long ago several kinds of petrified hickory nuts were found in the hollow fossil sycamore log, near Ellensburg, by Mr. C. N. Clinesmith.

2. Palm Wood:

This Roner wood is certain to excite considerable interest since it comes under the label of "Upper Crooked River." This is the first fossil palm wood I know about to have come from north of the Mojave. Leaves and rays are, of course, common in the older Tertiary sediments of the Pacific Northwest. This specimen is without growth rings and displays "monkey faces" (fibro-vascular strands) scattered about through a lace-pattern ground-work.

3. Trochodendron:

When I first met Dr. I. W. Bailey of Harvard 12 years ago in connection with my collection of fossil woods, he impressed upon me the fact that Asiatic woods other than Ginkgo are to be expected in Tertiary materials. He cautioned in particular that we should watch for the three very primitive hardwoods (without vessels) Drimys, Tetracentron, and Trochodendron. The first in the list has not been recognized as yet but the remaining two have been encountered, Tetracentron among the early Tertiary woods of Chehalis, Washington, and now Trochodendron at Sweet Home, Oregon.

Among the Sweet Home woods, as among early Tertiary woods generally, are many broad-rayed specimens which superficially resemble oak, sycamore, alder, or beech. Sycamore is one of the dominants (with redwood) at Sweet Home but sectioning proves that the others are exotics. (A few oaks said to be from Sweet Home occur in V. D. Hill's collection). While at the McQueen farm area with friends this summer I picked up a specimen with conspicuously broad rays which otherwise displayed a groundmass suggestive of the conifers. Upon sectioning this has been borne out and the longitudinal cells are sculptured with scalariform pits that exclude Drimys. The general cross-section appearance is so like Trochodendron that I am inclined to eliminate Tetracentron---granting that these two are hard to separate.

I am still completely at loss to account for the number of unknown hardwoods occurring at Sweet Home. Sectioning merely emphasizes their exotic character.

One specimen from a large 2-3 foot log section, looks under the hand lens like a very coarse-grained redwood. Sections reveal that the cellular ground-mass is made up wholly of vessels separated here and there by a very few much smaller tracheids. Apparently this was an exceptionally light wood, conceivably half of the weight of balsa, and how such a 2-3 foot tree could stand against the wind remains to be explained. Other Sweet Home woods are only slightly less "exotic" in character and the conviction grows that many of them must have become extinct with no living counterparts.

These four woods carry the numbers 2095,2094, 2032, and 2058 in my catalog.

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NEWS OF MEMBERS

"The Mysteries of Fluorescence" was the subject of a talk by Dr. Courtland L. Booth before the Oregon Agate and Mineral Society at the Northeast Y.M.C.A. on November 3. Dr. Booth used material from his large collection which incidentally is one of the finest in the country to illustrate the effects of fluorescent light.

* * * * * * * *

M. H. Calef, long-time Portland resident and business man, has entered the real estate business and has opened an office at 516 S. W. Oak street.

Mr. Calef was for many years engaged in the furniture and home furnishings business from which he retired a few years ago. After a rest he decided to enter business again and selected the real estate field for his new venture, he announced.

Mr. Calef has been a resident of Portland since 1899. He entered the furniture business here in 1902.

Oregonian, October 29, 1944.

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GEOLOGICAL NEWS LETTER

OFFICIAL PUBLICATION OF THE

VOL. 10 NO. 22 PORTLAND, OREGON November 25, 1944

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Date . . . . . .

I, ...(please print full name) do hereby apply for membership (junior membership) in the Geological Society of the Oregon Country, subject to the provisions of the By-Laws.

Home address. . . . . .Phone . . . . . .

Business address. . . . . .Phone . . . . . .

Occupation. . . . . Hobbies . . . . . .

I am particularly interested in the following branches of geology: . . . . . .

. . . . . .

I enclose $ . . . for the year's dues, March 1 to March 1. (Checks payable to the Society).

. . . . . Sponsored by. . . . . .
(signature) (member)

SOCIETY ACTIVITIES

LECTURES: On the 2nd and 4th Fridays of each month at the Auditorium (3rd floor) of the Public Service Building, 920 S.W.6th Avenue at 8:00 p.m.

LUNCHEONS: Every Thursday noon in the Victory Room of the Winter Garden restaurant, 425 S.W.Taylor St. between S.W.4th and S.W.5th Aves. Luncheon 60¢.

TRIPS: Will be arranged when feasible.

MEETING ANNOUNCEMENTS

Friday Nov. 24 — "Life in Nome, Alaska," by Mr. Frank A. Smola, Principal of the upper grades school building at Vanport, Oregon. Mr. Smola previously occupied the position of superintendent of schools at Nome and his talk on conditions in that part of Alaska is highly recommended. He is a native of Illinois, and took his Master's Degree from Northwestern University and is now working on his Doctorate with the University of Chicago.

Friday Dec. 8 — "A report on Oregon's mineral industry," by F. W. Libbey, Director of the Oregon Department of Geology and Mineral Industries. This is a timely subject when a certain amount of emphasis is being placed on postwar planning.

Friday Dec.22 — No meeting.

WORK NIGHT

Sunday Nov.26 — Meeting at the usual place - 7:00 to 9:00 p.m. The topic for discussion will be Lakes and Swamps.

SUGGESTION FOR A RESEARCH PROBLEM

Attempt to ascertain if there is anything contained within that archaic unphilosophical geological dogma that mineralized veins are wholly due to igneous injections from a hypothetical terrestrial molten nucleus.

NEWS OF MEMBERS

We regret to learn that A. W. Hancock is confined to his home. Here's wishing him a speedy recovery.

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CHIPS FROM THE HAND SPECIMEN

Editor's Note:- The following contribution is a portion of an article by Ray C. Treasher; the first part of which was published in the Geological NEWS - LETTER in September 1937, and entitled "An Unrecorded Iron Industry in Washington." See Volume 3, No. 18, page 195.

IRON NEAR ELMA, WASHINGTON

Titaniferous iron has been produced in Tacoma from ore mined near Elma, which is situated on the Olympic Highway at the eastern end of Grays Harbor County. The ore occurs in a bedded deposit under the soil overburden and has the characteristics of an old beach sand. It contains over 50% magnetite which is highly titaniferous. Mr. Phil S. Locke, of Aberdeen, has a piece of the iron which was smelted from this ore.

The deposit is interesting as a possible source of titanium metal. If analyses prove this titanium content to be sufficiently high, production on a small scale might be profitable.

The occurrence of "iron boulders" is reported from the Black Hills area north and northwest of Elma. Some of these have been observed at Summit and at Brennan. The source of these boulders provides some interesting speculation. Did they originate within the Black Hills, and if so, is the deposit of commercial size? Did they come in as ice rafted erratics at a time when the Vashon ice sheet abutted against the Hills? If this latter assumption is correct, it has been suggested that the iron may have come from Vancouver Island.

According to certain reports, the magnetite from Vancouver Island, the boulders from the Black Hills, the bedded sand at Elma, and the magnetic sands on the Hoquiam beach are all similar in their titanium content. So what?

R.C.T.

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LUNCHEON NOTES - NOVEMBER 2, 1944

Today was the beginning of the past-president's luncheon series with Clarence D. Phillips, second president of the society, presiding. A very lively meeting ensued and was culminated by Mr. Davis getting a verbal dressing down from the chairman pro tem.....Miss Henley showed a specimen of calcite from Santa Clara County, California, and Mr. Libbey had some volcanic glass from Nevada which, he said, was called "perlite." There was some question as to whether it was the true perlite variety of glassy lava.....The editor's guest was Mr. James R. Ward, who had returned to the United States after four years in Brazil. Mr. Ward has been added to the geological staff of the U. S. Army Engineers in Portland.....Dr. J. C. Stevens told of his trip to Southern Oregon, where his company is installing a gas-ice plant to make dry ice and liquid CO_2 from Ashland lithia water. According to Dr. Stevens, liquid CO_2 will soon be delivered in certain parts of the country by tank trucks of special design. He also gave a brief report on the activities of the governor's museum committee. .....Mr. Stanley announced the coming Hobby Show sponsored by the Portland Goodwill Industries.

L.R.

****

OLD MOON MAY CRACK UP, FORM LIGHT RING FOR EARTH

by

J. Hugh Pruett, Astronomer, General Extension, University of Oregon.

When we gaze on the moon, "that old majestic lantern of the night," do we ever wonder about its past or its future? Do we, who live in such a limited part of the vast stretches of time, have any basis for conjecturing what has been - or will be? Dr. F. R. Moulton has said, "We who have heard the cosmic clock tick but once are attempting to determine when and how it started and when and why it will stop."

We feel more certain about the future of the moon than about its past. There are many theories concerning the moon's formation. Some think it was formed near the earth - and at the same time as the latter - from material torn from the sun. Sir George Darwin's tidal theory assumes that in the long ago when our planet was in a somewhat plastic state, the moon was part of the earth.

Rapid rotation caused a bulge to form on one side. This rotation, together with tidal action of the sun, finally forced the bulge to break away and start revolving around the parent earth. Some suggest the basin of the Pacific ocean marks the place from which the moon was torn.

Mathematical and physical considerations indicate that at one time earth and moon were only about 9000 miles apart and our day and month were equal, each less than five hours in length. Gradually tidal action caused the moon to get farther from the earth and increased the length of the day and month until now the lunar distance is 240,000 miles, the day is 24 hours, and the month about four weeks. The moon now keeps one side constantly facing the earth.

Increased "Spread" Possible.

For the future, the same reasoning points to a continued increase of the moon's distance from us and a lengthening of both the day and month until they are again equal, but this time at about 50 of our present days. Then the same sides of both the moon and earth will constantly face each other.

Then the sun's tidal action will predominate and the moon for millions of years will again approach our world. When about 10,000 miles away the strain will become too great and our lunar neighbor will break up entirely and form a ring around the earth something like the beautiful ring system we view telescopically around Saturn. The Saturnian ring is considered due to the complete explosion of a moon when it got so near the planet as to be in the danger zone, 2.44 times the planet's radius. The nearest of Jupiter's moons is not far outside the danger zone.

We should regret to lose our moon, but what a sight to have a bright luminous band constantly stretching entirely across the night sky!

Oregonian - May 13, 1944.

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LUNCHEON NOTES - NOVEMBER 9, 1944

Seventeen members and one guest had already assembled for luncheon at the Winter Garden restaurant Thursday, November 9th, when Dr. Booth made his smiling entrance; and we all had reason to smile, for there was butter on every plate. Not too much, to be sure, but butter. Probably thanks for which are due to Earl Minar and R. L. Baldwin for their happy idea of collecting a few red tokens on the previous Thursday.....Wm. Schultz from Montana was the guest of R. L. Baldwin, He is supervisor of Great Falls office of the Federal grain inspection..... Alice May Schminky and her mother were also present.....F. L. Davis had brought a copy of "The Navaho Door" by Alexander and Dorothy Leighton, which he generously allowed Mr. Miller to return to the library for him. Mr. Davis explained the Central Library's method of getting new books before its public.....A. W. Hancock had a specimen of aragonite and a perfect specimen of a very interesting shell which A. D. Vance used as a text (or was it pretext?) for making an interesting short talk about shells and the collecting of them. Mr. Vance also showed a piece of opal from the quarry near the Newport lighthouse.....H. B. Schminky made an effort to work up enthusiasm for cutting a cherry tree in Mrs. Stockwell's yard the following Sunday.....Earl Minar announced the program for the continuation of work nights, and suggested that the women could make themselves useful at the tree-cutting bee.....F. L. Davis rose again to announce the two following lectures, the first by Dr. Baldwin and the second by Frank A. Smola who will talk about life in Nome, Alaska, where he was superintendent of schools.

O.E.S.

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NEW METAL TANTALUM USED TO RESTORE MANGLED BODIES

Allocation of tantalum, the new surgical metal of this war, for its first civilian uses was announced Saturday on the eve of the annual meeting of the American Medical association.

Tantalum, one of the 92 chemical elements, is a blue-gray metal, three times heavier than lead, but capable of forming almost invisibly thin wire and also sheets and plates as thin and pliable as paper. It was named after the mythological Tantalus because it was so difficult to extract.

American military surgeons have been using tantalum to restore mangled bodies, faces and heads which in previous wars might have been disfigured for life.

Tantalum's great surgical value is being inert. There is no irritation to tissue and no corrosion.

The wires, used as threads to sew wounds, are so thin that they leave no scars. These wires sew together the ends of severed nerves, while cuffs made of the metal protect the healing nerves.

Men with facial paralysis, whose mouths droop and hang open loosely at one side, have had saddle-shaped pieces of tantalum placed above in their faces, and over the saddle tantalum wires draw the droop upward permanently into normal mouth position. Cleft palates have been restored with tantalum. Tantalum makes good ears and noses, over both of which plastic surgeons can spread live skin. Faces have similarly been restored over tantalum foundations. One man has a belly wall made of tantalum. His surgeon hopes the metal sheet will serve as a field over which tissues will grow to form a natural new wall. This hope is based partly on an unusual and scientifically puzzling property of tantalum. Ordinarily living tissues try to keep away from foreign substances. Not so with tantalum. The tissues, including bones and muscles, cling so closely that there is a difference of opinion as to whether they may actually be attaching themselves to the metal, something almost incredible. Oregonian, 6/25/44

GEOLOGICAL NEWS LETTER

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Business address. . . . . .Phone . . . . . .

Occupation. . . . . Hobbies . . . . . .

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(signature) (member)

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LUNCHEONS: Every Thursday noon in the Victory Room of the Winter Garden restaurant, 425 S.W.Taylor St. between S.W.4th and S.W.5th Aves. Luncheon 60¢.

WORK NIGHT: On Sunday evenings following the regular Friday meetings at 3105 N.E.45th Avenue. Room open from 5 to 9 p.m. Round table discussions from 7 to 9. Open to members, their families and invited guests. A ten cent contribution is customary for lights and miscellaneous expenses.

TRIPS: Will be arranged when feasible.

MEETING ANNOUNCEMENTS

Friday Dec. 8 — A report on Oregon's mineral industry by F. W. Libbey, Director of the Oregon Department of Geology and Mineral Industries. Here is an excellent opportunity to hear the practical side of geology and mining in Oregon by someone well qualified to discuss the past, present, and future of the mineral industry.

Friday Dec.22 — No meeting.

Sunday Dec.10 — Glaciers and Glaciation are the selected topics for Work Night discussion. See announcement above for time and place. This should be an appropriate winter subject just before Christmas. Special Feature: Everyone bring a geological specimen for a grab bag. Surely you have duplicate rocks, minerals, or fossils which are nice enough to exchange. How about it?

NOMINATING COMMITTEE

The following members have been appointed by President Bates to nominate officers for 1945-1946:

Mr. O. E. Stanley, Chairman
Mrs. Elizabeth M. Barr
Mr. Franklin L. Davis
Mr. Clarence D. Phillips
Mr. J. Dean Butler

- - - - - - - - - -

Editor's Note: There appears also in this issue a complete list of officers and committee chairmen for the current year. A little late - and - is our face red!

****

OFFICERS AND COMMITTEE CHAIRMEN
1944

Officers:		Telephone:
President	Mr. E. N. Bates	BE 6925
Vice-President	Mrs. Mildred P. James	EA 5456
Secretary	Miss Ada Henley	EA 1475
Treasurer	Mrs. H. Mildred Stockwell	EA 4281

Board of Directors:

The President, Vice-President, Secretary, Treasurer, Mr. Leo Simon, Mr. Lloyd L. Ruff, Mr. H. Bruce Schminky, Mr. R. L. Baldwin, Dr. Courtland L. Booth.

News - Letter:

Editor	Mr. Lloyd L. Ruff	TR 6980
Business Manager	Mr. Raymond L. Baldwin	CH 1452

Committee Chairmen:

Program	Mr. Franklin L. Davis	BE 2975
Trips	Mr. H. Bruce Schminky	LA 3903
Membership	Mr. Leo Simon	LA 0549
Librarian	Miss Margaret A. Hughes	AT 7066
Historian	Mr. O. E. Stanley	TA 1250
Auditor	Mr. Hugh Miller	AT 0704
Research	Mr. John Eliot Allen	BR 2276
Social	Mrs. Elizabeth M. Barr	SU 4081
Museum	Dr. J. C. Stevens	EA 9333
Public Relations	Mr. Clarence D. Phillips	SU 5655
Exhibits	Mr. A. W. Hancock	SU 5285
Work Night	Mr. Earl M. Minar	SU 4046
Annual Picnic	Mr. A. W. Hancock	SU 5285
Annual Banquet	Mr. H. Bruce Schminky	LA 3903

****

OREGON ACADEMY OF SCIENCE TO MEET

Word has just been received that the Annual Meeting of the Oregon Academy of Science will be held at the Public Library in Portland, Oregon, on January 13, 1945. Detailed notices will be mailed shortly, requesting papers for this meeting. Dr. Warren D. Smith is chairman, and Dr. Ira S. Allison is membership committee representative of the Geology and Geography Section.

****

Dr. E. T. Hodge on "THE SPOKANE FLOOD"

At the Friday, October 27th meeting of the Geological Society of the Oregon Country, Dr. E. T. Hodge discussed the theory of "The Spokane Flood" as advanced by Prof. J. Harlen Bretz, writing on the blackboard the various theories advanced by Prof. Bretz to account for the channeled scablands of eastern Washington, and then crossing them off, one by one, as he gave his own reasons why they, in his judgment, failed to stand up under the light of more deliberate reasoning and later discoveries.

While making a map of Central Oregon in 1930 Dr. Hodge found glacial erratics in the vicinity of Arlington -- some of them as big as motor cars -- at an elevation of 1200 feet. Sometimes these were in piles producing typical moraine topography. He looked for the source of glaciers and found no signs that any had been within fifty miles. These features stood isolated, and the moraine-like deposits were on soft, lake-bed material non-resistant to erosion. He could not account for the softer material being left here by a flood strong enough to have brought the erratics.

These moraine-like deposits are believed to have been formed by ice jams, and the boulders to have been brought on ice.

The first thing that characterizes this topography -- boulders brought from a distant land -- was first noted by Dr. Condon. The boulders do not belong in this country. Dr. Hodge has since determined that some of them came from Canada and northern Washington. They are now found as high as 1900 feet above the river level.

In addition to these deposits there were river canyons, now dry, connecting other canyons nearly at right angles to them. One such dry canyon is between Arlington and Rock Creek, and there are others on the uplands from Alkali Canyon to the John Day River.

There are also peculiar canyons; sometimes one crossing others, leaving them hanging. In southeastern Washington there are three series of anastomosing canyons. Dr. Hodge wondered how a stream is going to jump and come back into itself.

There are also potholes in this part of the country. Potholes are usually found in the bottoms of rivers, said Dr. Hodge. One was found at Bonneville to a depth of 120 feet below sea level, and one at The Dalles has been sounded to a depth of 125 feet.

"It is no wonder that Prof. Bretz called upon a gigantic flood to make these potholes and canyons," said Dr. Hodge. Then he told of one pothole that he had seen which is about two square miles in area on the bottom with nearly vertical walls, and there is no river near it, and there are farms on the bottom.

Sometimes in a canyon there will be a mesa which may have a smaller mesa on top of it. There are also potholes. Other features of this scabland terrain are anticlinal folds 2500 feet high with a canyon cut through them. In some places embankments are perched on the walls of a canyon next to the river; and in tributary valleys the torrential beds of gravel slope away from the main stream forming "upstream torrential beds" adjacent to these canyons.

On the top of the walls of canyons 1000 feet deep are found thick beds of the so-called "Palouse soils," believed by some to be wind-blown soils. They are so fine and soft that even the snow carries them away.

At the Wallula Gap are lake beds, called "Shutler beds," of diatomaceous earth, so soft that rains will wash them away. There are also dry waterfalls or hanging canyons. The Great Dry Fall near Coulee City is one illustration. Most of them are absolutely dry.

"The first theory of Prof. Bretz was that these phenomena were caused by a flood," said Dr. Hodge. "Since then he had added a flood or two."

In discussing how big this flood would have to be, Dr. Hodge said that erratics are found as far south as Eugene on the Willamette River and on the Deschutes River as far south as a line drawn east through Shearer's Crossing. To cause a flood capable of raising the water to this elevation would require twelve cubic miles of water. Missoula Lake is not big enough to have furnished that amount, nor would all the lakes up that way be big enough. Nor would the hot, intrusive sill -- evidence of which has not been found -- furnish this amount of water. Dr. Hodge also called attention to the delicate deposits in piles which still remain, and asked, "Why did a big flood cut a canyon and leave these 'wind-blown soils' or the Shutler beds untouched?"

"There are erratics enough to bury the city of Portland," said Dr. Hodge, and he did not think that a single flood, or several floods could carry so many erratics to where they have been found. He also said that there is nothing in the flood theory to explain the superimposition of the light soils, even though it will explain the upstream bedding of gravels. He said that he had reached the conclusion that these things were performed by ordinary agents acting in an ordinary way, and not by a single flood.

The attention of the audience was called to these facts; that there is no summit between the Columbia River and the Frazer River in the Okanogan valley; that anticlines in the surface of the Columbia River basalts go from the Washington mountains to the Idaho mountains, and that the Snake River, as well as several other streams, has barbed tributaries.

In explaining the ordinary way that ordinary agents acted in carving the surface of Eastern Washington, Dr. Hodge said that the glaciers in British Columbia did not top the mountains. They came from the north through gaps in the range, filled the area north of the Cheney-Sanderson anticline, forming spillways and making the Moses, Grand, Telford, and Cheney Coulees.

"Glaciers do not make valleys for themselves," said Dr. Hodge, "they must be guided, so they follow valleys already made."

The rock in Eastern Washington is "brick-bat" basalt which is easily eroded and broken up, and potholes can be made in it by ice which freezes to it and lifts out the fragments that are frozen to the bottom of the ice when it floats away.

Lake Lewis was formed in Eastern Washington. Ice moved south through Moses Coulee and other canyons but did not advance farther than Ritzville.

Debris (Palouse soils) buried the folds in southern Washington. This, Dr. Hodge believes, is lake-bed material rather than wind-blown. Lake Lewis filled until it spilled through the Wallula gateway and started cutting the canyon at that point, forming a new lake (Lake Condon) between the Horse Heaven hills and the 1900-ft. elevation in Oregon. This level is now marked by gravel beaches and erratics. This water was held in check by the Cascade mountains until it finally broke through at the 1900-ft. level draining Lake Condon and forming a canyon that is so new that landslides still occur on its sides.

Then the ice retreated up the valley to the mountains in northern Washington, and allowed water to flow westerly north of the anticline, and southerly to the Horse Heaven hills cutting a canyon below the level of Moses Coulee and Grand Coulee.

Ice again blocked the river, and water flowing through the coulees made new rivers to the southwest. Dr. Hodge believes that these rivers occasionally become blocked by masses of ice, forcing them to cut by-pass canyons. All of the gravel was swept southward forming the Pasco gravels, "which," Dr. Hodge remarked, "we are supposed to irrigate some day."

The embankments along the sides of the canyons, Dr. Hodge believes, were formed by ice shoving sidewise from the streams, and building them up higher than the land behind them, thus forming undrained areas.

O.E.S.

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April 20, 1943

The Honorable Board of Trustees
Willamette University
Salem, Oregon

In re: Gift of Glacial Erratic

Gentlemen:

For the purpose of preserving and exhibiting a glacial granite erratic, the Geological Society of Salem has constructed a concrete base on the Willamette University campus, immediately in front of the main entrance to Collins Hall, and has caused to be placed thereon a glacial erratic which is hereby officially presented to the trustees of Willamette University by the Board of Directors of the Salem Geological Society, to have and to hold by the said Board of Trustees as long as they so desire.

In order that the Board of Trustees may gain a clear understanding of the nature of this gift, a brief description of the nature and origin of the Willamette Valley glacial erratics is here given. A glacial erratic is a mass of rock or gravel transported by ice. Such deposits are found in the Willamette Valley, ordinarily at elevations between 75 feet above sea level and 400 feet above sea level, lying on the Eocene and Oligocene marine sediments.

Their origin was first accounted for by Condon's Willamette Sound theory, to which many geologists subscribed, while others dissented. Finally, about 1933, a grant-in-aid was made by The National Research Council to Oregon State College, to study the origin and distribution of these erratics, and the project was assigned to Prof. Ira S. Allison of The State College Department of Geology.

His report was published in pamphlet form by the Geological Society of America under the title of "Glacial Erratics in The Willamette Valley " and a copy of same is here attached for your further information.

This erratic was found on the W. C. Franklin tulip farm, located on the west side of the Wallace Road, three-fourths of a mile north of the west end of the West Salem highway bridge over the Willamette River. This farm comprises 6.66 acres and the erratic was found at an elevation of approximately 200 feet above sea level, near the middle of the western boundary of the farm, described more accurately as $SE\frac{1}{4}$ $SE\frac{1}{4}$ sec. 16, T. 5 S., R. 3 W.

The Geological Society of Salem has long appreciated the courtesies extended to them by Willamette University in the use of the University's facilities and in the cooperation of the staff of the Geological Department.

In seeking a way to express our appreciation that would be symbolic of the nature of our organization, and at the same time recognize and preserve an example of this most unusual geological phenomenon of the Willamette Valley, we developed the idea of the preservation of a glacial granite erratic.

The committee on finding and securing a suitable erratic included Mr. W. C. Franklin, Chairman, Mr. W. E. Richardson, and Mrs. Mildred Stockwell. Mr. Franklin presented the erratic, found on his farm, to the Society for this purpose. It was hauled to the monument works in Salem and sandblasted, and then pegged with iron pins to the concrete foundation on which it now rests.

So far as this Board knows, there is no other recognition of a glacial erratic, as such, in the Willamette Valley and we trust its placement will prove an incentive to true scientific endeavor on the part of the student body of Willamette University.

When the exigencies of the times permit, it is the intention of our group to place a bronze plaque on the base, descriptive of the erratic.

Respectfully submitted,

HORACE J. SMITH

President, Salem Geological Society
for the Board of Directors.

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GEOLOGICAL NEWS LETTER

OFFICIAL PUBLICATION OF THE

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MEMBERSHIP APPLICATION
GEOLOGICAL SOCIETY OF THE OREGON COUNTRY

Qualifications and Dues: Applicant must be sponsored by a member and recommended by the Membership Committee. A knowledge of geology is not a requisite. There is no initiation fee. A Member shall be over 21 years of age; or a husband and wife and all children under 18 years of age. The dues are $3.50 per year, payable in advance, which includes one subscription to the Geological News-Letter. A Junior is an individual between the ages of 18 and 21. Dues are $1.50 per year, payable in advance, and include one subscription to the Geological News-Letter.

Date . . . . . .

I,. . . . . .(please print full name) do hereby apply for membership (junior membership) in the Geological Society of the Oregon Country, subject to the provisions of the By-Laws.

Home address. . . . . .Phone . . . . . .

Business address. . . . . .Phone . . . . . .

Occupation. . . . . Hobbies . . . . . .

I am particularly interested in the following branches of geology: . . . . . .

. . . . . .

I enclose $ . . . for the year's dues, March 1 to March 1. (Checks payable to the Society).

. . . . . Sponsored by. . . . . .
(signature) (member)

SOCIETY ACTIVITIES

LECTURES: On the 2nd and 4th Fridays of each month at the Auditorium (3rd floor) of the Public Service Building, 920 SW 6th Ave. at 8:00 p.m.

LUNCHEONS: Every Thursday noon in the Victory Room of the Winter Garden restaurant, 425 SW Taylor St. between SW 4th and SW 5th Aves. Luncheon 60¢.

WORK NIGHT: On Sunday evenings following the regular Friday meetings at 3105 NE 45th Ave. Room open from 5 to 9 p.m. Round table discussions from 7 to 9. Open to members, their families and invited guests. A ten cent contribution is customary for lights and miscellaneous expenses.

TRIPS: Will be arranged when feasible.

MEETING ANNOUNCEMENTS

Friday Dec.22 — No meeting - see next bulletin and local papers for announcement of Jan. 12th meeting.

Work night programs will be held again in January 1945.

CHRISTMAS GREETINGS TO YOU ALL

As the Holiday Season approaches we realize that the customary "Merry Christmas" greeting we so cheerily wish our friends on Christmas day is strangely inappropriate.

Many are giving their lives or facing a life of suffering that the world may again have peace. All around us are those who silently mourn the loss of dear ones who have paid with their lives that those of us who remain may again have years of peace.

When our young men pay so great a price that the Christmas spirit may continue to live on the earth, a burden of responsibility rests on us who survive to finish the task they started of securing a permanent world peace.

At this Christmas Season it seems appropriate for each of us to humbly resolve to do our part in helping to make "Peace on Earth and Good Will Among Men a Living Reality."

My wish for each of you is that a higher power than our own may show us the true path of peace, and give us the wisdom and strength to complete the undertaking of making the Christmas spirit a fundamental relationship between nations and an every day living principle among men and women everywhere.

E. N. Bates
President

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NOMINATION OF OFFICERS

December 8, 1944

Mr. E. N. Bates, President
Geological Society of the Oregon Country

Dear Sir:

Your nominating committee presents the following names for the offices to be filled at the next election:

For President - A. W. Hancock
For Vice-Pres. - F. W. Libbey
For Secretary - Ada Henley
For Treasurer - H. Mildred Stockwell
For Director - Courtland L. Booth

Each of these persons has signified a willingness if elected to serve the society in the capacity for which nominated.

Yours respectfully,

J. Dean Butler
Clarence D. Phillips
Franklin L. Davis
Elizabeth M. Barr
Orrin E. Stanley - Chairman

NEWS OF MEMBERS

Dr. Weinzirl Speaker: Dr. Adolph Weinzirl, director of social hygiene education at the University of Oregon medical school, will speak to the Biologists club of the University of Portland at the St. Vincent's college of nursing auditorium at 8:00 p.m. Tuesday on "Infantile Paralysis." Two recently released cancer films will be shown following the address.

Oregonian, December 4, 1944.

* * * * * *

Engineers Set Talk: J. C. Stevens, consulting engineer, will speak Wednesday noon at the luncheon meeting of the Professional Engineers of Oregon in the Georgian room of the Heathman hotel. The proposed Portland civic center will be his subject.

Oregonian, December 5, 1944.

* * * * * *

Ellen James home on vacation from Oregon State College. The editor is indebted for her assistance in assembling this issue of the NEWS - LETTER.

* * * * * *

John Allen is in town for the holidays. He has finished his field work in the San Juan Bantista quadrangle east of Monterey Bay, and his address for the new year will be c/o Dept. of Geological Survey, University of Cal., Berkeley 4.

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MEN LIKE GODS - by Robert Sturgis

For those who like their geology mixed up with fiction with all the furbishments of fair women and brave men, the recently published novel by Robert Sturgis entitled "Men Like Gods," a novel of men and oil, is recommended. The author cannot claim any originality of plot; his objective appears to be to write a description of the Oklahoma oil fields just after the turn of the century. He does this with plenty of whiskey, bare knuckle fist fight, and oil and money flowing everywhere. All this epic starts with the hero's ability to discover and interpret his field geology. His keen insight is shown in the following quotation:

> "One February day, some three months after he had quit Dan Wetherbee's crew, Bill Branning found himself driving alone over the deeply rutted roads some ten miles to the northwest of Cholusa. As the road emerged from a narrow, tortuously twisting little canyon, he saw two huge mounds standing up on the plains in front of him. One of the mounds was hardly more than a hundred yards from the road. The second was half a mile or more to the north of the first.
>
> "Enormous domes of earth and rock those mounds were. They rose sixty or eighty yards from the level of the plain and then spread out in sprawling massiveness, both of them several hundred yards in diameter.
>
> "Bill stopped the horse and leaned back in the rig, studying the first of the two mounds. A streak of dirty, grayish-white ran through the mound near the center, stretching upwards to the north.
>
> "He tied the horse to a wild plum bush and headed towards the mound. It was the white streak that interested him. Along with other strata of shale and rock, it lay completely exposed on the side of the hill. He dropped down on his haunches and studied it closely. It was a limestone formation and he tried to identify it and remember where he had seen it before.
>
> "And then suddenly he knew. The chalky-white, crumbly substance was a limestone which was found some hundred and fifty feet beneath the surface in the Cholusa field. His breath caught and he stumbled blindly to his feet as he realized the implications of that fact. If the limestone was found on the surface here . . . if the anticline on which the mound was situated was of great enough size . . . if it was not broken and bisected by fault lines, slips in the earth which had occurred through tens of thousands of years . . .
>
> "Excitedly, he plunged down the slope and headed for the second mound. The fever in his veins mounted as he reached it and found the same strata of limestone that he had discovered on the first dome.
>
> "Quickly he formed a mental picture of what this land once had been. Thousands, perhaps millions of years ago, these two domes had been one. Erosion by wind and rain had worn a valley between them, exposing their strata of rock and shale.

"The blood ran fast through his veins as he realized what he had done. He had found a huge anticline, under which, his reasoning told him, there might or might not be oil. But at that moment something more forceful than reason took possession of Bill Branning; he knew, as certainly as if he had seen it, that underneath the ground on which he stood there was oil. And thus he had the first of the many hunches which were to make him famous in the Mid-Continent field and to bring him wealth and power beyond his wildest dreams."

How many Bill Brannings have we in the Membership of the G.S.O.C.? The experts say there is no oil in Oregon. Let us confound them by reading this book (from the Library) and then go out on a field trip and find ourselves an oil dome.

********** F.L.D.

LUNCHEON NOTES - NOVEMBER 16, 1944

An attendance of 16, presided over by Mr. Vance, following Mr. Bates' plan of having the past presidents take a turn in the chair. No guests were present, but Dr. Dake was greeted after a long absence from the luncheon table, due to his inconvenient lunch hour.....The November number of Arizona Highways was circulated by Mrs. Stockwell, who called attention to the article silting, 30 feet high, back of Lake Mead. Also in this issue are some very beautiful pictures in color.....Shown by Mr. Libbey was an unusual book entitled "The History of Mt. Mica" (in Maine) by Hamlin, containing some beautifully colored illustrations of tourmaline crystals. The book was published in 1820 and written by the father of the youngster who made the discovery of tourmaline in Maine. Another interesting volume, shown by Dr. Dake, was the recently published Revision of the old Fossil Index of North America, last published in 1915. This weighty volume (five pounds at least!) contains illustrations and descriptions of something like 10,000 species of the invertebrates, and is a fine piece of technical work, especially considering that it was produced in wartime. (Incidentally, it sells for $25.00, if anyone cares to order a dozen or two.) Dr. Dake commented on the fact that interest in the earth sciences has grown more in the past five years than in any other period, particularly among the armed services.....A most attractive specimen of opal, obtained from Australia by a flyer sent there to recover from malaria, was shown by Dr. Booth. A snapshot of a somewhat mysterious looking earth surface, purported to be a rare example of erosion, was shown by Mr. Stanley. As it was accepted at face value, however, by the unsuspecting geologists, the perpetrator confessed that it was merely a series of depressions caused by hen-scratching, the picture having been taken in a henyard. "To what base uses," etc.....Mr. Minar exhibited a neatly written little card of appreciation received from Carol Ann Schminky, acknowledging a collection of marble and building stones he had given her as an aid to geography study. How that child does grow up!.....Bruce Schminky, asked to give an account of last Sunday's tree-falling project, reports one of the most successful trips in a long time, with a sizeable amount of fuel now available for use in the Ruff basement for work nights. "The weather was perfect, the crowd was perfect, the work was perfect," and the bountiful meal served at the end of the day, 'tis said, was well worth working for. Furthermore, there were no casualties, fortunately, as Dr. Booth was unable to be present.....Wonder how many heard Franklin Davis participating in the "Quiz of Two Cities," the news of which has just come to our ears.

A.H.

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