GEOLOGICAL NEWS LETTER

OFFICIAL PUBLICATION OF THE

Vol. 19, No. 1 PORTLAND, OREGON Jan. 1953

GEOLOGICAL NEWS-LETTER
Official Publication of the
Geological Society of the Oregon Country
703 Times Building, Portland 4, Oregon
POSTMASTER: Return Postage Guaranteed

Officers of Executive Board, 1952 - 1953

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Mr. Louis E. Oberson (1953) Mr. A. D. Vance (1953)
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Business Manager:	Raymond L. Baldwin	4804 S.W. Laurelwood Drive	1	CH 1452

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CALENDAR FOR JANUARY - 1953

Thursday Jan. 1	NEW YEARS' DAY - No luncheon meeting.
Tuesday Jan. 6	Library Browsing time "Your Library and Mine" Residence of Mr. and Mrs. Edw. Bushby, 1202 S.W. Cardinell Drive
Thursday Jan. 8	Luncheon meeting - YMCA Cafeteria
Friday Jan. 9	Friday night meeting Library Hall - 8:00 p.m. Dr. Arthur H. Livermore of the Department of Chemistry at Reed College will talk on "Atomic Energy and Its Peacetime Uses." Bring your scientifically minded friends.
Thursday Jan. 15	Luncheon meeting - YMCA Cafeteria
Tuesday Jan. 20	Library Browsing time "Your Library and Mine" Residence Mr. and Mrs. Edw. Bushby, 1202 S.W. Cardinell Drive
Thursday Jan. 22	Luncheon meeting - YMCA Cafeteria
Friday Jan. 23	Friday night meeting Library Hall - 8:00 p.m. A collection of excellent slides of various minerals has been received by the Portland State Extension Center. These will be shown and described by Mr. Tom Matthews and Mr. Lenin Ramp of the State Department of Geology and Mineral Industries.
Thursday Jan. 29	Luncheon meeting - YMCA Cafeteria
Tuesday Feb. 3	Library Browsing time "Your Library and Mine" Residence Mr. and Mrs. Edw. Bushby, 1202 S.W. Cardinell Drive

FIELD TRIP

There will be no Field Trip for January. Probably a "Basement Trip" some time in February. Watch for details in next News Letter.

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CHANGE OF ADDRESS

Mr. and Mrs. B. J. Lindeman	2531 S.E. Vinyard Way Milwaukie, Oregon	Phone: Evergreen 1-5841
Mr. and Mrs. Paul W. Howell	Department of Geology University of Arizona Tucson, Arizona	

****

NOMINATIONS FOR OFFICERS OF G.S.O.C. FOR 1953

According to Mr. F. W. Libbey, Chairman of the Nominating Committee, the following nominees for officers for the Society have been named for 1953:

President	Mr. Ray L. Baldwin
Vice President. .	Mr. Orrin E. Stanley
Secretary	Mrs. Johanna Simon
Treasurer	Mr. R. F. Wilbur
Director	Mr. A. D. Vance
Editor of News Letter . .	Mrs. Albert Keen

J.E.

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MR. RUSSELL NORTON TO TALK ON JADE

A talk by Mr. Russell Norton, a charter member of G.S.O.C., on Alaskan jade, also jade from other localities, will be given on Friday, January 16, at a regular meeting of Oregon Agate and Mineral Society at Maccabee Hall, 63rd Avenue just off Sandy Boulevard. Visitors are welcome.

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ANNUAL BANQUET

Plans are under way for this year's annual jamboree to which all loyal Geesockers look forward with well-deserved anticipation.

President Norris Stone and banquet chairman Mrs. Albert Keen tell us that our banquet this year is to be a "home talent" affair and that we are to look forward to an evening of heart-warming relaxation and pleasure. Ticket sale as usual is in charge of Leo Simon, who will be on hand at our January Friday-night meetings the 9th and 23rd to make reservation. Leo, incidentally, is to be emcee of the occasion. The banquet will be in the banquet rooms of Mt. Tabor Presbyterian Church, 55th and Belmont. The date Friday, March 13. Make your reservation now!!

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MRS. F. W. LIBBEY

We were saddened to learn of the death on December 22 of G.S.O.C. member, Mrs. F. W. Libbey, who had been in poor health for some time. Services were held the day following Christmas at Riverview Chapel. Our deepest sympathy is extended to members of the family.

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WILLAMETTE RIVER TRIP

By

Clara Stone

(continued from December issue)

Continuing our G.S.O.C. trip up the Willamette River, we are now passing under the St. Johns Bridge. We cruise along past the U.S. Engineer's base where they keep harbor equipment to maintain docks, channels, jetties, etc., past the Portland Dry Docks, the old original Standard Oil docks, and then under the S.P.& S. railroad bridge.

We catch sight of much pointing now going on in the "Lu Ray" and we guess rightly as we learn later that Commodore Simon is calling attention as our own Commodore is doing to the second youngest geological formation that makes up the Portland area, the Portland terrace gravels. They are much in evidence along the east banks of the river in the University Park area. These are in the form of sands and pebbles which plainly show the lines of deposition. They were laid down, possibly, in the Pleistocene Age, with reworked Troutdale gravels interspersed.

We turn now and look to the opposite side where we can see the oldest geological formation that we will view today, the Columbia River basalt, with Boring lavas (Pliocene) exposed in a few places on top. The Willamette River at this point is, as it were, the dividing line of ten million years of geological history.

We are now approaching the tip of Swan Island (originally called Willow Island). As we approach we observe it is no longer an island as it now connects with the mainland. "Oh, yes, it is an island," insists our Commodore, "water still encircles it." To prove his point, he tells us that under the fill are three large pipes that carry the water around the south end. Commodore Bruce continues, "Probably most of you remember prior to the building of the airport on Swan Island (1926-27) the main channel of the river was on the east side of the island, with only sandbars west of it." Progress marches on!

It does, indeed. We look to the opposite side of the river - industry, nothing else but! We recall the one-time beautiful Guild's Lake park, the site of the 1905 World's Fair. We cruise on toward the bridges. There to the left at Western Transportation Company's dock rests the old steamer, the "Claire." We recall with nostalgia her faithful trips year after year to Champoeg. We raise our hats in reverence, as did one of that Company's officials, Leonard Thompson, when a guest on a GSOC field trip, upon being told that the age of a boulder we were momentarily examining was forty million years.

We pass on under the bridges through industrial Portland, recalling the old-time frontier town sprouting up along the west bank of the Willamette embracing a few square blocks at the foot of Washington and Stark streets. At that time there were several towns in the vicinity, Linnton, St. Johns, Albina, East Portland, all striving to be the focal point of industry. They succeeded in being industrial centers, eventually to be absorbed by metropolitan Portland. We look around recalling the picture of a century ago; ferries, sawmills along the banks, the old Brooklyn slough with a flour mill at the head of it, water-pumping stations, all spreading out and extending farther up the river as Portland grew. We pass through our beautiful harbor with ocean vessels docked here and there along the harbor wall, depicting a great metropolitan center of world trade. Suddenly we observe a flock of ducks flying overhead, the same as they have for centuries. The youngsters aboard (some of them probably in their 60's)

take a firing stance, Bang! Bang! Bang! If only the Coast Guard had zoomed by at that moment as it had a few miles back with more "Champooing," it would have doused the "Fire" in a hurry.

Commodore Bruce now pulls out Lt. Wilkes' 1840 map again to show us that we are passing "Oak Island." Well, maybe so, but it looks like Ross Island to us. We approach and pass under the Sellwood bridge with basalt hills on the right and a ledge of basalt showing up on the east bank of the river in front of Waverly Golf Course. On we go past the old pumping station on the right, at one time part of the water supply of the city of Portland. It really is true, then, that away back in the dim, distant past, the waters of the Willamette were suitable for drinking. We see the historical Henderson Lewellyn orchard site, Johnson Creek, and the city of Milwaukie (older than Portland) on the left. Our Commodore points out the site of the old Indian Agency to the right (later the old White House Inn and Race Track), the old Macadam (McAdam) toll road, the old Military Road (used more for the Indian Agency than for the Military) - all on the right.

Now we are really into the basalts, with Rock Island sticking up in the middle of the river. Directly opposite on the west bank is the high ridge known as Elk Rock. The depth of the river at this point is 140 feet and there are those who claim that the Willamette Falls now in evidence at Oregon City were once at this point, cutting back over the years to the present site at Oregon City. This, however, is a much disputed point. On we go, past the huge log dump on the east side of the river, under the Oswego railroad bridge, past the outlet of Tryon Creek, on past the pile of slag from the iron furnace that was in operation here in the 80's, the plant having been located at about the site of the present cement plant. This is some little distance from the old furnace built in 1867, the stack of which still stands near the outlet of Lake Oswego (Sucker Creek).

The old rock quarry opposite Glenmorrie and Marylhurst looms up ahead. Gravels are showing up now along the banks. On the east side of the river is a ledge of weathered basalt, in places yellowish in color. The same weathered basalt appears on the west side of the river - basalt weathered to clay with the shapes of the original rocks still in evidence. Here, also, on the east side, an old iron prospect tunnel can be seen.

We are approaching Clackamas Rapids. Millions of tons of coarse and heavy gravel are deposited at the mouth of the Clackamas and on across the Willamette. These contain occasional quartzite pebbles which indicates that the gravel contains some reworked Troutdales.

At long last we approach the historical old town of Oregon City, wedged in between ledges of basalt. The Willamette River, with its great tumbling falls that furnish power for the many industries here in evidence, borders its west side. Old Indian settlement sites on either side of the river are pointed out where arrow heads and other Indian artifacts may still be found. And here our Commodore shows us another map, one of Oregon City that is a century old.

Our destination reached, we land, and Commodore Schminky with his maps under his arm exchanges places with Commodore Leo Simon for the return trip. On our way back, we recount and fix in our minds the points of interest we have enjoyed on the upward trip. Suddenly, we find our pilot at the back of the boat asking us to step aside while he inspects the motor.

"Who's running the boat?" shouts little Alice Schminky, alarmed. She darts up front, then is back in a flash. And who is running the boat? Why it's Commodore Leo Simon at the helm!

We arrive at the K. & R. Moorage at dusk. We have explored the "Rivers of the West" and with the help of our Commodores and the rare maps we have visualized them as little changed from the way they existed when our great country was discovered by Christopher Columbus 460 years ago today. It was a wonderful trip and a fitting commemoration of the great accomplishment of that intrepid explorer.

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LIBRARY NIGHT

Tuesday evening, December 9, 1952, -- and it rained! However, this did not keep some sixteen G.S.O.C. members from assembling at the Edward Bushby residence for an evening in our Library.

Newcomers were Mrs. Burke and Mr. and Mrs. Franklin Davis. In Volume 3, Numbers 2 and 3, of the Geological News Letter, Franklin reviewed an article he had written from field notes he had made when he and Tracy Wade visited the Field Trip of Oregon State College Department of Geology to the Suplee area. This trip was conducted by Drs. Packard and Wilkinson. Later Franklin called attention to a Canadian report which gave an account of the disastrous landslide at Frank, Alberta, in 1904. He had been working in that vicinity at the time.

Al Keen and Bob Wilbur looked over a large book containing many pictures of fossil shells. They seemed to be satisfied they had found a picture of the shell they had been discussing. Mrs. Baldwin and Mrs. Davis leafed through volumes of the Standard Oil pictures given to the Library by Dr. Booth and another book of Kiser scenes in Oregon. Everyone seemed to find something of interest. One member was interested in the Triassic and wanted material on that subject. Are there any suggestions that we can pass on to him?

About 9:30 the aroma of brewing coffee filled the air and all descended to the Bushby apartment below for a buffet supper served from a table beautifully decorated for the Christmas season. Mrs. Ford Wilson, co-hostess, was at the coffee urn.

For the "surprise" following refreshments, Bob Wilbur had a fine display of fossils obtained on a recent trip to Nebraska. Included was a section of a Crinoid stem converted into carnelian, which had been given him by the curator in the Museum of the University of Nebraska. His other fossils came from a locality about 20 miles southeast of Lincoln and were from the Permian and Pennsylvanian periods. Included were brachiopods, some foraminifera, and trilobites. Ford Wilson produced his latest collector's prize, a yellow goblet which fluoresces beautifully under the light. He called it vaseline glass and said it is strictly a collector's item. The color is due to uranium salts used in the manufacture of the glass and none of it has been manufactured since World War II.

Over the coffee cups we all went into a huddle concerning future possibilities of the Society. Some constructive ideas were unearthed that will bear study. Such as our ballot not being secret, dual memberships for married couples, and further discussion regarding a new place to hold our regular meetings.

Mrs. Bushby showed a picture Ed had taken of their studious kitten. The hour was late not only for the kitten but for members of G.S.O.C. Thus closed another delightful Library "browse" at the Bushby's.

Next Library nights Tuesday, January 6; Tuesday, January 20; and Tuesday, February 3. Circle these dates!

R.L.B.

WHAT'S NEW IN READING

1. Origin of the Mima mounds, Thurston County region, Washington, by R. C. Newcomb. Published in Journal of Geology, vol. 60, no. 5, September 1952. Copies of the magazine may be obtained from University of Chicago Press, 5750 Ellis Avenue, Chicago 37, Illinois, at $1.50 each.

   The article is a review and critical analysis of all the theories, including the gopher one, so far proposed for explaining the origin of these enigmatic mounds. Newcomb believes they were formed by a polygonal ice-wedge action under permafrost conditions - a theory which he originally presented in abstract form in the November 1940 News Letter and now enlarges upon.

2. Geology and ground-water resources of the Swan Lake-Yonna Valleys area, Klamath County, Oregon, by Joseph D. Meyers and R. C. Newcomb. Published in mimeograph form by the Ground-Water Division of the U.S. Geological Survey, Post Office Building, Portland.

   The report describes the region around and to the east of Klamath Falls, and it includes topographic and geologic maps.

M.L.S.

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FRIDAY NIGHT MEETING - DECEMBER 12, 1952

Dr. Arthur Jones completed his talk on the geology of Western Europe with particular emphasis on England. For the benefit of those who missed the first talk, he retraced his journey through Europe, using maps to point out the route covered. Pictures taken by Dr. Jones especially stressed the geologic features of the country. He explained in detail the age and composition of these formations. The pictures and talk were much enjoyed, especially by those in the audience who had visited England. Two large tables were covered with maps, travel folders, books, and many pictures taken by the Jones family. Many availed themselves of the opportunity of asking questions. We are indebted to Dr. and Mrs. Jones for sharing their trip with us.

Mr. Russell Norton, a charter member of the Society, showed many fine polished specimens of Alaska jade and also jade from other localities. He explained that Alaska jade on the whole was of poor quality, although a few excellent specimens had been brought in by the Eskimos.

A word to those who are interested in jade; Mr. Norton will speak at a regular meeting of the Oregon Agate and Mineral Society at Maccabee Hall, located on N.E. 63rd Avenue just off Sandy Boulevard on Friday, January 16. Visitors are always welcome.

S.K.

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G.S.O.C. LUNCHEON NOTES

December 4, 1952

The wet, blustery day could not chill nor dampen the ardor of twenty members of G.S.O.C. who gathered in Room 305 Y.M.C.A. for food and good cheer - the genuine, not bottled-in-bond brand. . . .Mr. Wilbur brought two small books he had bought at the University of Nebraska museum to be given to our library. They were Life Through the Ages by B. M. Parker and C. L. Fenton; and Animals of Yesterday by B. M. Parker and E. S. Riggs. . . .Leo Simon had a most beautiful specimen of azurite crystals on malachite, probably from Arizona, which he did not allow to be circulated from hand to hand as is usual, but preferred to carry around the table on a cushion. . . .Tom Matthews had but recently returned from a meeting in Seattle bringing with him pictures and description of the first electric glass furnace and a plant for making fire brick. . . .Mr. Erickson had a new book on shells, designed to help amateur collectors. . . .Mrs. Jones said that she had talked with Dr. Livermore of Reed College about relieving the Jones' basement of some of its rocks and found not only that he was interested but that he knew of others who were willing to help by taking some specimens. . . .Mr. Erickson had a box of fossil shells from Agate Beach and two modern gastropods thought to be Thais Canaliculata from the same district. . . .This got Mr. Vance started to talking about naming new discoveries. He has found that much time passes before the authorities can agree. . . .Lloyd Ruff spoke about the N.W. Federation of Geological Societies and suggested that G.S.O.C. become affiliated. The Federation is to have a three-day convention in September 1953. He assured us that any one who does not attend such a meeting is "missing something." The Federation of 55 clubs has a membership of more than 3,000. Leo Simon agreed that it would be to the advantage of the G.S.O.C. to join. . . .Miss Henley proudly showed her jade necklace, a present from her brother, who sends the jade to Germany to have the beads made. The greenish tint on the faces of the other women may have been envy, or perhaps only a reflection from the beads. . . .Mr. Kelham had a fossil worm (unidentified) from the Boring ancient limestone, found on an Oregon beach . . . .Mrs. Gordon told of the work that eight members of the Salem Geological Society, meeting at her home, are doing in the identification of woods. She says they are now working on fossil woods, too, and "having a wonderful time." Some of the fossil woods are of tropical origin. They are found in the Miocene series. . . .Mr. Erickson spoke of meeting Philip Dale of John Day who is interested in having some of the fossil woods found near John Day identified.

O.E.S.

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December 11, 1952

Among the sixteen members at the December 12 luncheon, was charter member Russell R. Norton down from Seward, Alaska, where his main geological interest is jade which is brought from "Jade Mountain" in the practically inaccessible interior by air or by packers. This jade, according to Mr. Norton, is of nearly all colors from black to transparent. . . .letters from Corvallis about the Sanborn memorial were shown, as were a letter from Ford Wilson about elections and two pages of the library catalog now in process of being published. . . .Mr. Keen had a copy of Mineral Notes and News, on the front cover of which was a colored picture of the jade window that Mr. Kraft has presented to a church near Chicago. A two-page story told of Mr. Kraft's hobby and showed pictures of him at his home and his basement lapidary shop. . . .Mr. Baldwin started a long discussion by suggesting that a new location for our evening meetings be found. . . .J.C.Stevens suggested that a delightful present to anyone interested in geology would be a copy of Dragons in Amber, by Willie Ley. . . .the roast beef was excellent. . . . Mrs. Albert Keen was the only lady present.

O.E.S.

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December 18, 1952

An attendance of twelve including Franklin L. Davis (who had no book to be returned to the Public Library). This should be considered above par for this time of the year. . .A letter from Mr. and Mrs. Ray Treasher was circulated and read with interest. . .G. V. Elder had a few shards from New Mexico. Some of them had very artistic decorations on them. . .Rudolph Erickson called attention to a book: "A Land", by Jacquetta Hawkes, which he considered to be outstanding. He also had a clipping about "heavy water" that was interesting reading. . . Albert Keen reported that he had been investigating possible meeting places that might have advantages over Library Hall. No satisfactory place had yet been found.

O.E.S.

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ORRIN STANLEY'S TALK AT FRIDAY NIGHT MEETING

Donner Pass in California's high Sierras where nearly half a hundred pioneers perished from hunger and freezing over a century ago, beautiful Lake Tahoe, the Mother Lode country of Calavares County, and the bleak desert stretches of Palm Springs were some of the highlights of editor emeritus Orrin Stanley's talk and showing of slides before GSOC members at their Friday evening meeting November 28 at Library Hall.

As can be expected when Mr. Stanley has the floor, beautiful photography coupled with his running comments made a most outstanding evening. The pictures were taken on his vacation trip into California and Nevada last July with the Audubon Society at its annual gathering in Donner State Park. Apparently there was so much going on in the way of planned trips and assignments for those in attendance at the Audubon meeting, no one seemed to mind being billeted four to a room at the camp where the group had its headquarters. The surrounding snow-patched mountains, close-up views of the rare snow plant, the lovely digger pine, the mountain streams and lakes, and some of the old buildings of the days and locale of Mark Twain were but a few of the beautiful slides shown by Mr. Stanley. All too soon we came to the little white spot in the picture of the kitten on the last slide shown which Mr. Stanley designated as the "end of the tale." We hope he will take another such trip next year and come back with such a fine photographic record of it for all of us to enjoy.

J.E.

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"Our view of the human scene becomes narrow, unillumined, and passionate if we do not rise above its immediate urgency and see it in its cosmic roots and backgrounds."

M. R. Cohen, in The Faith of a Liberal

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CALENDAR FOR FEBRUARY - 1953

Thursday Feb. 5 — Luncheon meeting - YMCA Cafeteria

Thursday Feb. 12 — Luncheon meeting - YMCA Cafeteria

Friday Feb. 13 — Friday night meeting, Library Hall, 8:00 p.m. The speaker will be Mr. Anton Postl, Professor of Geology at Oregon College of Education who will give an illustrated talk on a trip through the Austrian Alps.

Sunday Feb. 15 — Field Trip. Our Field Trip for February will be a so-called "basement" trip wherein we will visit and inspect agate and mineral collections.

Trip Chairman Leo Simon tells us that we will meet at 1:30 o'clock at N.E. 39th and Broadway. We will visit three different collections during the afternoon. Leo will be assisted as trip leader by trip committee members R. Erickson and Reynolds Ohmart.

Thursday Feb. 19 — Luncheon meeting - YMCA Cafeteria.

Thursday Feb. 19 — Library Browsing Time - "Your Library and Mine" Residence of Mr. and Mrs. Edw. Bushby, 1202 S.W. Cardinell Drive.

Thursday Feb. 26 — Luncheon meeting - YMCA Cafeteria

Friday Feb. 27 — Friday night meeting, Library Hall, at 8:00 p.m. sharp. Annual Meeting of Society will be held. Then Capt. Ronald Sorensen, who was on active duty as an Air Force transport pilot, will show a series of slides which he took last year in Japan and Korea. This will be followed by a visit to Portland Rehabilitation Center as guests of Dr. and Mrs. Arthur Jones (see details on page 15 this issue News Letter).

Thursday March 5 — Library Browsing Time - "Your Library and Mine" Residence of Mr. and Mrs. Edw. Bushby, 1202 S.W. Cardinell Drive.

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ANNUAL MEETING TO BE HELD FEBRUARY 27, 1953!

Article VII, Section 2, of our By-laws, reads as follows:

"The annual meeting of this Society shall be held at some time during February at such time and place as may be fixed by the Executive Committee at which time the Officers of the Society for the ensuing year shall be elected. Twenty members shall constitute a quorum at any meeting of the Society."

Your Executive Committee accordingly has voted to hold this annual meeting on Friday night, February 27, 1953, at 8:00 p.m. sharp, at Library Hall.

Norris B. Stone, President.

****

NEW MEMBERS

		Phone
Mr. and Mrs. Phillip A. Dale, Merchant at John Day	Box 487, John Day, Oregon	Res. Phone 585 Bus. 340
Mr. and Mrs. Walter Bruckert, Ranchers - members of class in geology conducted by Dr. Hopson	Wasco, Oregon	
Mr. Donald Lang Clerk, U.S. Corps of Engineers	831 S.W. 6th Avenue	BEacon 6161

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ANNUAL BANQUET

If you have not yet made reservation for our Annual Banquet on Friday, March 13, delay no longer for Leo Simon in charge of ticket sales reports they are going rapidly. Banquet chairman Mrs. Albert Keen is more than busy with her crew of helpers and plans are underway for a most enjoyable evening of entertainment.

There will be the usual songs, skits, highlighted by the main address of the evening to be given by Dr. Ewart Baldwin, Department of Geology, Eugene. We understand his subject has to deal with our National Parks of the Southwest with some interesting slides to augment his comments.

Make your reservation now to insure that you will not miss this interesting occasion.

J.E.

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SOS FOR NEWS LETTERS

Our president-elect Ray Baldwin tells us there is a shortage of March and April 1952 issues of News Letter. If you are not having your copies bound and have no further use for them, he would very much appreciate your turning these issues over to him. Again, March and April 1952 News Letters (volume 18).

J.E.

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ANIMALS UNAWARE

"Animals Unaware" is the subject of talk to be given by Howard Cleaves of New York, as a feature of Audubon Screen Tours, at Franklin High School Auditorium on the evening of February 16, 1953. This includes studies of the "17-year locust," relationship of "fishhawks" to mankind; fascinating adventures in the haunts of the clapper rail; a "boxing" ruffed grouse, and other outstanding features.

Supplementing Mr. Cleaves presentation will be a talk by Hans Christian Melius, of the Brooks-Scanlon Logging Company of Bend, Oregon, titled "Tree farms - Man Co-operating with Nature." To all of us concerned about the preservation of our natural resources, Mr. Melius talk will be a most interesting one.

Don't miss this double-program evening.

J.E.

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OREGON NICKEL PROJECT

One of the most important events in Oregon mining history took place January 16 in Washington, D.C., when the Defense Materials Procurement Agency signed a contract with Hanna Coal and Ore Corporation and the Hanna Nickel Smelting Company, both subsidiaries of the M. A. Hanna Company, Cleveland, Ohio, for the production of nickel from Nickel Mountain near Riddle, Douglas County, southwestern Oregon. The contract calls for the production of from 95,000,000 to 124,000,000 pounds of nickel in ferronickel which will contain at least 25 percent nickel and not more than 75 percent iron. The Hanna Coal and Ore Corporation agrees to develop the mine on Nickel Mountain at its own expense to cost approximately $4,300,000. Ore from the deposit will be sold to the Government at $6 a ton. In turn, the Government will sell the ore to the Hanna Nickel Smelting Company at the same price and the smelting company will treat the ore in an electric furnace plant to produce the ferronickel. This plant will be located about 2 miles down the mountain from the mine and will consist reportedly of four primary furnaces, one refining furnace, and two auxiliary furnaces.

The Hanna Smelting Company will use a patented process developed in France by the Societe D'Electro-Chimi, D'Electro Metallurgie et des Acieries Electrique D'Ugine. This process has been used in treating New Caledonia ores having characteristics similar to the nickel silicate ore on Nickel Mountain. The contract price is 79.39 cents per pound for the first 5,000,000 pounds of nickel produced in the ferroalloy and 60.5 cents per pound thereafter.

The Government agrees to advance $24,800,000 for construction of the smelter and related expenses. The contract includes rapid amortization of the facilities installed.

The importance of this development to Oregon cannot be overemphasized. Nickel is one of the most strategic of metals needed in national defense and Nickel Mountain contains by far the largest deposit of nickel ore known in the United States. Moreover the economy of the State will be greatly benefited by this large production of new wealth.

F.W.L.

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GSOC MEMBERS TO VOTE ON JOINING N.W. FEDERATION

Your board of directors has voted in favor of our Society joining the N.W. Federation of Agate and Mineral Societies, which has its annual convention in Portland next August.

The board, however, thought it would be best to have the members vote on the matter as it is aware there are some who may not be in favor of the move. The cost is $30.00 per year. I am calling a short business meeting for Friday night, February 13, promptly at 8:00 p.m. at Library Hall, at which time we hope to dispose of the matter to the satisfaction of all the membership in a very few minutes so that it will not interfere with our lecture on that evening.

It is hoped all members will be present, as the question is one in which we are all interested.

Norris B. Stone, President

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NORTHWEST FEDERATION OF MINERALOGICAL SOCIETIES

By
Lloyd Ruff

Oregon and the Pacific Northwest were not slighted when mother nature was arranging her semi-precious gems through several pages of geologic history. What then could be more natural than the formation of earth-science groups for the mutual enjoyment of nature's treasure house. It might seem strange, however, that the amateur has enjoyed this fastest growing and third largest hobby for only about twenty years. The oldest geology or mineral club in the Northwest, the Oregon Agate and Mineral Society, was formed in Portland Oregon, in January 1933. Other firsts, in the various states, included the Tacoma Mineral Society in 1934, the Idaho Gem Club in 1935, and the Montana Mineral Club the same year. The Geological Society of the Oregon Country also dates from 1935.

The Northwest Federation of Mineralogical Societies was formed in Olympia, Washington, in 1938 with seven clubs in attendance. Since that time the Federation has grown to sixty-six clubs in the four northwest states, with a total membership of nearly 3,000 enthusiastic collectors. Today there are five regional Federations (Northwest, California, Rocky Mountain, Midwest, and Eastern) all united under the American Federation of Mineralogical Societies.

The American Federation, of which a Portlander, Mr. J. Lewis Renton, is secretary, meets annually as do most of the regional organizations. The Northwest Federation will hold its 1953 convention and show at the Public Auditorium in Portland, Oregon, Labor-day weekend, September 5, 6, and 7. Awards are given for outstanding club and member exhibits.

Amateur rock and mineral collectors throughout the country are now pretty generally known as "Rockhounds" and seldom is one found without a bragging rock or two in his pocket. Usually he is willing to share his finds and may even take you to a favorite hunting ground.

Directories are available (free or for a nominal fee) for most clubs and federations and are fine if you are planning a trip. Club rates are available for subscriptions to Mineral Notes and News, the official publication of the California and National federations. These and other advantages are possible through association with the regional and national groups and far outweigh the nominal cost to a society club.

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LIBRARY NIGHT JANUARY 6, 1953

A most pleasant evening was enjoyed by members at this Library night meeting at the Bushby residence. An even dozen were present. The trend of reading and discussion was stimulated by the "fish" story from South Africa, wherein one Prof. J. L. B. Smith begged a government plane in which to fly some 3,000 miles in quest of a dead fish off Madagascar which he believed to be of a species contemporary with the dinosaur. There were many armchair opinions ventured on the subject and considerable checking in various publications.

A study of foraminifera brought by Ford Wilson under his very excellent "magnifier," and a second inspection by those of us who had missed the previous library meeting, of his fluorescent "vaseline" glass, constituted the surprise end of the evening. Edward Bushby was delighted to find that the medium-priced

light (somewhere under $5.00 he told us) which he acquired for viewing fluorescents was very effective.

Mrs. Murray Miller presided at the end of the beautifully decorated coffee table and the evening ended as usual in a spirited discussion of various interesting subjects.

J.E.

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SCIENTISTS PRODUCE HEAVY WATER 'ABLE TO PENETRATE STAINLESS STEEL'

By
Thomas R. Henry
Science Editor, North American Newspaper Alliance

A strange kind of pure "water," a colorless, invisible steam which weighs about a third more than ordinary liquid water, and which has played a notable part in the formation of the earth's crust, is being produced at the geophysical laboratory of the Carnegie Institution of Washington.

It was described offhand as "stuff that will eat its way through a half inch of stainless steel overnight," but this description requires some modifications.

This water, however, comes very close to being nature's "universal solvent," the most potent material in her rock-making chemical laboratory in the earth's dark, hot depths. It is ordinary distilled water at temperatures as high as 1000 degrees Fahrenheit under pressure as great as 30,000 pounds per square inch.

Thus, it is far outside the bounds of any possible engineering problem, which never will need to consider the effects of water at temperatures above 500 degrees Fahrenheit and pressures above 2000 pounds to the square inch.

The queer "stuff" is produced, according to Dr. George C. Morey, acting director of the laboratory, by pumping ordinary distilled water under whatever pressure is desired into red-hot "bombs" made of a special sort of synthetic metal which will withstand the solvent action of the new kind of water which is produced.

Heat produces steam

Due to the enormous heat, the water becomes, of course, steam. That is, it changes from a liquid into a gas.

The liquid "stays put." Its molecules stick together. Gas molecules fly apart until they fill all available space, but the same amount of liquid water which would fill the bomb would be much lighter than the steam into which it is converted in the bomb.

This high-pressure steam will take about all the 92 elements into solution, just as sugar can be dissolved in ordinary water. Its corrosive action depends on what happens to be in the solution.

Thus, for example, it would take stuff out of the walls of a stainless steel bomb in a few hours. This solution, in turn, would so weaken the crystal structure of the steel that it would crack.

At any rate, such a bomb wouldn't hold the steam overnight. The steam wouldn't actually eat through the steel, but the end result would be about the same.

Rocks fall apart

It will dissolve almost everything that goes to make up the crustal rocks of the earth. This probably explains to a considerable degree, Dr. Morey says, the distribution of the elements, particularly the metals, through the earth's crust.

This is the kind of "water" which exists at great depths, where everything is molten and under enormous pressures. Constituents of this liquid rock are dissolved in the hot, heavy steam.

But this steam still is a gas. It can diffuse freely through the minutest cracks in the earth's crust above it. It carries with it the materials it holds in solution.

Finally, as it moves toward the surface and pressure and temperature are reduced, it changes to ordinary steam, then to liquid water. It can no longer hold the materials in solution and they are deposited in the crustal rocks.

There is iron, for example, almost everywhere. Some places there are bare traces, while in other places, as in the Appalachians of western Pennsylvania or the Mesabi range in Minnesota, there are enormous deposits. Probably all the iron originally was in the molten depths and was carried by the steam to the places where it now is found near the surface.

"It would not be too far-fetched," says Dr. Morey, "to assume that all the iron in the Mesabi range was brought there in just this way."

For that matter, there is uranium almost everywhere - probably in any back yard - brought there by the same cooling steam. The amounts are so minute, of course, that they have no significance whatsoever.

Steam actually invisible

If anybody could look at this steam, says Dr. Morey, it would be completely transparent and invisible. The whiteness of the vapor that comes from the spout of a kettle is the whiteness of droplets of water, not steam itself. There are no droplets left in the supersteam.

Presumably, says Dr. Morey, the supersteam would take on something of the color of whatever was dissolved in it. If this were cobalt, it probably would look like a blue gas. If copper were dissolved, it might look like a green gas.

When the bombs at the geophysical laboratory are cooled and the pressure turned off, the supersteam reverts to water again. It went in as pure water. It comes out full of all sorts of things which it has taken into solution.

(From The Oregonian, December 18, 1952)

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DR. E. L. PACKARD WRITES OF DR. ETHEL SANBORN

The following words of Dr. E. L. Packard concerning Dr. Ethel Sanborn arrived too late to be included in our story in December News Letter concerning her death. We publish them at this time for their great inspirational value to young students and as a tribute to the memory of Dr. Sanborn:

"Dr. Ethel Sanborn's interest in fossil plants began while she was an assistant in the Department of Botany, University of Oregon. I first met her while giving a special lecture before the botany class. From that time interest increased and led to her doctorate in Paleobotany at Stanford University where she was and is still thought of as a painstaking researcher.

"She early collected fossil leaves at the now famous Goshen locality first discovered by Thomas Condon. Her studies of that flora attracted the attention of Dr. John C. Merriam, president of Carnegie Institution, and Dr. Ralph Chaney, Associate in Paleobotany. Those contacts led to financial assistance and publication privileges which continued up to the time of her retirement.

"Her paleobotanical researches were confined to Tertiary floras of Oregon and represent noteworthy contributions. Although her major research interest was centered in ancient floras she also contributed to the knowledge of lower modern plants. Her work with marine algae while teaching at the Institute of Marine Biology proved very stimulating to a number of her advanced students.

"A much larger number of persons who studied under her at the University and at Oregon State College will remember her as a most inspiring teacher in the several fields of botany and paleontology. She was not only a researcher and a teacher of distinction but she was a most loyal friend to faculty and students and to even a wider circle in sorority, church, and the world at large."

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AN INVITATION FROM DR. AND MRS. ARTHUR C. JONES

Following the Friday night lecture at Library Hall on the evening of February 27, GSOC members and friends are invited to be the guests of Dr. and Mrs. Arthur C. Jones at which time we will repair to the Portland Rehabilitation Center, 1615 S.W. 14th Avenue. Dr. Jones is the Medical Director of this institution and this is our opportunity to acquaint ourselves with its fine constructive value in our every day society. We are proud that the Director of this great humanitarian movement is also a charter member and past president of our Society.

Don't miss this inspiring opportunity to learn more about what is being done for others not as fortunate as ourselves. After the tour there will be "Coffee and" according to Dr. and Mrs. Jones.

Norris B. Stone, President.

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DR. ARTHUR H. LIVERMORE SPEAKS ON ATOMIC ENERGY

On Friday night, January 9, at our regular lecture meeting in Library Hall, GSOC members were "radio-activitated" well into the future when atomic energy will probably be as commonplace as the electricity that we rely on today -- and perhaps treated as casually as when, with a flip of the finger, we turn on electric lights.

The occasion was a talk given by Dr. Arthur H. Livermore of the Chemistry Department at Reed College on the subject, "Atomic Energy and its Peacetime Uses."

Dr. Livermore explained (even if we didn't entirely understand) how atoms were split and, in general, how atomic bombs are made and detonated. He stated that there is a wide variance in the time it takes different materials to lose their radioactivity. The reduction is by a series of one-half loss intervals, in atomic parlance, the "half-life" of the product. Some materials have a half-life of only a matter of minutes while others many millions of years. Iodine, he stated, has a half life of 14 hours but from the chatter set up by the Geiger counter when he placed a supposedly empty iodine bottle in front of it, it has plenty of authority even when present in very minute quantity.

One of the peacetime uses that Dr. Livermore cited and one that is proving to be a great saving to oil companies is their method of marking, by insertion of isotopes at each change to a different kind of oil transported in their cross-country pipe lines. Merely by walking along the pipe with a Geiger counter they are able to tell just where such a change occurs or has reached in its journey, and thus make diversions to proper tanks, etc., accordingly.

Radioactive iodine in thyroid disturbances, the "carbon" check in dating the age of materials, its use in generating electricity, its potential as motor fuel, were some of the matters discussed. He also told of precautions taken at various plants by checking effect on fish, etc., where it is necessary to turn radioactivated water back into rivers, mentioning also that meteorologists were employed at the Hanford plant to check cloud "drifts," etc., as a precautionary measure.

The question and answer period was a lively one. Dr. Livermore suggested that members get and read in the January issue of National Geographic, an article concerning the radioactivity of cosmic and other rays.

J.E.

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A GOOD IDEA!!

The suggestion has been made that should any of our members desire to make a donation to our Library fund for purchase of current books, a good time to do so would be when remitting your annual dues to the Secretary. Such an amount should be designated "For Library Fund" when making your remittance. Any amount from 50 cents upward -- in fact whatever each member feels he might like to donate would be most gratefully accepted. So many new books are coming out that are stimulating and illuminating, it is felt that their purchase for the Library would serve a most useful purpose and be of great and lasting value to our entire membership.

J.E.

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YOUR LIBRARY AND MINE

Thirteen GSOC members browsed in the library Tuesday, January 20. We welcomed Mr. Reynolds Ohmart and Mr. Clark Smith from Salem. Fifty miles is a long way to drive in an evening and we were pleased that they felt it worthwhile. A thank-you to Mr. Earl Minar who handled the surprise program which consisted of a display of beautiful samples of polished granites, both domestic and foreign, with interesting commentary on how to polish granite, engrave it, etc. Your librarian served "coffee and..."; then discussion followed until midnight. By the way, did you ever take a mineral light over to your 'crystal' cabinet? Ed Bushby did and found some interesting fluorescent specimens. Everyone had to take a look. Try it on your glassware - you may be agreeably surprised.

There were 21 acquisitions to the library during November and December 1952 other than those which might have been acknowledged already. A thank-you to those who donated the following some of which are now out of print:

Robert Wilbur - Meteorites. A 3-page paper, American Sky Lectures, Walla Walla, Washington.

Rudolph Erickson - Ancient Forests of Oregon, by Dr. R. W. Chaney, 1948.

Grace Poppleton - Salient Features of the Geology of Oregon (2 copies), by W. D. Smith and E. L. Packard, 1919.

Columbia River Gorge - its geologic history interpreted from the Columbia River Highway. Vol. 2, no. 3, Mineral Resources of Oregon, by Ira A. Williams, 1916.

Geology of North Central Oregon, by Edwin T. Hodge, 1942.

The Mineralogist (10 copies), issues between period 1935 and 1951.

Complete Mineral Catalog. Published by Foote Mineral Company, Philadelphia, 1909.

Fay W. Libbey - Mesozoic Hexacorals from Japan. Vol. XXIV, 2d Series (Geology), 1951. Science reports of Tohoku University, Sendai, Japan.

H. C. Dake - The Agate Book, by H. C. Dake, 1951.

Northwest Gem Trails, by H. C. Dake, 1950.

Upon the suggestion of certain members, all new material will be kept out of the regular book shelves for one month for easy reference.

Next library nights will be Thursday, February 19, and Thursday, March 5.

Yours in the interest of YOUR LIBRARY AND MINE,

May R. Bushby, Librarian.

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IMPORTANT NOTICE!

See additional items to add to your GSOC Library list on last page this issue!

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AMENDMENTS TO BY-LAWS SINCE 1946

To bring all GSOC members up-to-date on Society activities, we print below amendments made to the by-laws of the Geological Society of the Oregon Country which have been adopted since 1946:

Be it resolved that Article II, Section 3, Paragraph 1, be amended to read as following:

> "A Junior Member shall be a person under twenty-one years of age who is interested in and supports the aims and objects of the Society, and who has been recommended by the membership committee."

Be it resolved that Article II, Section 3, Paragraph 3, be amended to read as follows:

> "A Fellow must be elected by two-thirds of the Executive Committee for some definite contribution to the welfare and objectives of the Society. All Past Presidents who are members in good standing shall in view of their services automatically become Fellows of the Geological Society of the Oregon Country at the completion of their term of office."

Be it resolved that Article III, Section 1, be amended to read:

> "The annual dues for a Junior shall be $1.50 (instead $1.00)."

Be it resolved that Article IV, Section 6, be amended to read:

> "The Editor of the official publication of the Society shall be nominated and elected at the same time and in the same manner as are the officers of the Society, for a term of one year, but shall not be a member of the Executive Committee."

Respectfully submitted,
/s/ Mrs. Leo F. Simon, Secretary

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LUNCHEON MEETING - JANUARY 8, 1953

Fifteen members and a guest, Mr. Norton, who was a charter member of the Society but has lately been living in Alaska, were present. . .A newspaper clipping stating that more than 1,000 scientists were "combing Africa to search out huge mineral wealth" was presented. Since no nomes were used in the article, we should not feel too downcast for not finding mention of Dr. Hodge, our first president, but he is one of those on the job. . .Rudolph Erickson mentioned finding an erratic at the east mouth of the Sandy River, roughly a yard in each dimension, enclosed by the roots of a tree. He had some specimens from his favorite hunting grounds near Scotts Mills on the road to Wilhoit. . .May Bushby exhibited two nice specimens; black tourmaline in a gray matrix, and dumorterite. . .President Stone announced that the catalog of the Society's library was nearly ready for distribution. . .Mrs. Jones brought a copy of "The Africa of Albert Schweitzer" from the library of the First Unitarian Church. . .A. D. Vance called attention to the coming Condon Lecture Series. . .Miss Hopson reported finding three mammoth teeth. She had just returned from a scientific convention in St. Louis (Missouri - not Oregon). She is now teaching Geomorphology in Portland State College. . .A. W. Hancock brought a specimen for identification. No luck. . .A general discussion of the advantages and disadvantages of uniting with the federation of northwest rock clubs reached no decision.

O.E.S.

"DINOSAUR' OF THE DEEP

One can understand better the excitement of Professor J. L. B. Smith of South Africa, who begged a plane from his government and flew 3000 miles to pick up a dead fish off Madagascar, when one perceives that this fish was of a species contemporary with the dinosaur.

* * * * * * *

The fish is known as Latimeria chalumnae of the coelacanth family, which we are told was the first of the fishes to have bones rather than cartilage. It was known to ichthyologists before 1938 only from its fossil traces in the rock strata of the Mesozoic period, which was the age also of the dinosaurs. It was believed to have become extinct 50,000,000 years ago.

In "Animals Strange and Rare" by Richard Ogle (G. Bell & Sons, Ldt., London) is mentioned the finding of the 1938 specimen:

> "Probably the most startling link with the past that has been discovered of recent years is a fish . . . Here, indeed, brought up from the abruptly shelving coast line, is a living fossil - Latimeria chalumnae. It is a large fish, ultramarine in colour, and about four and a half feet long. Latimeria is a denizen of the very deep waters, and was supposed to have been extinct 50,000,000 years ago . . . We note that its scales are patterned as in an old enamelled work, that it possesses a curious tail with a little central lobe - the true tail - curious fins of an ancient pattern, a sort of limb carrying a fringe of fine rays, and a pair of heavy plates of bone - 'gular plates' - under the floor of its mouth."

Whether the newly found specimen is identical with the 1938 one is not known here - Professor Smith told reporters it was a "new type." What will prove to be its value as a "missing link" in tracing the evolution of sea vertebrates into land vertebrates remains to be seen.

(From The Oregonian, January 4, 1953.)

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RONER AND HARNISCH COLLECTIONS VIEWED ON ALBANY TRIP

Ten cars, containing 32 persons, are most grateful to GSOC member, Mr. Reynolds Ohmart, for arranging and leading a very delightful trip on December 14, in which we viewed two of the finest mineral and fossil collections in the Willamette Valley.

The first, Fred A. Roner's superb specimens were gathered, he told us, over a number of years. They include polished petrified wood, nodules, crystals, Indian artifacts, minerals, fossils, etc. All was displayed with excellent arrangement and lighting. The machine operators learned much also from the voice of experience in the well-equipped, orderly shop, truly a nice place to linger. Mr. Roner is a perfectionist and must derive much satisfaction in showing his handiwork, which we will all long remember.

We next proceeded to the home of Mr. and Mrs. Dale Harnisch about 5 miles northwest of Albany. Mrs. Harnisch has been collecting for the past 30 years, but more extensively in the past 3 years. She has a fine showing of minerals, crystals, and fossils in self-designed, well-lighted cases. All thoroughly

enjoyed Mr. and Mrs. Harnisch's hospitality for lunch hour in their lovely ranch home and meeting Mr. A. W. Porter, a visiting prospector and mine owner from Pepperwood, California.

Thank you, Mr. Ohmart, for arranging this most delightful trip.

J.M.S.

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HAVE YOU HEARD?

. . . .the best joke of the year? President Stone told annual banquet chairman Stella Keen she could put any one on any committee she wanted to and quick as a wink found himself chairman of one of the most important committees . . . . that a very nice picture of GSOC member Eliza Stevens, president of Oregon Retired Teachers' Association appeared in a recent Oregonian . . . .that Nobel prize-winning scientist Selman A. Wakeman gives "simple curosity" as the main clue to his momentous accomplishments? "I want to know" says Dr. Wakeman . . . .that Agate and Mineral Society elected some of our best Geesockers for important positions? Lon Hancock, president, Al Keen, program chairman, and Leo Simon, custodian . . . . that a John Hopkins man, Dr. George F. Carter, (January 12, Oregonian) claims he may have uncovered a great archeological development, evidence that human beings lived in America a thousand centuries ago . . . . that we are more than proud of our Program Chairman Tom Matthews who has just been named Chairman of Oregon Section of American Institute of Mining and Metallurgical Engineers. Congratulations, Tom! . . . .also, new law firm under name of Phillips, Coughlin, Guell, & Phillips includes GSOC member Clarence Phillips . . . . that on a California sojourn, Mr. and Mrs. Wm. Clark found so much of geologic interest along the highway in Oregon that they "dawdled"; so long in fact that the part of the family remaining at home, not hearing from them, became alarmed. As a result when the Clarks reached San Francisco they found the police alerted and organizing a search . . . . that none of us will be surprised to learn but will be pleased nevertheless, that GSOC Junior member Greg Davis (see his Mt. Hood story this issue) came up top of his class with straight A's at end of first semester at Stanford University . . . . that Dr. Ruth Hopson, one of our most ardent members, journeys weekly to Hillsboro and McMinnville to teach a class in geology, in addition to her regular schedule in Portland . . . . that there is "feudin'" going on in Glenmorrie. The chickadees are complaining that tallow put out for them is being lifted from feeding station by a predatory pine squirrel. His honor now suffering frustration and bafflement due to replacement of tallow now being wired fast. So far, no luck for Mr. P. S.

J.E.

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"EVERGREEN CHERRY IN OREGON"

A cherry tree that was evergreen and with glands on the blades of its leaves is a far cry from what is grown here in Oregon and enjoyed as out favorite "pie" product at the present time.

H. L. Hergert of the Oregon Forest Products Laboratory of Corvallis has called our attention to an article that gives this information published by Roland W. Brown in the October 15, 1950, issue of Journal of the Washington Academy of Sciences, Washington, D.C. In this article, a new fossilized species of evergreen cherry, Prunus pristina is described. This species shows several distinctive identifying features among which are the presence of glands on the blades of the leaves. It is

believed to be the first known fossil species showing this characteristic. The closest living species is prunus laurocerasus which is a native of southwestern Asia and southeastern Europe.

Mr. Hergert is of the opinion that Dr. Brown's assignment of the Sweet Home tuff to the Oligocene epoch is apparently based on the finding of marine fossils near Brownsville and the conclusions of L. W. Staples (c.f. American J. of Science, vol. 248, pp. 124-136, 1950). He tells us that although it is not stated in Dr. Brown's paper, the evergreen cherry is found at a locality on the north side of the South Santiam River, sec. 20, T. 13 S., R. 1 E., about 2½ miles west of Foster on the North Side Road.

J.E.

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IS THERE VOLCANIC ACTIVITY ON MT. HOOD?

By
Greg Davis

(A copy of the following report was sent to Mr. Ralph S. Mason of the State Department of Geology and Mineral Industries and chairman of the Mazama Research Committee, who replied that he had discussed the findings "with several Mazama members who are conversant with the fumaroles and none of them can recall having ever heard the subterranean bubbling sounds." Mr. Mason also discussed the report with Dr. Fred Ayres of the chemistry department at Reed College. Dr. Ayres and several of his students had done extensive work on chemical analyses of the fumarole emanations in 1950. He was also at a loss to explain the phenomena.)

On September 23, 1951, two friends, Ron Lewis and Bob Brown, and I climbed to the lower crater fumaroles on Mt. Hood to collect specimens of sublimated sulphur crystals which we obtained by digging into the soft earth with an ice axe.

It was on this visit that all three of us were astonished to hear distinctly the roar of boiling water. Its location was at a large group of fumaroles centered in the saddle above White River Glacier at approximately 10,200 feet. By the sound produced the volume of water had to be great. The rocks and earth at this location were exceedingly hot and the hand could not be placed on them without discomfort. There were a number of small vents in this area which hissed and steamed with the escape of gases. The strong odor of hydrogen sulphide was present.

The finding of boiling water in this area may or may not constitute a discovery but in the book referred to above, a report made by O. C. Yocum in August 1896 stated that "by applying the ear to the ground, boiling and sputtering of water could be heard distinctly." The report was used in connection with proof showing that activity has decreased in the past sixty or more years. On our visit, however, the roar was of such intensity that we heard it easily from an upright position and first mistook it for the noise of a stream of which there was none.

In 1935 the temperature of fumaroles found close by was 193° Fahrenheit, or exactly that of the boiling point of water at this altitude. The question as to whether or not the present temperature is higher at the site of our discovery is still unanswered as we were without means of taking readings.

Is this discovery significant in the study of vulcanism at Mt. Hood?

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LIST OF LIBRARY CONTENTS AT LAST A REALITY

Many months of thought, planning, and concentrated effort were brought to a culmination this past month when President Stone mailed to each member, along with a letter of transmittal, a detailed catalog of the contents of our GSOC Library.

The hours and days of untiring effort by Librarian May Bushby and those who worked with her on her committee, that went into compilation of this material should be realized and appreciated by each and every one of us. Appreciated also is the work done by Clara Stone in final typing for ditto purposes, also the work in which she tells us her good husband assisted -- the distributing and binding of its thirty-three some sheets.

Your attention is called to an addendum to the list which is being printed on the last page of this issue of News Letter. These were unintentionally excluded from the original catalog. The sheet may be detached and fastened to your regular list, if you so desire.

J.E.

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ELBOWROOM

Give me the outdoors where I can tramp and traipse.
Let the house-held people be caged like circus apes.

I'd sooner be a grasshopper, leaping like silly,
Than a pantry-fed roach snugged from winds hot or chilly.

I'd admire to be a jackrabbit, running like scary,
Rather than a hearth-huddled cat in January.

Give me the outside, the way without a wall;
The penter-up a fellow is, the faster he grows small.

Laurence Pratt
Portland, Oregon

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LUNCHEON MEETING - JANUARY 15, 1953

The piece de resistance at the GSOC luncheon Thursday noon, January 15, 1953, was breaded veal cutlet. No complaints were heard. . .Nineteen people were present. . .President Stone opened the meeting with the salad course and kept things humming until the crowd began to thin by reason of New Years' resolutions adopted by heartless employers to whom office work seems more important than the study of geology. . . Mr. Stone called attention to a book formerly owned by Mr. Johnson, deceased, which was being given to the library. It is "History of the Gems found in North Carolina," by George Frederick Kunz. It is beautifully illustrated in color and in black and white. . .A copy of the August 1952 Scientific Monthly containing an article on "The Cause of the Great Ice Ages," by Karl A. Pauly was circulated. This article was reviewed recently by Dr. J.C.Stevens and aroused great interest. . .Mr. Baldwin mentioned the desirability of entertaining our out-of-town speakers at dinner before their lectures in order that more members may become better acquainted. . .Dr. Jones' copy of "The Earth's Crust" was shown and additional orders for the book were taken. . . Attention was called to a story in Colliers by N.B.Stone, Jr., son of our president, who modestly let it be known that Junior has also sold a story to"Satevepost". . . R. Erickson had two small rocks containing fossil limpets. He called attention to an article about fossil insects, with a suggestion that we might possibly find some of these in one or more fossil-leaf locations. . .Tom Matthews had a piece of manganese steel of doubtful origin, having been found in a placer mining locality. . .A book "Wy-East; the Mountain" by Fred McNeil, Mrs. Barr's brother, in which several members of GSOC were mentioned or quoted, was circulated. The matter and its treatment were both interesting.

O.E.S.

GEOLOGICAL NEWS LETTER

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GEOLOGICAL SOCIETY OF THE OREGON COUNTRY

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Society Objectives

To provide facilities for members of the Society to study geology, particularly the geology of the Oregon Country. The establishment and maintenance of a library and museum of geological works, maps, and specimens. The encouragement of geological study among amateurs. The support and promotion of geologic investigation in the Oregon Country. The designation, preservation, and interpretation of important geological features of the Oregon Country. The development of the mental capacities of its members in the study of geology and the promotion of better acquaintance and closer association between those engaged in the above objectives.

Persons desiring to become members should contact the Membership Chairman, Mrs. William Clark, 5237 N.E. Wistaria, Phone GA 3242. Annual dues are $3.50 for residents of Multnomah and adjacent counties; $2.50 for others; and $1.50 for Junior members. Remittance should be made payable to the Society.

Society Activities

EVENING MEETINGS: Formal lectures or informal round-table discussions on geological subjects, on the second and fourth Fridays of each month, at Public Library Hall, S.W. Tenth Avenue and Yamhill Street. 8:00 P.M.

FIELD TRIPS: Usually one field trip is scheduled for each month.

LUNCHEONS: Informal luncheons, with geological motif, each Thursday noon in Room 305, YMCA Building, S.W. 6th Avenue and Taylor Street. $1.00 per plate.

PUBLICATION: The Geological News Letter, issued once each month, is official publication.

CALENDAR FOR MARCH - 1953

Thursday March 5	Luncheon Meeting - YMCA Cafeteria
Thursday March 12	Luncheon Meeting - YMCA Cafeteria
Friday March 13	Annual Banquet - Mt. Tabor Presbyterian Church 55th & Belmont Streets - 6:30 p.m.
Thursday March 19	Library Browsing time "Your Library and Mine" Residence Mr. and Mrs. Edw. Bushby, 1202 S.W. Cardinell Drive
Thursday March 19	Luncheon Meeting - YMCA Cafeteria
Thursday March 26	Luncheon Meeting - YMCA Cafeteria
Friday March 27	Friday night meeting Library Hall - 8:00 p.m. Mr. R. E. Corcoran of the Oregon Department of Geology and Mineral Industries will talk on the "Geology and Stratigraphy of the Mitchell Butte Quadrangle of Eastern Oregon." Mr. Corcoran will bring samples of the rocks present and show slides of some of the formations.
Tuesday March 31	Library Browsing time "Your Library and Mine" Residence Mr. and Mrs. Edw. Bushby, 1202 S.W. Cardinell Drive

FIELD TRIP FOR MARCH

Sunday March 29 — The March Field Trip will be an afternoon trip on Sunday, March 29, 1953, and will consist of geologizing around Oswego.

We will meet at 12:50 p.m. just north of the Richfield Service Station on Highway 99 at north end of Oswego. Trip will be to inspect evidences of Spokane Flood at west end of Oswego Lake and at Peach Cove area opposite New Era south of Oregon City. If time permits, we plan to also look over area in Beaver Creek and Abernethy Creek districts, returning to the residence of Norris Stone in Glenmorrie for coffee. Bring your own sandwiches for an evening snack. Slides taken by the Ericksons along the Oregon Coast will be shown later in the evening.

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ANNUAL BANQUET

Do you have your tickets yet for this annual get-together of GSOC members? If not, phone Leo Simon right away, for reservations.

The speaker, we understand, is to be the well known GSOC member from the University of Oregon at Eugene, Dr. Ewart M. Baldwin. General banquet chairman, Mrs. Albert Keen, says that all plans are progressing for a happy evening - entertainment - food - friends - fun. The place is the usual 55th and Belmont rendevous, the Mt. Tabor Presbyterian Church. Tickets are $1.75 each. Don't miss what is being designated by President Stone and Mrs. Keen, as a "home talent" version of this always enjoyable occasion.

J.E.

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BIND YOUR NEWS LETTER

Business Manager, Edward Kelham, calls attention of G.S.O.C. members that now is the time for all who want their News Letters bound, at the very low price of 25 cents per volume, to get them ready. Staples should be removed, pages arranged in proper order with Index. Index to Volume 18 will be found in Volume 19, January 1953 issue. Bring them to Thursday luncheon at YMCA, or take them to Ralph Mason, State Department of Geology and Mineral Industries, 10th floor State Office Building, 5th Avenue and Columbia Street.

The Society has a few bound volumes of back issues for sale at $2.25 a volume. If you are in need of one or more volumes to complete your set, NOW is the best time to get them. They may all be gone tomorrow!

R.B.

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GSOC PHOTOS AND AUTOBIOGRAPHIES OF PAST PRESIDENTS NOW IN LIBRARY

At GSOC member Ada Henley's suggestion, President Stone has arranged for our Past Presidents' Autobiographical Collection, also the albums that have been kept of photographs taken over the years at functions of our Society, to be turned over to our Library.

These are very interesting editions -- and it will be worth your while to go down to "Library Browse" at one of its regular dates to see if you can find your own photograph, also to read about some of our past presidents, their background and accomplishments, and other interesting material about those who have led your Society in the past.

J.E.

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GEOLOGY COURSES OF INTEREST TO GSOC MEMBERS

Several courses in geology and related sciences which are of interest to GSOC members will be conducted during spring term, beginning March 30 at the Portland State Extension Center.

On Wednesday evenings, from 6:45 to 9:25, GSOC member Dr. Ruth Hopson will teach a class making a detailed study of the geomorphology of the United States.

On Monday evenings, same hours, Mr. Ralph Mason teaches a class in historical geology.

We understand that it is still possible for any GSOC member interested to register for these subjects.

J.E.

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POSSIBLE FUTURE PETROLEUM PROVINCES IN OREGON

By
H. J. Buddenhagen

An appraisal of Oregon's prospects as a possible future oil province requires consideration of two widely separated regions where thick sections of unmetamorphosed marine sediments occur: (1) the Coast Range Province of Tertiary rocks, and (2) the Central Oregon Province of Mesozoic and Paleozoic sediments. Between these two regions is the north-south-trending Cascade Range of late Tertiary volcanics. The remainder of the state, except for the metamorphic and plutonic masses of the Klamath Mountains in the southwest, and the Blue-Wallowa mountains in the northeast, is covered by a thick section of volcanic rocks, with interbedded continental sediments, of Tertiary to Recent age, which conceal any pre-Tertiary marine sediments which may be present. Two parts of this vast concealed area, the Harney basin in southeastern Oregon, and the Vale-Ontario area in central easternmost Oregon, have attracted considerable attention from wildcatters and promoters, and are also discussed briefly for that reason.

Coast Range Province

The Coast Range Province in Oregon extends from the Klamath Mountains on the south to the Columbia River on the north, and from the foothills of the Cascade Mountains on the east to the Pacific Ocean on the west, and, as considered here, includes the Willamette Valley. It is approximately 215 miles long, and has an average width of about 65 miles, with an area of about 14,000 square miles.

Beds of middle and upper Eocene and Oligocene age comprise the principal exposed formations of this province; some marine Miocene is present also, mainly in coastal areas, and a few square miles of marine Pliocene in the Coos Bay district. The structure is essentially that of a complex, undulatory, anticlinorial uplift with a general north-south trend, and an apparent gentle regional plunge toward the north, so that the oldest strata are exposed in the central and southern parts of the area, flanked on the east, west, and north by younger formations.

The maximum composite thickness of the exposed strata, including 5,000 to 10,000 feet of interbedded volcanic rocks, is not less than 20,000 to 25,000 feet. Important probably regional unconformities occur between the Eocene and Cretaceous, and at the base of the upper Eocene and the middle Miocene, with less important ones reported within the upper Eocene and at the base of the Oligocene in some areas.

Exclusive of volcanic rocks, the Tertiary formations of this province are composed almost entirely of clastic sediments. Sandstone and shale beds up to several hundred feet in thickness are common, as well as rhythmically interbedded sandstone, siltstone, and shale, with all their intergradations. Within the province as a whole the stratigraphic section is predominantly, possibly as much as 75 percent, of marine and brackish-water origin, but east of the Willamette River the proportion of nonmarine sediments and volcanic debris increases greatly. In much of the area the actual eastern limit of marine tongues of Oligocene and Eocene, however, is concealed beneath younger Tertiary lavas of the Cascade Mountains. In the vicinity of Madras, central Oregon, the dominantly volcanic section exposed there, which includes rocks of Eocene age, is entirely nonmarine in origin.

Much of Tertiary time in Oregon was characterized by volcanic activity in the areas of marine sedimentation as well as on the land areas at the east. Submarine basaltic eruptive rocks up to several thousand feet in thickness comprise much of

the lower part of the middle Eocene. These are believed to occur through the Coastal Range Province and presumably are correlative with the middle Eocene basalts of western Washington. Volcanic rocks are not prevalent in the upper middle and upper Eocene in the southern half of the province, but in the northern half they are common. Where present they seem to occur as great lenslike extrusions and ejecta of both submarine and subaerial origin up to several miles in diameter with maximum thicknesses of several thousand feet. The Eocene sediments interbedded with, and adjacent to, these extrusions are composed chiefly of volcanic debris and tuffaceous material. The Oligocene contains little interbedded lava but is characteristically tuffaceous, as is also the Miocene, which, in addition, contains considerable lava. In addition to the extensive areas of extrusive volcanic rocks in the northern half of the Coast Range Province, there are large sill-like intrusions of igneous rock up to several hundred feet thick and numerous dikes of basic rock. Nowhere do these intrusions appear to have metamorphosed the adjacent sediments more than a few feet from the contact.

In the northern Klamath Mountains marine Cretaceous and Upper Jurassic sediments unconformably underlie the Eocene, and in the central Oregon area many thousand feet of unmetamorphosed pre-Tertiary marine sediments are exposed in windows in the regional cover of Tertiary volcanic rocks. Whether the Cretaceous or any of the older marine formations underlie the Tertiary of the Coast Range Province can only be conjectured, but it is reasonable to suppose that they were deposited in this region, and that remnants of them still remain. It is thus impossible to make an estimate of the total thickness of sediments in this province, or of the depth to the basement of metamorphic or plutonic rocks which underlies it. From the practical oil exploration point of view the thick lavas in the lower part of the Eocene would probably constitute "basement" in most parts of the Coast Range Province. In some of the structurally higher parts of the province, however, it is not unlikely that localities could be found where it would be practical, and possibly worthwhile, to penetrate the remaining Tertiary section and explore the subjacent sediments, if present.

The detailed structure of this province is not well known, partly because of the heavy vegetation, thick soil, and difficult stratigraphy, and partly because of an apparent lack of economic incentive to explore it. The Coast Range uplift, although apparently relatively simple in broad structural outline, is complex in detail, with many discontinuous undulatory folds and normal faults which trend at appreciable angles to the general north-south trend of the uplift. Dips are characteristically low throughout the area, few in excess of 20 degrees, and the folds in general are notably symmetrical.

Asphaltic residue in basalt vesicles, siltstone in the coastal region with a kerosene-like odor, and oil shale near Ashland comprise the only known surface indications of oil in the Coast Range Province. No authenticated oil seepages or oil sands have ever been found. Gas, believed to have been derived from decaying vegetation or carbonaceous strata, has been encountered in many water and wildcat wells, but gas has not been found in commercial quantities.

Forty-five to fifty wells have been drilled in search of oil or gas in this province. Many of them were sponsored by promoters and local enthusiasts probably without the benefit of geological advice, and more than half were less than 2,000 feet deep. Hence, the failure of the wells to discover any oil or gas accumulations, or even encouraging indications, can hardly be considered significant. However, five wells, the deepest of which was 9,263 feet, have been drilled in recent years by major oil companies. Oil indications were reported in none of these wells. It is assumed that their sponsors consider them to have been adequate tests, for

they are no longer active in the region. Admittedly the lack of surface oil indications, the completely negative results of all the wells drilled, and the prevalence of volcanic rocks throughout the Tertiary section do not lend encouragement to further exploration. But at the same time it should be pointed out that the exploratory effort to date, including geological mapping, has hardly been sufficient to condemn the region as a whole.

Note:

Reprinted by permission from the February 1951 issue of Bulletin of the American Association of Petroleum Geologists. The following persons collaborated in preparation of this report: E. M. Baldwin, Univ. of Oregon; R. L. Lupher, Shell Oil Company; E. L. Packard, Oregon State College; P. D. Snavely, Jr., U.S. Geological Survey; D. H. Sears, Shell Oil Company; and R. E. Stewart, Oregon Dept. of Geology and Mineral Industries.

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GEORGE GAYLORD SIMPSON SPEAKER AT CONDON LECTURES

Many of our GSOC members were on hand to enjoy the lectures with accompanying slides, of Dr. George Gaylord Simpson, chairman of Geology and Paleontology at the American Museum of Natural History in New York, also a noted author and world-famous student of evolution, when he delivered two of this year's Condon lectures on the evenings of January 20 and 21 at Portland State College.

Dr. Simpson discussed the influence of geography on evolution and told how many animals successfully negotiated the trip from North to South America, over the Central American "land bridge." The travel coming this way, however, was not so successfully accomplished as only a few survived its ordeals, one of which was probably food supply, as explained by Dr. Simpson.

He pointed out that Australia and South America have different types of animals today from those in Europe, Asia, Africa, and North America, which he believes were once tied together in a "world continent." Australia and South America, the latter separated at that time from the north by water where Central America now is, were then island continents and life there developed independently. Some of the passages operated as"gates" allowing only certain types to pass through.

Dr. Simpson covered a part of the same subjects which he discusses so brilliantly in his very important book, "The Meaning of Evolution." The further reading and study of this most important contribution to an understanding of evolution would prove very rewarding to our G.S.O.C. members.

J.E.

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NORTHWEST SCIENCE EXPOSITION

Registrations for exhibits at the Northwest Science Exposition, to be held at Portland State College, March 16-20, 1953, are coming in from all over the State, according to Mr. Stanley Shirk, director of the Oregon Museum of Science and Industry, sponsors of the exposition. To date several hundred exhibitors have registered.

The exposition is open to all students of public, parochial, and private schools. GSOC members will want to attend this exposition to see what the youth of our State is doing in the way of developing new ideas in the various scientific fields. Some of us perhaps may be able to interest some young person to take a part in this most worth-while venture.

J.E.

MISSING LINK IN HANCOCK COLLECTION

A missing link in the evolution of the elephant family has been brought to light by Dr. George Gaylord Simpson, world famous paleontologist, author and lecturer, growing out of his recent inspection while in Oregon recently of the A. W. Hancock fossil collection.

An understanding of the importance of this discovery can best be gained by perusing Dr. Simpson's own words on the subject. Mr. Hancock has been kind enough to let us have a copy of letter he received from Dr. Simpson, which we are most happy to print for benefit of News Letter readers, as follows:

"Dear Mr. Hancock:

I have returned safely to New York with very pleasant memories of my stay in Oregon and the view that you so kindly gave me of your wonderful collection.

Of course I will be able to identify the mastodon skull more precisely when I receive a photograph of it, but even from my rough sketches and measurements I can give you some further idea about it. It seems certainly to belong to the genus Miomastodon and quite possibly to the species Miomastodon merriami. It is much the best specimen of that genus or species that has ever been collected. It is therefore of outstanding scientific importance and I know that you appreciate the desirability of protecting it and of seeing that it is permanently preserved. It adds important information about the evolution of the elephant family and therefore should certainly sometime be studied carefully by a paleontologist and there should be a publication of a description and illustrations of it. As long as the specimen is carefully preserved there is no special hurry about that so that it may be left to the future. In the meantime, however, it is still more important than I suggested at the time that the rest of this specimen should be collected and not left in the field at the mercy of stray collectors or of the elements. I do hope that you can work out some arrangements yourself or in cooperation with Mr. Ruff or others there to get out into the field and make a thorough excavation, saving every possible bone of this extremely important animal. It is also extremely important to look around for other animals in the same deposit and particularly for any small animals that may occur there. There is, I should think, a very good chance that there will be small animals in those beds. The mastodon skull suggests that their age is probably late Miocene although it is just possible that they might be a little bit earlier or a little bit later.

* * * * * * *

With renewed thanks and cordial greetings,

Sincerely,
George Gaylord Simpson."

Again, the great value of Mr. Hancock's contribution to scientific fossil study in Oregon is brought to our attention. We congratulate you again, Lon, on this latest recognition.

J.E.

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DOCTOR CONDON SCORES AGAIN

"Doctor Condon scores again" might well be the theme song of this dissertation.

To properly relate the event as it occurred in our family of amateur geologic observers, it is necessary to review the fascinating account of the finding of fossilized insects that flitted hither and yon over the Montana landscape some twenty million years ago. This is the subject of an article in the January 1953 Natural History written by one of the paleontologists making the discovery, Mr. Henry P. Zuidema.

"Beginner's luck," he opines, "seems to apply to paleontology as well as to poker." He goes on to tell of this very exciting find when, after the usual discouragement and accumulation of great piles of noninsect-producing shales, he and his companion split open a fragment and found a beautifully preserved crane fly measuring more than two inches between tips. It was so well preserved that the delicate vein pattern of its wings readily permitted identification as a member of the still-surviving genus Tipula.

The Diptera was also well represented in the find. Also midges, soldier flies, syrphids, and bibionids. In fact, at the end of the season the discoveries of Mr. Zuidema and his companion included members of 10 of the 26 major groups or orders of insects. The shales had given them grasshoppers, earwigs, plant hoppers, fungus gnats, May fly nymphs, scorpion flies of the genus Panorpa, click beetles, wasps, ants, bees, and the nerve-winged alder flies, and such "true bugs" as the squash bugs. Also some fish scales and the carbonaceous outline of a bowfin were found. Included in the shales were the leaves of the willow, thorn apple, maple, alder, rose, and numerous fragments of Metasequoia.

The similarity of the flora in Mr. Zuidema's find to that of our own John Day beds leads us back to our own family circle. The geologic-minded half of the family scratched his graying pate and sagely observed that it might be entirely possible that our own Bridge Creek formation and other areas in Eastern Oregon could well contain similar fossilized insects as those described by Mr. Zuidema. However, a quick trip to our basement and critical inspection of our collection of Bridge Creek fossils yielded no such breathtaking disclosure.

"Makes a fellow wish for Spring and a few gallons of gas," said the geologic-minded portion wistfully. From the gleam in his eye we knew that he was mentally on his way to the said John Day area for a further search for the coveted specimens. It was plain he was envisioning splitting open a ledge of old shale and liberating a whole Pandora's box-full of fossilized dragon flies, squash bugs, and other imprisoned victims.

He might have spared himself such wishful thinking, for a few evenings later, while perusing a copy of "Thomas Condon" written by Dr. Condon's daughter, he ejaculated: "It's no use---Doctor Condon's done it again." He pointed to a portion of a letter written by Dr. Condon under date of February 28, 1869, to his fellow scientist, J. S. Newberry, Professor of Geology, Columbia College, New York City, relative to the Bridge Creek area, as follows:

> "In my last visit to the place of their outcrops, I found some new things, new leaves, new fruit marks, and several insect impressions; one, a good impression of a dragon fly, or something of similar outline . . . ."

We know that it is marveled again and again that Dr. Condon with his limited resources, mode of travel, and other discommoding factors could so well cover the

vast territory and make the sound geologic observations that he did. The next paragraph in the letter testifies to these conditions:

> "As the region in which they occur was, when I was there, infested by hostile Indians, whose fresh tracks were on the trail I traveled, I could examine but little of the surroundings. . . .I am just now finding out how rich a record our Oregon hills contain."

That the fossilized insects did not escape Dr. Condon's scrutiny and attention is most certainly worthy of our continuing marvel and appreciation of that noted scientist of early Oregon.

J.E.

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GEOLOGIC THESES

A vast amount of material, representing much valuable research of which the general public has little knowledge is contained in graduate theses on file in our college libraries.

For the benefit of readers of News Letter, we print below a list of such theses covering work done and "in preparation," by graduate geologists at Oregon State College. A list of similar theses, on file at the University of Oregon, will follow in a later issue.

1946 - None

1947

Herbert Ewing Harper: Preliminary report on the geology of the Molalla quadrangle, Oregon.

Norman Lloyd Mundorff: The geology of Alkali Lake Basin, Oregon.

1948

Stewart McReddie Jones: Geology of Gatun Lake and vicinity (Panama).

1949

Joseph Porter Dobell: The geology of the Antone district, Wheeler County, Oregon.

1950

Robert Griffin Coleman: The John Day formation in the Picture Gorge quadrangle, Oregon.

Jules Ramon DuBar: Cretaceous faunas from the northern flank of Ochoco Range, Oregon.

William Harris Taubeneck: Geology of the northeast corner of the Dayville quadrangle, Oregon.

1951

John William Dawson: Geology of the Birch Creek area, Dayville quadrangle, Oregon.

Robert Allen Nesbit: The Triassic rocks of the Dayville quadrangle, central Oregon.

1952

John Philip Brogan: Geology of the Suplee area, Dayville quadrangle, Oregon.

Robert Leon Heacock: Stratigraphy and Foraminifera of the upper part of the Nye formation, Yaquina Bay, Oregon.

In preparation

Howard E. Bowers: Geology of the Tony Butte area and vicinity, Mitchell quadrangle, Oregon.

Clarence F. Conrad: Geology of the Ana River section, Summer Lake, Oregon.

Loren B. McIntyre: Geology of the Marshall Butte area and vicinity, Mitchell quadrangle, Oregon.

James C. Swarbrick: Geology of the Sheep Mountain area and vicinity, Mitchell quadrangle, Oregon.

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MINERALS DISCUSSED BY MR. LENIN RAMP

Some of the very interesting things to be learned about minerals, their content, uses, and appearance, was the subject of a talk, with illustrating slides, by Mr. Lenin Ramp of the State Department of Geology and Mineral Industries, at our Friday night meeting at Library Hall, January 23, 1953.

Mr. F. W. Libbey introduced Mr. Ramp, who is a comparative newcomer to the staff of the State Department. Leo Simon presided at the projector and Mr. Ramp gave a description of each mineral as the slides were shown on the screen. Some hundred slides were exhibited, being a collection which had been received by the Portland State Extension Center. A brief question and answer period followed, after which the meeting adjourned.

C.C.

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SKIN OF OUR TEETH!

Do any of our G.S.O.C. members want to see the ice age in action as well as watch the exodus into the ark, the coming of sin and sex in the world and other minor and major events that represent the bedevilment as well as the happiness of man for the past thousands of years? If so, don't miss the theatre production of "Skin of Our Teeth" to be given at Reed College (Botsford Auditorium) on the 10th and 11th of April.

This is a comedy by Thornton Wilder, who in addition to being three times Pulitzer Prize winner on his plays and novels took time out somewhere along the line to study archaeology. In Mr. Thornton's comedy, the walls tremble with impact of ice --- the dinosaurs trample the grass of the front lawn and the giant mammoth always gets the warmest spot in front of the fire in the living room of the Antrobus (Pithycanthropis?) family.

Reservations are necessary, but you do not need to pick up your tickets until the evening of the play. Telephone Reed College, Sunset 1112. Circle the date now for "Skin of Our Teeth."

J.E.

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SEA CLIFF ADVENTURES ON AUDUBON SERIES

March 16 is the date of the next Audubon Lecture Series at Benson Auditorium. Mr. Allan D. Cruickshank will exhibit slides and discuss "Sea Cliff Adventures" at this evening's entertainment. This should be one of the most interesting in the series, to young and old alike. Be on hand to see and hear Mr. Cruickshank on March 16.

J.E.

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ANTON POSTL TALKS ON AUSTRIAN ALPS

Travel-minded GSOC members were given a most delightful trip into a remote and picturesque portion of the Austrian Alps when Mr. Anton Postl, Professor of Chemistry at Monmouth's Oregon College of Education, spoke at our Friday-night meeting in Library Hall, February 13. Mr. Postl explained that geology was not his particular province but his knowledge and apparent insight into the subject might well be the envy of many who are experts in that profession.

The Eastern and Western Alps are divided by the Lake Constance area. The portion of them discussed is in the Eastern part, not far from the famous Great Glockner Peak. At one place we experienced a little chill as we looked across to a range of mountains that separated us from Tito's Yugoslavia. At another, we saw the Italian area. The greater part, however, of the locale discussed by Mr. Postl and the slides that he showed, was, as he explained it, "happily" in the British occupied zone.

The Alps are largely made up of sedimentary deposits that were uplifted for the most part in the Miocene, according to Mr. Postl. They are part of the vast upheaval that extended from Spain into India which includes the present Himalayas which, apparently, are still in process of being elevated. This uplift occurred at the time that the South American Andes and our own Cascade Range were being formed. In the portion of the Eastern Alps shown, Mr. Postl explained that a split occurs in the sedimentary formations which is in effect a window where it is possible to observe the under-lying structure of the formations that have been uplifted through this opening. If we remember correctly, we believe he said the particular formations to be seen here are igneous.

The slides shown by Mr. Postl of the beautiful Austrian countryside - the steep-sloped hillsides - the herds of grazing sheep - the "antique" grain and lumber mills - as well as photographs of the old house where members of Mr. Postl's family have lived for hundreds of years, blended together to give us a charming picture of a way of life that has gone on virtually unchanged for centuries.

We are very grateful to Mr. Postl for his fine talk, the beautiful scenery, and for sharing these interesting home scenes with us.

J.E.

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SCHMINKY-ROWE WEDDING

A wedding of great interest to our News Letter readers was that of Carol Ann Schminky, daughter of long-time GSOC members, Mr. and Mrs. H. Bruce Schminky, to Mr. Donald H. Rowe on Saturday, December 27, at Mt. Tabor Presbyterian Church.

The young couple left by plane the day following the wedding for Biloxi, Mississippi, where Mr. Rowe is a radar instructor with the United States Air Force at that place. Our best wishes go with them.

DALE-CASSINELLI ENGAGEMENT ANNOUNCED

The recent announcement of the engagement of Miss Dorothy Dale, daughter of Mrs. May R. Bushby (our May) and Dr. C. N. Dale of Washington, D.C., to Mr. Leo Cassinelli is of great interest in our GSOC circles.

Dorothy, a graduate of Oregon State College, just recently returned from an extensive European trip. Mr. Cassinelli, a graduate of the University of Portland, has been in the service in Korea. He is the son of Mr. and Mrs. P. N. Cassinelli of Portland.

YOUR LIBRARY AND MINE

Seven members took advantage of the opportunities offered by February 5th library "browsing." The Bushby team displayed fossils obtained on the Clarno trip of 1952. There were nuts, a lone date palm seed, and petrified wood from the Clarno nut beds of the Eocene age; and leaf and cone impressions from both Fossil and Bridge Creek formations of the Oligocene-Miocene age.

February 19 found a group of 16 members and one guest visiting the library. The Bushby's guest asked for reference material on the geology of the Willamette Valley. Two good articles were found in the News Letter, but no other material. Would someone like to donate something on this subject? Or, submit a list of related publications? Al Keen surprised us with a lovely display of jade, malachite, phantom quartz crystals, and earrings made in Czechoslovakia from rose quartz purchased from the United States. Chatoyancy was beautifully illustrated in large gold, blue, and red specimens of tiger's eye. Al's interesting remarks provoked discussion for a couple of hours. Our gracious co-hostess Stella Keen provided refreshments and presided at the "coffee and..." table.

A thank you to members who made publications available to the library during January. Members and publications are listed below:

Miss Margaret M. Hughes
- Meet Your Ancestors, by Roy Chapman Andrews, 1946.
- Lexicon of Geologic Names of the United States, pt. 1 (A to L) and pt. 2 (M to Z), U.S. Geological Survey Bull. 896.

Mr. and Mrs. Norris B. Stone
- The Scientific Monthly, vol. 75, no. 2. Contains article "Cause of the Great Ice Ages," by K. A. Pauly, August 1952.

Mr. and Mrs. Wm. F. Clark
- A folder of miscellaneous pamphlets on fluorescence.

Dr. and Mrs. Arthur C. Jones
- The Earth's Crust, by L. Dudley Stamp, 1951. (Loaned)

H. L. Hergert
- Early Iron Industry in Oregon, by H. L. Hergert, 1948. Reed College publication.

F. W. Libbey

Oregon Department of Geology and Mineral Industries bulletins:

No. 36 - (1st. vol.) Five papers on Foraminifera from the Tertiary of Western Oregon, by J. A. Cushman, R. E. Stewart, and K. C. Stewart, 1947.
(2d. vol.) Two papers on Formainifera from the Tertiary of Western Oregon and Western Washington, Cushman, Stewart, and Stewart, 1949; and one paper on mollusca and microfauna of Wildcat coast section, Humboldt County, California, by Stewart and Stewart, 1949.

No. 39 - Geology and Mineralization of the Morning Mine and Adjacent Region, Grant County, Oregon, by Rhesa M. Allen, Jr., 1948.

No. 40 - Preliminary Description of the Geology of the Kerby Quadrangle, Oregon, by Wells, Hotz, and Cater, 1949.

No. 41 - Ground-Water Studies in Umatilla and Morrow Counties, by N. S. Wagner, 1949.

No. 42 - Seventh Biennial Report of the Department, by the Staff, 1950.

No. 43 - Eighth Biennial Report of the Department, by the Staff, 1952.

In addition, the following publications were received:

The Geode, vol. 8, no. 8, October 1952. Salem Geological Society bulletin.

Novitates (American Museum of Natural History), No. 1567 - June 5, 1952
No. 1568 - June 6, 1952
No. 1581 - Aug. 1, 1952

The Mineralogist, October 1952

American Museum of Natural History bulletins as follows:
Vol. 99, Art. 3, 1952. The Problem of Land Connections across the South Atlantic, with Special Reference to the Mesozoic.
Vol. 99, Art. 5, 1952. Eocene Nautiloids of British Somaliland.
Vol. 99, Art. 6, 1952. Fossil Mammals from the Beginning of the Cenozoic in Brazil.

Next library nights will be: Thursday, March 5; Thursday, March 19; and Tuesday, March 31. Won't you join us?

Yours in the interest of YOUR LIBRARY AND MINE,

May R. Bushby, Librarian.

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LUNCHEON NOTES - FEBRUARY 19, 1953

Dr. Ruth Hopson brought as her guest, Mrs. Muriel Knight; Mr. Kelham had his wife with him; and A. D. Vance again brought his son, Albert D., Junior. Others present were President Stone, Vice President Baldwin, Miss Henley, Miss Davidson, and Messrs. Erickson, Keen, Elder, Shirk, Simon, and Stanley. . . Dr. Caughlin of Portland State College had asked for a file of the Geological News Letter, and Business Manager R. L. Baldwin said that a complete file was then on its way to the college library. . .GSOC member Wm. Gruber had made a present to the State of Oregon through its Game Commission of farm equipment valued at $14,000 for use in raising feed crops for the wild fowl of the State, particularly upland game birds. . .Miss Henley had an account of a fossil fish about fifty million years old, called a coelacanth, but possibly unfit for human consumption by this time. . .Mr. Baldwin had some attractive literature from Sarasota, Florida, furnished by their chamber of commerce. . .Attention was called to the First Annual Northwest Science Exposition to be held at the Portland State College, March 16th to 20th. It is being managed by the Museum of Science and Industry. Mr. Shirk said that he could use some volunteer help in arranging the exhibits. . .Dr. George Gaylord Simpson on examining A. W. Hancock's fossil elephant head pronounced it to be a most important find and urged Lon to dig deeper for more of the skeleton. He classed it as a missing link in the elephant family. Stanley Shirk said that further excavation of the site where the head was found would be a part of the work done by the Museum's summer camp. (See story p. 28, this issue. Ed.). . .Albert D. Vance underwent a very serious abdominal operation Tuesday, February 24. . .Ada Henley received a card from Estella Conner telling of the lovely time she is having in Honolulu. Can it be that some people are born lucky?

O.E.S.

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GEOLOGICAL NEWS LETTER

OFFICIAL PUBLICATION OF THE

Vol. 19 No. 4 PORTLAND, OREGON APRIL 1953

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

Officers of the Executive Board, 1953 - 1954

			Zone	Phone
President:	Mr. Raymond L. Baldwin	4804 S.W. Laurelwood Drive	1	CY 2-1452
Vice-Pres:	Mr. Orrin E. Stanley	2601 S.E. 49th Avenue	6	VE 1250
Secretary:	Mrs. Leo Simon	7006 S.E. 21st Avenue	2	EM 0549
Treasurer:	Mr. Robert F. Wilbur	2020 S.E. Salmon Street	15	VE 7284

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Mr. Rudolph Erickson (1955) Mr. Norris B. Stone (1955)
Mr. A. D. Vance (1956)

Staff of the Geological News Letter

Editor Emeritus:	Mr. Orrin E. Stanley	2601 S.E. 49th Avenue	6	VE 1250
Editor:	Mrs. Albert Keen	2715 N.E. 41st Avenue	13	GA 0229
Asst. Editor:	Mr. Ford E Wilson	11844 S.E. Pine Street	16	
Assoc. Editors:	Mr. Phil Brogan	1426 Harmon Blvd., Bend, Oregon		266-J
	Mr. F. W. Libbey	2259 N.W. Everett Street	10	BR 2145
	Dr. Ruth E. Hopson	4709 N. Willamette Blvd.		TW 3441
	Miss Margaret L. Steere	6205 S.E. Scott Drive	16	VE 0917
	Mrs. William Clark	5237 N.E. Wisteria	13	GA 3242
Library Editor:	Mrs. Edward Bushby	1202 S.W. Cardinell Drive	1	CA 2123
Business Manager:	Mr. Edward Kelham	14018 S.E. Linden Lane	22	EV 1-2196

Committee Chairmen

Programs:	Mr. A. D. Vance	Service:	Mr. F. W. Libbey
Field Trips:	Mr. Leo F. Simon	Museum:	Dr. J. C. Stevens
Membership:	Mr. William F. Clark	Public Relations:	Mr. C. D. Phillips
Publicity:	Mr. H. Bruce Schminky	Librarian:	Mrs. Edward Bushby
Social:	Mrs. William F. Clark	Historian:	Miss Ada Henley
Research:	Mr. Rudolph Erickson	Display:	Mr. Albert Keen

Society Objectives

To provide facilities for members of the Society to study geology, particularly the geology of the Oregon Country. The establishment and maintenance of a library and museum of geological works, maps, and specimens. The encouragement of geological study among amateurs. The support and promotion of geologic investigation in the Oregon Country. The designation, preservation, and interpretation of important geological features of the Oregon Country. The development of the mental capacities of its members in the study of geology and the promotion of better acquaintance and closer association between those engaged in the above objectives.

Persons desiring to become members should contact the Membership Chairman, Mrs. William Clark, 5237 N.E. Wistaria, Phone GA 3242. Annual dues are $3.50 for residents of Multnomah and adjacent counties; $2.50 for others; and $1.50 for Junior members. Remittance should be made payable to the Society.

Society Activities

EVENING MEETINGS: Formal lectures or informal round-table discussions on geological subjects, on the second and fourth Fridays of each month, at Public Library Hall, S.W. Tenth Avenue and Yamhill Street. 8:00 P.M.

FIELD TRIPS: Usually one field trip is scheduled for each month.

LUNCHEONS: Informal luncheons, with geological motif, each Thursday noon in Room 305, YMCA Building, S.W. 6th Avenue and Taylor Street. $1.00 per plate.

PUBLICATION: The Geological News Letter, issued once each month, is official publication.

CALENDAR FOR APRIL 1953

Thursday April 2 — Luncheon Meeting - Room 305, YMCA

Thursday April 9 — Luncheon Meeting - Room 305, YMCA

Friday April 10 — Friday Night Meeting, Library Hall - 8:00 p.m.
Mr. R. E. Corcoran of the Oregon Department of Geology and Mineral Industries will talk on the "Geology and Stratigraphy of the Mitchell Butte Quadrangle of Eastern Oregon." Mr. Corcoran will bring samples of the rocks present and show slides of some of the formations.

DISPLAY - Mr. Ray Schneider will display his collection of zeolites.

Tuesday April 14 — Library Browse Night - 1202 S.W. Cardinell Drive.

Thursday April 16 — Luncheon Meeting - Room 305, YMCA

Thursday April 23 — Luncheon Meeting - Room 305, YMCA

Friday April 24 — Friday Night Meeting, Library Hall - 8:00 p.m.
Dr. J. C. Stevens will talk on "Are Climates Changing?"

DISPLAY - Cooperative display of quartz specimens. Everyone attending is requested to bring two or three of their best quartz specimens (may be crystals or any other form of quartz).

Sunday April 26 — FIELD TRIP - Meet at North Bonneville, Washington, at 9:30 a.m., then proceed to Moffett Hot Springs road. If time permits we will visit the Herman Creek slide; also Eagle Creek or Moffett Creek fossil leaf beds. Contact Mr. Simon (BE 0300) for transportation. Trip leaders will be Ralph S. Mason and Lewis E. Scott.

Tuesday April 28 — Library Browse Night - 1202 S.W. Cardinell Drive

Thursday April 30 — Luncheon Meeting - Room 305, YMCA

Friday May 8 — Friday Night Meeting Library Hall - 8:00 p.m.
Mr. Joseph D. Meyers, State Highway Department, will speak on "Ground Water."

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"DUES ARE DUE"

Please send to Johanna Simon, Secretary - 711 S.W. Ankeny Street, Portland 5, Oregon. An extra 50 cents, $1.00, or whatever you care to give to the book fund, may be sent along with your remittance. This fund will be used to purchase needed books for the library.

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NEW MEMBERS - JUNIOR

		Zone	Phone
Wolfe, Jack A. Student (interest - Paleobotany)	4530 S.E. Clinton Street	6	FI 1307
Orme, Ronald	6019 S.E. Taylor Street	15	EA 9685

NEW MEMBERS - REGULAR

Evans, Mr. & Mrs. Jack (children - Billy & David) (interest - General Geology)	Troutdale, Box 55, Oregon		18618
Payne, Mr. & Mrs. Ellsworth K. Science Teacher - Portland State College	3105 N.E. 61st Avenue	13	TA 4835
Burke, Mr. & Mrs. Melvin H. Forester - United States Forest Service	338 N.W. 20th Avenue	9	BE 4758

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GSOC JUNIOR MEMBER WINS HONORS

Jack A. Wolfe, our newest junior member, was recently awarded a scholarship by the Westinghouse scholarship committee. Each year the Westinghouse Company awards a number of scholarships to high school students of outstanding scientific ability. In a preliminary contest Jack finished in the top forty in the United States and won a trip to Washington, D.C., to compete in the finals. Here, in competition with the other 39 preliminary winners, he finished in the top ten. Congratulations, Jack.

J.M.S.

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ANNUAL REPORT OF THE MEMBERSHIP CHAIRMAN

During the year 1952-1953, 24 new memberships totaling 51 members, were added to the society's membership list. This increase was due to the cooperative efforts of many members of the society.

Respectfully submitted
Albert Keen, Membership Chairman

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ANNUAL REPORT OF THE PUBLICITY CHAIRMAN

Your society received 89¼ inches of newspaper space for notices during the year 1952-1953. Of this amount 52¼ inches appeared in the Journal and 37 inches in the Oregonian. While the Oregonian gave us less total space, they gave larger title headings to the notices published.

The society also received publicity through articles by Phil Brogan, Park Bureau stories on the opening of the Crater Theatre, and stories about Jane Erickson's play at Reed College.

Respectfully submitted
H. B. Schminky, Publicity Chairman

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ALBERT DUNBAR VANCE

The death of Past-President Albert D. Vance on March 5, 1953, took from the Geological Society of the Oregon Country one of its best beloved members, who had been one of the leaders in the Society's activities from the time of its organization. His absence from the luncheons, lecture meetings, and field trips will be noted with sorrow by his many friends so long as any of them take part in these gatherings.

Mr. Vance was born in Decorah, Iowa, April 11, 1883. He was educated in the public schools, business college, and the University of Wisconsin, and later he took University of Oregon extension courses which resulted in increasing his interest in geology.

In 1906 he went to the Big Horn Basin in Wyoming on a government land survey. In the fall of that year he was appointed a deputy land surveyor for Wyoming and with his partner, S. W. Brunt, took contracts for the survey of twelve townships, which were completed in the fall of 1908.

Mr. Vance worked on the surveys for the Shoshone dam in Wyoming, and in 1910, when he resigned to move to Portland, he was in charge of an engineering party on canal location and construction on the Ralston unit of the Shoshone project.

His service with the City of Portland began on November 1, 1910, as transitman in the Survey Division, and he was successively draftsman, senior engineer, chief of operations, and engineering administrative assistant to the commissioner of public works.

For several months in 1916 Mr. Vance was employed as surveyor-draftsman with the United States Forest Service on field mapping a timber cruise. From November 1916 to October 1920, he was with the Columbia Engineering Works and the Coast Shipbuilding Company as engineer, chief draftsman, and superintendent of construction successively. Then, after a year each with the Portland Dock Commission and the Port of Portland, he returned to the Public Works Department of the City of Portland in 1923 where he continued to advance in his profession.

On January 19, 1911, Mr. Vance was married to Florence Juliet Oviatt. Mrs. Vance and the two children, Juliet Hiney of Los Angeles, California, and

Albert D. Vance, Jr., of Portland, and a sister, Mrs. Anstiss Rosell, are surviving relatives.

Mr. Vance was a member of the Piedmont Presbyterian Church and the Professional Engineers of Oregon.

O.E.S.

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Mr. Vance classed himself as an amateur geologist, but actually he went beyond the status of an amateur in his knowledge of Oregon geology and paleontology, and wrote about these subjects in a pleasing combination of professional accuracy and entertaining informality -- sometimes even in rhyme. Of his many valuable contributions to the News Letter, the following are selected as being especially memorable:

Roads End-Newport trip: Vol. 1, no. 12, p. 3-6

With Dr. Chaney in eastern Oregon: Vol. 2, no. 16, p. 2-4

Fossil crabs: vol. 3, no. 17, p. 190

Amateur geologist at Coos Bay: Vol. 4, no. 20, p. 224-226, Oct. 25, 1938

A Pliocene sunrise: Vol. 7, no. 19, p. 175

The Philosophy of geology (a poem): Vol. 9, no. 13, p. 84

Gold is where (and if) you find it: Vol. 9, no. 22, p. 139-140

Vulture: Vol. 13, no. 11, p. 105-107

Beginning day (a poem): Vol. 14, no. 3, p. 25

Oregon as a field for the student of paleontology: Vol. 15, no. 8, p. 78

M.L.S.

* * * * *

Fortunate is he who possesses a comforting religious philosophy and can express it in beautiful verse. Al Vance was such a man and his "Seven Days" (reprinted on the following two pages) symbolizes his religious faith by reflecting on Creation and man's development. He paints his imaginative word picture with strong, simple phrases as an artist paints a striking picture with a few rapid strokes of the brush. With him there was no conflict between science and religion. We, his friends, shall always hold his word picture as a memorial to him.

F.W.L.

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SEVEN DAYS

Introit

This is the measure of time
In the everlasting plan.
An instant of eternity
Is a billion years to man.

First Day

Out of the formless void,
Steeped in fathomless night,
God from beyond the beginning
Created the living light.

Swirling neutrons and protons
By fission in reverse
He gathered to form the atoms
And builded the Universe.

Planets, suns and galaxies
Moved their appointed way,
And the evening and the morning
Marked the beginning day.

Second Day

In all this awesome vastness
Size was no measure of worth
God's choice for his major project
Was the minor planet earth.

He parted mist-veiled waters
And the folding rocks arose,
Were faulted, then eroded
By the wind and rain and snows.

And when the beach and valleys
Were cushioned with sand and clay;
The evening and the morning
Had measured the second day.

Third Day

Slowly as man would measure
But swiftly as God had planned,
Algae evolved from the ocean
And widely spread o'er the land.

Up through the humid swampland
The reeds and the ferns, then trees
Sturdy and firm, yet graceful
Waving their arms in the breeze.

Ever improving - advancing
They marched in noble array.
And the evening and morning
Were the third completed day.

Fourth Day

Drawn by the moon and the sun
The surf rolled in with a roar
And never an ear to hear
Its beat, beat, beat on the shore.

A tilt to the earth in its orbit,
And the changing seasons began
Their seed time and their harvest,
Prepared for the coming of man.

While over the hills and valleys
Softly the sunbeams play
And the evening and morning
Were the fourth completed day.

Fifth Day

Then with the fifth day's dawning
God lighted the spark of life
And ordained the cost of progress
To be toil, pain and strife.

Straightway pelagic plankton
Obeying divine decree,
In an instant of eternity
Covered the restless sea.

Many there were that perished
And left not a single trace,
But some had paid for progress
And improvement filled their place.

Struggling on and upward
Advancing classes grew,
Discarding useless species;
Replacing them with the new.

At length the higher orders
Obeying divine command
Turned their faces shoreward
And stubbornly conquered the land.

First amphibian creatures
Toiled upward through mud and slime,
Nor gave thought to their neighbors
'Til the best threw off the grime.

Best in physical fitness
For they battled to survive,
To pass to their progeny
The right to stay alive.

Ever behind this progress
Stood something greater than chance
For in earning the right to live,
The living must advance.

Born in the fading twilight
Bathed in a chilling storm,
Cunning and skilled in battle
A human beast took form.

With a brain that ruled all others
Swiftly his kind increased,
Vain and cruel and selfish
Human but still a beast.

Standing erect this creature
Was evolution's goal.
Destined in God's creation
To play a major role.

From the pelagic plankton
He had traveled a long, long way,
And the evening and the morning
Were the fifth completed day.

Sixth Day

God breathed into the nostrils
Of man in his early morn
And in the image of his God,
A living soul was born.

A soul that was not perfect
But it heard a gentle voice
Say, "You shall know good from evil
And you must take your choice.

"The good will strengthen the spirit
But evil is fleshly lust.
The soul must try for improvement
Or return with the flesh to dust.

"In even the weakest body
The soul can still be strong
And even the weakest soul
Can will to right a wrong.

"Remember these commandments
To guide you in your labor;
Thou shalt surely love thy God,
And, as thy self - thy neighbor.

"For the question you must answer
When it's time for the flesh to die,
Will not be, 'How much did you do,'
But - 'Just how hard did you try.'"

It was hard for man to listen
To a warning from the soul,
Or to heed the voice of Conscience
In its new advisor's roll.

For in the evolution
Which at last produced a man,
Greed, selfishness and passion
Had controlled throughout its span.

The flesh that throve on greed
Fought the soul that would progress,
And often in the battle
Was the flesh crowned with success.

Many a soul was bartered
For gold with which to measure
Man's thirst for worldly power
Or lust for earthly pleasure.

As Samson wrecked the temple,
Mankind with deadly calm
Prepares its own destruction
With God's atomic bomb.

A million lives are taken
Nor thought too great a spoil
If by this awful slaughter
A nation gains some oil.

Yet in this seeming failure
Buds the love of man for man
And souls of men are gaining
In God's everlasting plan.

For flesh has ceased advancing
But the image God has willed
Grows nearer to his likeness
Until all the world is filled.

Then when the sixth day closes
And evening fades into night;
When flesh at last is conquered
And the soul can take its flight;

When Christ returns in glory
To record man's second birth;
When the last page is written
And the book is closed on earth;

Seventh Day

Paul and Carver and Gandhi,
And all who have done their best,
Will dwell in a golden dawn
With God in his day of rest.

Albert Dunbar Vance
1949

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FIELD TRIP
Sunday, February 15, 1953

Approximately 45 members of the Society, in 20 cars, turned out for this "hobby shop trip." "Ron-de-vooing" at N.E. 39th and Broadway at 1:30 p.m., the party was divided into three groups of equal size with Messrs. Erickson, Simon, and Keen acting as leaders. Working on a time schedule, each group visited in turn the work shops and displays of Mr. and Mrs. Wm. A. Burt, Mr. and Mrs. A. J. Schneider, and Mr. and Mrs. R. L. McGrew, all of whom are members of the Oregon Agate and Mineral Society. It was quite evident that the enthusiasm of these people, like that of the "Geesockers," usually involves the entire family.

To make any sort of comparison between the displays would require an elaborate score card that would put to shame any used in a flower show. There were many interesting items noted in shops and equipment. The Burts have their shop, a concrete-block structure, as a feature of the garden area at the rear of their home. The Schneiders have their display in a basement den finished in knotty pine, with the shop in an adjoining room. The McGrews specialize in hand-wrought jewelry. Their display of cabochons and finished products, as well as their equipment, occasioned a great amount of interest. Visitors were shown in detail the McGrew's technique of "wax casting" such items as rings, bracelets, and earrings. In this method a core, fashioned from sheets and rods of wax to the desired shape, is imbedded in a plaster cast. By heating of the cast in an oven at extremely high temperature the wax is lost. Molten silver is poured into the resultant mould and the device is immediately centrifuged in order that the metal will reach all inner corners. The plaster cast, while still hot, is entirely disintegrated by immersion in water. The rough casting can then be smoothed and polished and gem-stone settings inserted.

To our generous hosts and hostesses we are indebted for a most enjoyable Sunday afternoon.

R.F.W.

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LUNCHEON NOTES - FEBRUARY 26, 1953

The nineteen people who met for the luncheon on February 26 included Dr.Ewart M. Baldwin and Dr. Charles Mockmore, who had been investigating the erosion conditions at Bay Ocean. . .Clarence Phillips, seldom seen lately at the luncheon meetings, was also present. . .R. L. Baldwin, who presided, had some arrow heads dating back to 5,000 - 8,000 B.C., and a baked clay lamp from Fayum, Egypt. The lamp was thought to be more than a thousand years old. Leo Simon told some of his experiences in scouting field trips. Fay W. Libbey told of a paper describing a Southern California area about 5 by 10 miles which started to sink in 1920 and is now about 18 feet below its original level at its deepest part Remedial measures have been proposed and it is hoped that the area might be stabilized by 1956. Property value of about a billion dollars is involved.

O.E.S.

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FRIDAY NIGHT - FEBRUARY 27, 1953

Promptly at eight o'clock the annual business meeting was called to order by President Stone. Minutes of the previous meeting were read and approved. The secretary announced the unanimous election of the slate of officers submitted by the nominating committee. Treasurer R. W. Wilbur presented the financial report.

Slides of Japan and Korea were shown by Capt. Ronald Sorensen, who spent considerable time in, or over, these countries as an Air Force Transport pilot. The general life of the people - tilling and planting the fields, the carrying on of small industries, and life in the cities proved both interesting and educational. Scenes of the palace and grounds were beautiful. Pictures of bases, landing fields, etc., gave us some idea of how members of the armed forces live in these countries. Some of the geographical features of Japan and Korea were also portrayed. Capt. Sorensen explained the pictures as he went along and answered many questions from the audience.

We all owe Capt. Sorensen a vote of thanks for a very pleasant and instructive evening.

A.K.

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HAVE YOU HEARD?

. . . .that Parke Snavely never does things by halves. Someone saw him with three pieces of cherry pie at the Annual Banquet. . . .Librarian Emeritus Margaret Hughes was there, too, looking young and happy. . . .Most amazing and awe-inspiring was the wealth of ingenuity and originality displayed by the many fine exhibits at the Northwest Science Exposition sponsored by the Oregon Museum of Science and Industry and Oregonian. . . .the Ray Goldens were so overcome with nostalgia at Stella Keen's replica of the Clarno Country on the banquet tables, they are reputed to have taken off for that very place on the Sunday following. . . .in ye olden days the younger generation were awed and impressed by their elders' pronouncements. Now it's the teaching end that must look to its laurels. Witness GSOC Junior member Joan Ericksen setting her Freshman High science class right on the question of whether chalk is or is not organic. . . .Was Emcee Leo Simon's designating our new president a "bald one" simply a case of the pot calling the kettle "bare"?. . . .we realize the Duke of Buckingham would never have kept his hat on in the presence of a lady as long as John Wheeler did but it was so becoming we didn't have the heart to "de-hat" him. Besides, we had to get the rent money out of the topper. . . .Ex-president Norris Stone says he is now "marking the spot" as an "ex" and enjoying every minute. Take it easy, Norris, it won't be that way long. We've heard of "plans." . . .Mrs. Leslie Bartow, Reynolds Ohmart and niece, speaker Dr. Ewart Baldwin and Mrs. Baldwin were some of the far-away members attending banquet. . . .everyone excited about the new skull found near Newport. . . .it was joyfully noted that for once a photographer got his own picture taken when May Bushby snapped Eddie eating his pie at the banquet. . . .Glenmorrie pine squirrel didn't show up for his usual feeding until noon the day after the banquet. Did anyone see him getting his fill of Clarno nuts at the banquet table? We figured he'd been there, gorged himself, and 'slept in' too.

J.E.

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FIRST VISIT TO A GSOC LIBRARY BROWSE

It was the crisp starlit evening of March 5 when I attended my first GSOC Library Browse. After being greeted by the Bushby's, ascent was made to the library room. Everyone was busy, either with reference books or the GSOC photograph albums. Lon Hancock brought a box of vertebrate bones for the surprise feature. The subject was elephants, and Lon told of their beginning in the Oligocene of Africa and Asia, their appearance in Europe and America in Miocene time, and finally the more frequently found Pliocene forms. So interested were the listeners that they descended with reluctance for the delicious refreshments.

It was an informative, inspirational, and eventful evening and, for a first timer, no longer a first impression but a lasting one.

E. Gordon

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YOUR LIBRARY AND MINE

On Thursday, March 19, the GSOC library was comfortably packed with 21 persons eager for geological knowledge. Mrs. Eleanor Gordon was "it" for the 15-minute surprise program. Her talk on "perched" and other types of zeolites and the excellent photographs of zeolite specimens which she displayed were much enjoyed. Junior members brought leaf fossils by the boxful for discussion and identification. . .they knew Lon would be there. However, all these activities must be preceded by at least 1½ hours reading. The Society's collection of scrapbooks of photographs of trips, banquets, etc., is now housed in the library. If you want to see what you looked like 10 or 15 years ago just come to a browsing night and glance at these grand souvenir photos.

It was 10:30 p.m. before "coffee and. . ." could demand attention. Mrs. Hancock was our congenial co-hostess. Lon's birthday falls on March 17, so we had a belated party for him, with all of St. Patrick's color and trimmings. Those present declared the entire evening very worth while.

My public apology to one member who, on March 5, came gaily to browse, but no one ever did hear him at the door. On March 19, he tried the door at 1202 S.W. Cardinell Drive and, yes, it opened. We were very pleased that he came back again.

Yours in the interest of your library and mine,

May R. Bushby, Librarian

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LUNCHEON NOTES - MARCH 5, 1953

President R. L. Baldwin managed to keep the meeting under control even though six of the eighteen members present were women. R. Erickson told about a proposed field trip to the Peach Cove district to study evidences of the Spokane flood. He had some small agates sent by Gail DeWitt who wondered why the stones felt oily. A small fossil which Mr. DeWitt thought to be from a sycamore tree gave rise to some discussion. H. B. Schminky had a list of publications from the Colorado School of Mines, some of which he thought might be purchased for the Society's library. Mrs. Eleanor Gordon displayed a collection of very beautiful zeolites from near Springfield, Oregon. She said that recent excavations had revealed a wonderful display of these crystals in various colors.

Dr. Ruth Hopson brought a large section of bone, as yet unidentified, but interesting. R. Erickson had a bottle of water from Wilhoit Springs. He said that there are many salt water springs in the Willamette Valley. No one present volunteered to give a good explanation of this phenomenon. Stanley Shirk said that $1500 in prizes had already been contributed for the Science Exposition sponsored by the museum and the Oregonian. The meeting was saddened by President Baldwin's announcement of the death of one of the Society's most active and best-loved members, Albert D. Vance, charter member and past president.

O.E.S.

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REPORT OF LIBRARY-SOCIAL COMMITTEE CHAIRMAN

As of March 1, 1952, the library was moved, without cost, by diligent GSOC members, from the Oregon Museum of Science and Industry to the home of Mr. and Mrs. Edward D. Bushby, 1202 S.W. Cardinell Drive. Two reasons for this move were: (1) Your librarian needed the collection of publications, catalog index, etc., near at hand to enable her to bring the library up to date in the shortest possible time. (2) Since there was a definite move and enthusiasm to make the library a "live" part of the organization - to make its contents more available for its members - we would have to have more room for it to expand and a more convenient place for group meetings.

As early as February 16, I had been asked by one of the members if I could furnish a list of what was in the library. At that time I had no idea of what was in the library. This modest request was answered some 9½ months later, as of December 31, 1952, when a list of 34 pages was mailed to each member of the Society. The fine job of publication and distribution was done by Mr. and Mrs. Norris B. Stone. The data were compiled by your librarian with some help from several members of the Society. Your librarian spent a total of 131 hours between October 1, 1952, and January 31, 1953, an average of over 8 hours a week, in bringing the library up to date and preparing the inventory. Before October I put in more than 100 hours. Besides this, members of my Committee contributed some 40 hours of labor. Our satisfaction is in the fact that this wealth of material is now being used; it is actually read in the library and also taken out on loan. Both the Standard Catalog Index and Dewey decimal system, as set up by Mary Margaret Hughes, have been continued.

A new bookcase with four adjustable shelves was added to our library at only the cost of the material. This labor of love was performed by our President; Mr. Norris B. Stone. He not only made it, but delivered it to the library and set it up in place.

A slogan "Your Library and Mine" was coined to head a monthly column in the News Letter. This column reviews the happenings on Browsing Nights, and lists the new acquisitions to the library and, if there is room, may describe some publication on the shelves.

Browsing nights were initiated during the past year. The first, a "Coming-out Party for Your Library and Mine," was on April 29, 1952. There have been about 19 such browsing nights since that one. Dates are forecast in the News Letter calendar. Members come to read or talk on geology and related subjects. "Coffee and..." served about 9:30 p.m. was taken care of by the Social Committee; this duty rotated among the members; however, there will be some changes in this procedure in 1953. A "kitty" buys the coffee, cream and sugar, and the food for an extra little event such as we had at Christmas. On regular browsing nights, food is brought by the

co-hostess for the evening. Another feature of browsing nights is a 15-minute surprise program which immediately precedes "coffee and..." It usually sets the pattern of discussion for the rest of the evening. These programs took many forms last year. One was a question and answer period; one leader showed slides; another used his microscope with a charm which turned several members into would-be foraminifera collectors; another showed specimens of various copper minerals; another displayed polished specimens of building stones; more than one displayed fossils and miscellaneous arrangements of gem stones and rocks and minerals; and there was a demonstration of fluorescent 'vaseline' glass. Truly, the latter part of browsing nights often illustrates what one may have been reading about during the first part of the evening.

I wish to express in this report my own deep appreciation of the help and support given to me by Mrs. Rudolph Erickson, Mary Davenport, Ray Baldwin, and Dick Walker, as well as all members of my very cooperative committee who were:

Mr. and Mrs. Norris B. Stone
Mr. and Mrs. Wm. F. Clark
Mr. and Mrs. Albert Keen
Mr. and Mrs. Murray Miller
Mrs. Estella Connor
Mr. Orrin E. Stanley

and last, but not least, my husband, Edward Bushby.

Your Library and Mine is growing rapidly; since March 1, 1952, there have been added:

30 books (numbered according to the Dewey system)
14 volumes on loan

At least 100 bulletins which include copies of Ore.-Bin, The Geode, Mineralogist, Novitates, Geological Society of America Bulletins, etc.

Money spent last year for Your Library and Mine included:

Binding 2 sets of News Letters	$ .50
Miscellaneous supplies	4.10
Stamps and Stationery	7.05
Stapler and staples	3.40
Replacement of glass in old bookcase . . .	2.98
Materials for new bookcase	8.28
Insurance (3 years)	7.50
Maps	1.40
Subscription Geological Society of America Bulletin 1952-1953	30.00
Printing and Mailing Inventory	47.72
Journal for Librarian	3.25
TOTAL	$116.18
Taken in for book fund	$ 6.00

The Social Committee was very active last year. Besides taking part in the library's affairs, guests were greeted, introduced, and invited to sign the Guest Book at meetings and on trips. Cards were sent to the sick. Telephoning duties were performed, and members assisted at all social functions.

Respectfully submitted
May R. Bushby, Librarian

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ANNUAL REPORT OF THE TREASURER - 1952-1953

Balance on hand March 1, 1952,		$1,096.85
INCOME:		
Memberships	$ 619.00	
News Letter subscriptions, issues, binding, bound vols.	12.40	
1953 Annual banquet	22.75	
Sale of supplies (bumper cards)	2.70	
Library book fund	6.50	
		663.35
Total income		1,760.20
EXPENSES:		
News Letter publication	342.59	
1952 Annual banquet	58.84	
1953 Annual banquet	.75	
Stamps, stationery, printing, supplies	79.55	
Miscellaneous:		
Library	116.18	
Special fund donations	187.50	
Programs and lectures	9.56	
Annual picnic	20.60	
Flowers	10.15	
Treasurer's bond	5.00	
Total expenses		830.72
BALANCE ON HAND FEBRUARY 28, 1953,		$ 929.48

* * * * *

SUMMARY:

Checkbook balance March 1, 1952,	$1,096.85
Deposits March 1, 1952 to February 28, 1953	663.35
	1,760.20
Less checks March 1, 1952 to February 28, 1953,	830.72
Checkbook balance February 28, 1953,	$ 929.48

Respectfully submitted,

/S/ R. F. Wilbur
Treasurer

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REPORT OF THE SECRETARY FOR 1952

The Society has the following Memberships:

Honorary Life Members	4
Regular Annual Memberships - 24 new January 1952 to March 1953	140
Junior Memberships - 5 new January 1952 to March 1953	10
However 88 Regular Memberships include Mr. and Mrs. so total individuals are (not including children)	88
	242

There were 3 News Letter subscriptions.

The Executive Committee held two meetings during the year.

Respectfully submitted,

/S/ Johanna M. Simon
Secretary

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LUNCHEON NOTES - MARCH 12, 1953

Present at the luncheon meeting were President R. L. Baldwin, his guest, Ralph Mason of the Oregon State Department of Geology and Mineral Industries, Mrs. Barr, Dr. Ruth Hopson, and Messrs. Elder, Erickson, Keen, Kelham, Libbey, Simon, Stanley, Stevens, Stone, and Wilbur. R. Erickson told of having seen a concrete turtle believed by its owners to be a fossil. He also had a group of casts of worms thought to be annelids, these being defined as "a class or division of Vermes, variously limited, but always including the earth worms and similar fresh water and marine worms." Mrs. Barr had a piece of petrified carbonized wood from South Cove near Cape Arago. Dr. Hopson had a slab of rock, well covered with brachiopods.

Ralph Mason reported at length on the recent earth slide northwest of North Bonneville which early observers thought to be a volcanic eruption. In company with Oregonian reporters, he had visited the slide area. Photographs and description were printed in the Oregonian Sunday, March 8, 1953. At its upper end the slide had broken away from the mountain, leaving a vertical wall about 400 feet high. The slide covered an area of from 125 to 150 acres and formed a ridge covering about 5 acres at the lower edge. Boulders were still breaking from the face of the wall and rolling down the slide area when Mr. Mason was inspecting the site. Trees were pointing at all angles. Blocks of rock estimated to weigh as much as 50 tons each were scattered about. A logging road, crossed by the slide, was covered in one place by 30 feet of debris and at another place had settled 30 feet below its former level. Vapor rising from the slide area, probably the result of heat caused by friction, gave rise to the idea that the movement was caused by volcanic action.

Mr. Elder brought a copy of "Fundamentals of Geology" by George McCready Price. This book sets forth some of the "absurdities of the life succession theory" and ridicules much of the geology now being taught. He is presenting the volume to the GSOC library.

O.E.S.

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G.S.O.C. LUNCHEON - MARCH 19, 1953

Seventeen members were present at the luncheon meeting on Thursday, March 19. O. E. Stanley distinguished himself by getting soot on his fingers from the bottom of the coffee pot, then in a pensive mood, leaned his face on his hand and got a "five o'clock shadow" to cap all "five o'clock shadows." Simon and soap and time have eradicated the discoloration. . . .Mrs. Erickson spoke at some length on the subject of plaques to be placed by G.S.O.C. in various locations, with particular stress on one honoring Dr. Condon to be located in The Dalles. . . .Lon Hancock had temporarily gotten off the elephant trail to collect petrified crawfish and fish fossils. He had several interesting specimens from Willow Creek, about 10 miles from Vale, Oregon, and from Snake River about 30 miles from Vale. . . . Rudy Erickson asked for information about the exact location of a bed of fossil leaves, said to be near the mouth of McCord Creek. . . .Mr. Baldwin passed around a letter from our California member, E. N. Bates. . . .Jack Wolfe had several slabs of rock with leaf impressions, not yet identified. . . .Dr. Ruth Hopson called attention to the recent organization of an Oregon Section of the Ecological Society of America which has for one of its objects the preservation of primitive areas similar to the "Sisters Area" in which Dr. Hopson has been deeply interested for some years. Leo made a trip up the Columbia to examine the Herman Creek slides, which he thinks is just a "melting away of some of the fill material, allowing the pavement to settle." The May field trip was announced by Mr. Erickson to be in the Corvallis-Marys Peak area with Dr. Baldwin as leader. . . .F. W. Libbey gave a glimpse at future programs. Tom Matthews brought a sketch map to illustrate a brief talk about a glacial valley in Peru where a flood filled the steep outlet gorge to a depth of 200 to 300 feet and left a deposit of debris, including enormous boulders to a depth of 100 feet. . . .President Baldwin had seen the exhibit of scientific material at Portland State College and was enthusiastic in his praise of the work of the young exhibitors.

O.E.S.

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WHAT'S NEW IN READING

The Erosional Origin of the Mima Mounds of Southwest Washington, by Arthur M. Ritchie. Journal of Geology, vol. 61, no. 1, January 1953.

Speculation on the origin of the Mima Mounds never ceases, and here is another interesting article that anyone who has wondered about those peculiar topographic humps will like to read, for this explanation of their origin seems about the most logical of anything so far proposed.

In explaining his theory, the author starts out with the idea advanced by R. C. Newcomb (see "Origin of the Mima Mounds, Thurston County Region, Washington," Journal of Geology, vol. 60, no. 5, Sept. 1952) of polygonally fissured ice fields developing in the silt-pebble mantle overlying the outwash gravels. The actual mounds, Ritchie believes, were formed by running water that flowed across the half-thawed polygons during the retreat of the Vashon glacier when marginal lakes of melt water drained southward across the outwash prairies. The discharge of water was brief but sufficient to strip from around the frozen cores of the polygons the material that was thawed, thus exposing the underlying gravel and leaving the cores as mounds.

M.L.S.

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GEOLOGICAL NEWS LETTER

OFFICIAL PUBLICATION OF THE

Vol. 19 No. 5 PORTLAND, OREGON May 1953

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GEOLOGICAL SOCIETY OF THE OREGON COUNTRY

Officers of the Executive Board, 1953 - 1954

			Zone	Phone
President:	Mr. Raymond L. Baldwin	4804 S.W. Laurelwood Drive	1	CY 2-1452
Vice-Pres:	Mr. Orrin E. Stanley	2601 S.E. 49th Avenue	6	VE 1250
Secretary:	Mrs. Leo Simon	7006 S.E. 21st Avenue	2	EM 0549
Treasurer:	Mr. Robert F. Wilbur	2020 S.E. Salmon Street	15	VE 7284

Directors: Mr. E. Cleveland Johnson (1954); Mr. Ford E Wilson (1954); Mr. Rudolph Erickson (1955); Mr. Norris B. Stone (1955); Mr. A. D. Vance (1956)

Staff of the Geological News Letter

Editor Emeritus:	Mr. Orrin E. Stanley	2601 S.E. 49th Avenue	6	VE	1250
Editor:	Mrs. Albert Keen	2715 N.E. 41st Avenue	13	GA	0229
Asst. Editor:	Mr. Ford E Wilson	11844 S.E. Pine Street	16		
Assoc. Editors:	Mr. Phil Brogan	1426 Harmon Blvd., Bend, Oregon			266-J
	Mr. F. W. Libbey	2259 N.W. Everett Street	10	BR	2145
	Dr. Ruth E. Hopson	4709 N. Willamette Blvd.		TW	3441
	Miss Margaret L. Steere	6205 S.E. Scott Drive	16	VE	0917
	Mrs. William Clark	5237 N.E. Wisteria	13	GA	3242
Library Editor:	Mrs. Edward Bushby	1202 S.W. Cardinell Drive	1	CA	2123
Business Manager:	Mr. Edward Kelham	14018 S.E. Linden Lane	22	EV	1-2196

Committee Chairmen

Programs:	Mr. A. D. Vance	Service:	Mr. F. W. Libbey
Field Trips:	Mr. Leo F. Simon	Museum:	Dr. J. C. Stevens
Membership:	Mr. William F. Clark	Public Relations:	Mr. C. D. Phillips
Publicity:	Mr. H. Bruce Schminky	Librarian:	Mrs. Edward Bushby
Social:	Mrs. William F. Clark	Historian:	Miss Ada Henley
Research:	Mr. Rudolph Erickson	Display:	Mr. Albert Keen

Society Objectives

To provide facilities for members of the Society to study geology, particularly the geology of the Oregon Country. The establishment and maintenance of a library and museum of geological works, maps, and specimens. The encouragement of geological study among amateurs. The support and promotion of geologic investigation in the Oregon Country. The designation, preservation, and interpretation of important geological features of the Oregon Country. The development of the mental capacities of its members in the study of geology and the promotion of better acquaintance and closer association between those engaged in the above objectives.

Persons desiring to become members should contact the Membership Chairman, Mrs. William Clark, 5237 N.E. Wistaria, Phone GA 3242. Annual dues are $3.50 for residents of Multnomah and adjacent counties; $2.50 for others; and $1.50 for Junior members. Remittance should be made payable to the Society.

Society Activities

EVENING MEETINGS: Formal lectures or informal round-table discussions on geological subjects, on the second and fourth Fridays of each month, at Public Library Hall, S.W. Tenth Avenue and Yamhill Street. 8:00 P.M.

FIELD TRIPS: Usually one field trip is scheduled for each month.

LUNCHEONS: Informal luncheons, with geological motif, each Thursday noon in Room 305, YMCA Building, S.W. 6th Avenue and Taylor Street. $1.00 per plate.

PUBLICATION: The Geological News Letter, issued once each month, is official publication.

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CALENDAR FOR MAY 1953

Tuesday May 5	Library Browse Night - 1202 S.W. Cardinell Drive
Thursday May 7	Luncheon Meeting - Room 305 YMCA
Friday May 8	Friday Night Meeting, Library Hall - 8:00 P.M. Mr. Joseph D. Meyers, State Highway Department, will speak on "Ground Water."
	Display - Richard Walker will furnish the display for this evening.
Thursday May 14	Luncheon Meeting - Room 305 YMCA
Tuesday May 19	Library Browse Night - 1202 S.W. Cardinell Drive
Thursday May 21	Luncheon Meeting - Room 305 YMCA
Friday May 22	Friday Night Meeting, Library Hall - 8:00 P.M. Dr. Samuel Dicken, Head of Department of Geography and Geology, University of Oregon, will speak on "Caves and the Karst." Dr. Dicken who has made a special study of the limestone caverns in Kentucky will describe them and the karst surface. The talk will be illustrated with slides.
	Visit the Rehabilitation Center, courtesy of Dr. and Mrs. Arthur C. Jones (after the regular meeting). To allow more visiting time, there will be no display this evening.
Sunday May 24	Marys Peak Trip, led by Dr. Ewart Baldwin. Meet at Y junction at Philomath at 10:00 A.M. This is on the Alsea Highway. Bring your lunch - we will eat on top of the mountain. This trip requires very little hiking. A spectacular view can be had in all directions from the summit. The Salem Geological Society will meet with us and will furnish coffee. Distance from Portland to Philomath is about 90 miles so allow plenty of time for driving.
Thursday May 29	Luncheon Meeting - Room 305 YMCA
Tuesday June 2	Library Browse Night - 1202 S.W. Cardinell Drive

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AUDUBON SCREEN TOUR

Oddities in Nature - Walter H. Shackleton - May 6, 1953 - Benson Polytechnic

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NEW MEMBERS - April 1953

		Zone	Phone
Mr. and Mrs. Lawrence F. Newlands (Assistant Secretary - Oregon Portland Cement Company)	11808 S.W. Riverwood Road	1	CH. 7385
Mr. and Mrs. George Haumann (Machine Designer)	36 N.E. Meikle Place	15	VE. 5485

J.M.S.

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NEW BOOKS OF INTEREST

West North America, Gastropod Genera, by Keen and Pearson

West North America, Pelecypod Genera, by Keen and Frizzell

Stanford University Press
Stanford, California
$1.50 plus postage

Ancient Volcanoes of Oregon, by Howell Williams. This is now being reprinted. Those interested in obtaining copies see Mr. Rudolph Erickson for information.

More about the New Coelocanth Fish Discovery, by J. L. B. Smith. An account of this fish discovery, written by J. L. B. Smith, himself, appears in the British journal, Nature, 171:(4343), January 17, 1953. This publication is in the Portland Public Library, for reference only.

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FRIDAY NIGHT MEETING - March 27, 1953

Mr. Sam Sargent, geologist with the Army Corps of Engineers, presented a new and most interesting explanation of the presence of many of the erratics found along the Columbia River and in the Willamette Valley. His lecture on "Tree-rafted Erratics" was well illustrated with slides showing large and small rocks entwined with tree roots. This original research by Mr. Sargent opens a new field for the study and observation of erratics. As a more detailed account, written by Mr. Sargent, will be published in the June News Letter, no further review will be given here. We are all indebted to Mr. Sargent for an instructive and interesting evening.

Mr. Leo Simon displayed a fine collection of copper minerals in the first of a series of displays planned for the coming year. He gave detailed explanation of the characteristics of many of them and answered questions from the audience. His beautiful display, all nicely labeled, was thoroughly enjoyed.

A.K.

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Dues are PAST Due

If you wish to be included in this years membership list, which will appear in the next issue of the News Letter, please send in your remittance immediately. Any additional amount you wish to send for the book fund will be used to good advantage.

J.M.S.

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LOOKING FORWARD IN 1953

By

Raymond L. Baldwin

Members of the Geological Society and guests - it is with a deep sense of humility that I accept your call to be President of this Society for the coming year. I pledge to you that working with the Executive Board, I will do everything in my power to keep the Society on the even keel it maintained during the administration of Norris Stone, and I might add I am deeply grateful to those who drew up the Constitution and By-Laws and saw fit to insert in Article 4, Section 5, the following statement: "The President shall be ineligible for re-election." Thus doing away with the necessity for any campaigning on my part during the year.

This is the 18th banquet, and I have missed only one of them - that was the year 1949 when we were in Florida scouting a field trip to Key West for the Society. During these years I have been content to sit at the tables below the Head Table and listen to pearls of wisdom that in-coming and out-going presidents have given us on these occasions. I had hoped to get out of making a speech this year, but your active program chairman recently asked me, "Mr. Baldwin, what is the title of your speech at the annual banquet?" I found myself somewhat in the position of Ex-Governor Fort of New Jersey when he spoke at one of our college banquets years ago - I have long since forgotten the subject of his speech, but do remember one thing he said - that he was like the fond mother when little Willie came home from school and told her the teacher wanted a definition showing the difference between hope and expectation. She said she could not give him a definition, but could give an example - "I hope to see your father in Heaven, but I don't have any such expectation." Thus the governor and I had hoped to get out of making a speech but did not expect to.

A short time ago I found on my desk a note which read as follows: Formula for a good speech - Have a good beginning and a good ending, and have them close together. This seems like good advice.

I want now to introduce those who are quarter-backing our team this year. The Executive Committee members are Orrin E. Stanley, Vice President; Mrs. Johanna Simon, Secretary; Robert Wilbur, Treasurer; Directors, Cleveland Johnson, Ford Wilson, Rudolph Erickson, and Norris B. Stone. The untimely death of Al Vance leaves one vacancy on the Board.

Now I introduce the rest of the team with their various positions. You have elected Mrs. Stella Keen to be Editor of the News Letter for the coming year. Under her leadership and her efficient corps of assistant editors, you will be kept abreast of doings of our members and what is happening in the Geological World. Items of geological interest found in magazines or newspapers should be reported to Mrs. Keen or a member of her staff.

Display Chairman - Al Keen has promised interesting displays at our Friday evening meetings.

Trip Chairman - Leo Simon, need we say more? I know Leo has plenty of new territory to explore, but should he think he has covered territory I would suggest repeat trips on some places we visited in the early days of the Society. In light of new material written and fossils found, will the conclusions drawn be the same as on our first trips? Our boat trip to Oregon City was very popular and I strongly advise another boat trip either on the Willamette or Columbia. I also suggest a joint trip with the Salem group, and possibly a trip to either Corvallis or to Eugene.

Program Chairman - Fay W. Libbey. Al Vance had accepted this chairmanship and before taken sick had lined up several potential speakers for the year. Tom Matthews generously agreed to carry on until Al recovered, and at Al's death Mr. Libbey agreed to take over. This is just another example of the fine co-operation which I have always noted throughout the years in this group.

Business Manager - Ed Kelham. This is one job I am shedding this year. I am sure Ed Kelham will look after this department ably and well, and I am turning over to him all unfinished business. Ed, being a postal employee, will look well to the mailing of our bulletins.

Service Committee - Miss Margaret Steere. Under the leadership of Miss Margaret Steere and her committee we will be kept abreast of the latest books and bulletins on geological subjects, which come out from time to time. If enough requests for such are received, she will purchase them for us, subject to any discounts she can obtain.

Research Committee - Rudolph Erickson. A very important part of our Society. Under Rudolph Erickson we hope to start a project this year. He and his committee will have more to say about this later.

Historian - Miss Ada Henley. Miss Henley will continue as historian. Maybe some of our members do not know that we have a historical and pictorial record of doings of the Society, and these records are being added to continually. Several years ago, I think it was during the regime of John Allen, Miss Henley was commissioned to get pictures of past presidents and a life sketch of each. She has found this a more difficult task than finding out the age of a lady. I think the book is now nearly complete and up to date.

Museum Committee - Dr. J. C. Stevens. Our good friend, Dr. Stevens, has long served us well on this committee. We want to assure them that the new administration stands 4-square back of them in their fight for a bigger and better Museum. If the camp for boys and girls, which has been so successful the last two years, is on the agenda this year they can count on continued support of our Society.

Library - Mrs. May Bushby. Once more our Library is in a place accessible to all. Mrs. Bushby has done a splendid job and worked ceaselessly in assembling the material. As I look over the recently published catalogue I realize we have quite a different library than when this material was stored in the Baldwin attic and basement, and was later turned over to Miss Hughes who took on the job of cataloguing it in Arthur Piper's office in the Pioneer Postoffice Building. The Library Browse night has become very popular and that our Library may keep growing the following suggestion has recently been offered. That when paying our dues instead of writing a check for $3.50 we make it for $4.00 or more and specify the extra money is to go to a special fund to buy worthwhile books for the Library. Our aim is to have our library one of the best geological libraries on the Pacific Coast.

Social Committee - Mrs. Wm. Clark. Through this group consisting of Mrs. Clark and her corps of helpers flows the life blood of the social part of our Society. Some have said as we grow older we have become a cold organization. I have not found it so, but if it appears to some to be so, let's change this. In sickenes or in health, in joy or sorrow, we want all members to feel that each and every one in the group is standing back of every member

and his family. Our keen interest in Geology has been the tie that has bound us together - may that bond grow closer.

Publicity - H. B. Schminky. The battle with the dead-line of newspapers. Bruce Schminky is chairman. Will Program and Trip chairmen please see that your copy gets into his hands early enough to get into the papers?

Conservation - R. F. Wilbur. As Norris has told you, we have this year placed a marker on Mt. Tabor. Bob Wilbur is again heading our Committee on Conservation - he is keeping in close contact with the State Highway Department in any geological material they find, in order that we can mark and preserve it. Throughout the years too much of Oregon's rich geological material has been shipped out of the State. Portland now has the nucleus for a fine museum here, and we want our Museum specimens there. Those which are too large for the Museum we certainly want to see protected. Our Willamette Meteorite should never have been sent away from Oregon. We may not find another Willamette Meteorite, but if we do and anyone tries to take it out of the State, they will find Bob Wilbur right there sitting on the find. I urge thought be given to placing a marker at the place where the Willamette Meteorite was discovered.

Public Relations - Clarence Phillips. We know that under the leadership of Clarence Phillips we shall be operating within the law, and if we should happen to get off the track he will see that we are brought back into line.

Membership - William Clark and his committee ask your cooperation during the coming year. We want new members, congenial people who love outdoors and have an interest in earth Sciences. We would like to have them join our group and urge them to give us a chance to work with them. Again as in former years we are going to make a strong effort to reach schools and those in extension courses who are taking geology. This Society started from the extension courses, and we should be drawing more of these people into our membership.

These, then, are your committee chairmen who have accepted positions. We shall appoint other committees throughout the year as the need arises. This is your Society and each and every one should have some part in the work. Committee Chairmen, I am turning this group over to you - take those members you need to serve on your Committee.

Members of the Geological Society of the Oregon Country, let's get behind our committees and make 1953 a big year for the Society.

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A MESSAGE FROM DR. JOHN ELIOT ALLEN

A telegram intended to be read at the annual GSOC banquet was sent by Past-President Dr. Allen but was not delivered by Western Union in time. His telegram reads as follows: "Greetings from the Navajo Country to the Oregon Country on the occasion of the Annual Banquet." While it is regretted that this message could not be presented at the banquet, all GSOC members will be glad to know of Dr. Allen's interest.

F. E W.

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RETIRING PRESIDENT'S REMARKS

By

Norris B. Stone

About a year ago we stood on this same platform and outlined to you what you might expect in the coming year. We have tried to live up to these promises, and some of them have borne fruit.

The thing we stressed as the vital key to accomplishment was cooperation between officers, committee chairmen and their helpers, and the general membership. Everyone has pulled together like a good team of horses to the end that harmony has prevailed and some good to the Society has, we hope, been developed.

(Mr. Stone then introduced the 1952 officers, committee chairmen, and all others who had helped him during the year.) These, my friends, are the ones who have carried on for you during 1952. Let's give them a BIG hand.

In memoriam: Let us all stand, and for a moment pause in deep respect for the passing of some of our fine friends - Mrs. Fay W. Libbey, Dr. Ethel I. Sanborn, and Mr. A. D. Vance.

Briefly let me list without further comment a few of the events that made some history during 1952.

1. The Society lost some Misses during the year: Miss Lotus Simon, Miss Ellen James, Miss Carol Schminky, and Miss Carolyn Ann Keen. How did we lose them you say? Well they just went and got married.

2. On July 13th, we were on a field trip with the Salem Geological Society as our hosts in the Salem area. Many thanks to our Salem friends for a very fine day, and we expect to reciprocate.

3. At our annual picnic last August, a skit, written by our Jane Erickson and entitled "Sabbath in the Ochocos," was given. It was very entertaining and also enlightening because we now know where to get our pictures taken in the future. Leo, take a bow.

4. During the year we had two outstanding afternoons at the home of our Old Prospector, Lon Hancock. One occasion was the visit of Dr. Cheney of Berkeley. The other, a visit of Dr. George Gaylord Simpson, of the American Museum of Natural History, New York. Dr. Simpson is one of the world's most noted paleontologists. What should he find out there but another Trump for Lon. A missing link in the life of elephants. Lon has a very large mastodon skull which most of you have seen. It looked like just any other old mastodon to most of us, but Dr. Simpson got quite excited. He started measuring teeth, jaw bones, etc., etc., and has since pronounced it a find of "outstanding importance." Lon, how do you do it?

In conclusion, I would like to read you a gem from our News Letter, contributed by Mrs. Arthur Jones, and which could very conceivably be used as our Society's theme song. It's by Longfellow, and it tells so much in so few words of what our Society means.

"And Nature, the old man,
Took the child upon his knee
Saying: Here's a story book
My Father hath written for thee."

It now becomes my pleasure to demonstrate the golden rule. "Do unto others as you would have them do by you." Last year I was presented with the Tokens of Office. Now, Mr. Raymond Baldwin, if you will please stand, I will be glad to reverse the procedure. From now on You do the work.

****

REPORT OF THE EIGHTEENTH ANNUAL BANQUET
Impressions by Dr. Ruth E. Hopson

This was the first time I have been lucky enough to be able to attend an annual banquet.

My guests, Mr. and Mrs. Walter Bruckert, new members from Wasco, felt very much at home in the Eastern Oregon atmosphere with the sagebrush and juniper, and we all felt a nostalgia for the fossil localities. The red clay road made up .hope it would not rain so the nifty little cars would not get stuck. Mr. Bruckert remarked that he did not think there were so many "old fossil hunters" in the country.

Table conversation at our section ran true to form for a bunch of pick-happy geologists. Jean Hampton and Dick Walker were discussing a bone locality - so far secret - but they might trade information. Ray Schneider soon had a truck loaded with Clarno nuts and fossil wood ready to pull out for home to add to his basement collection. The road signs were in unusually good repair.

In due course, with a glance at the past and a glimpse at the future, the change of guard was effected and President Stone presented the emblem of office to President Baldwin.

Instead of the usual pick (since he has been given two before), Dr. Ewart Baldwin, guest speaker, was presented with a heavy volume, something about underground methods in geology. He earned it with his beautiful slides and accompanying discourse on the geology of the Southwest, including some of the National Parks.

A gang of well-fed Geesockers sings lustily, especially when Dr. Jones leads familiar geological songs. The "young" actors and actresses of the club under the direction of our playwright, Jane Erickson, produced two hit performances.

Finally, to "Goodbye, Rock Hunters, Goodbye" we went home to dream about the fair maiden, Mary Davenport, the founder of our type of society, and that pre-cocious child, Icky.

Thanks to the committee for a wonderful evening!

* * * * *

Impressions by Miss Ada Henley

First and most interesting were the decorations reminiscent of the Clarno Country, a brown-penciled road winding down the white-paper length of the table, flanked at intervals by little trees of real berry-laden juniper and bunches of sagebrush. Tiny cars, with GSOC bumper cards, formed a miniature but lengthy caravan. By each plate was a souvenier specimen from the Clarno nut bed formation, and place cards in the form of realistic looking leaves with their botanical names neatly typed on the backs. These were really most original and clever decorations, representing a great deal of time and effort by the Keens and others. It sort of made us homesick for the desert.

The food, too, which is always important, was ample and of excellent home-cooked quality. Those Dorcas gals do know how to cook.

Leo made an efficient master of ceremonies, and the respective speeches of the retiring president, Norris B. Stone, and newly elected Raymond L. Baldwin, were both interesting and well prepared.

One of the highlights of the evening was the presentation of beautifully hand-lettered Honorary Life Fellow Certificates to Miss Mary Margaret Hughes and Mr. Orrin E. Stanley. These are a well-deserved tribute for faithful service and contributions.

Certificates of Fellows of the Society were presented past presidents Fay W. Libbey, Dr. Arthur C. Jones, Leo F. Simon, Ford E Wilson, and Norris B. Stone. Dr. John Eliot Allen, being now in New Mexico, will receive the certificate by mail.

An interlude of sadness was the solemn moment when we all rose and stood in silence in memory of the recent passing of Mrs. Fay W. Libbey, Dr. Ethel Sanborn, and Mr. Albert D. Vance.

The pictures shown by Dr. Ewart M. Baldwin - "National Parks of the Southwest" - including Grand Canyon, Bryce, and Zion, were delightful. It was a personally conducted tour of these beauty spots by a real geologist.

Two clever skits, one in pantomine, written by our own Jane Erickson, were presented and thoroughly enjoyed.

One of the charms of these affairs is the opportunity of exchanging greetings with old friends whom we seldom see.

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G.S.O.C. LUNCHEON - March 26, 1953

The seventeen people present March 26th were President R. L. Baldwin, Leo Simon, Dr. Ruth Hopson, Mr. and Mrs. Rudolph Erickson, A. W. Hancock, Stanley Shirk, E. A. Kelham, F. W. Libbey, H. B. Schminky, Allan de Laubenfels, Mrs. Arthur Jones, Mr. and Mrs. Albert Keen, Miss Ada Henley, Robert Wilbur, and O. E. Stanley . . . Mr. Erickson had a small slab of jade from Alaska sent by Mr. Norton. . .Leo Simon told of having a telegram from the New York Times asking permission to print a photograph of Mr. Hancock's fossil miomastodon skull. . .Mr. Hancock told of a 15-minute telephone conversation with the New York Times, about finding the specimen. . .Mr. Erickson had a photographic copy of an old picture of the Oswego iron smelter which Mr. Simon had made for an author some years ago. . .Mr. Hancock had a sketch he had made of a large skull, thought to be of a sea cow, but much larger than the modern sea cows and somewhat different in the tooth arrangement. . . Stanley Shirk thanked the G.S.O.C. for the help that various members had given the exposition. He said that future expositions would be smaller, being made up of only the best exhibits from several smaller shows throughout the State. . . Mrs. Jones said that Dr. Jones is now in Los Angeles advising on the plans for a 4-million dollar rehabilitation hospital for the city.

O.E.S.

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GEOLOGY OF THE MITCHELL BUTTE QUADRANGLE MALHEUR COUNTY, OREGON

Talk given by R. E. Corcoran
April 10, 1953

The Mitchell Butte quadrangle is situated along the eastern border of Oregon between latitude 43° 30' north and 44° 00' north.

The part of the geologic column exposed here is composed of volcanic and sedimentary rocks of Tertiary and Quaternary age.

The oldest known rock in the area is located in the southeastern corner of the quadrangle and has been tentatively assigned to the Columbia River basalt of mid-Miocene age.

This oldest volcanic rock is overlain by a series of discontinuous alternating beds of arkosic and quartzitic sandstone, tuff, shale, and conglomerate. These beds contain an abundant fossil leaf assemblage identified and dated by Dr. Ralph Chaney* of the University of California. He correlates this series with the Payette formation of middle or upper Miocene age from southwestern Idaho. The formation can be traced southward into Succor Creek canyon where Buwalda and Sharf found vertebrate remains (Tetrabelodon, Hypohippus, and Merycodus) also of middle and upper Miocene age. The sediments appear to have been deposited in fresh water lakes or swamps, although there may be some fluviatile deposits. They are exposed in the Hole-in-the-Ground (Owyhee River canyon above the present dam) in the south-central part of the quadrangle, and along the escarpment through the east-central part of the area beneath the younger lavas of the Owyhee basalt. The total thickness of these beds probably exceeds 1,000 feet.

Locally the Payette formation is overlain by a porphyritic rhyolite. The rhyolite mass is wedge-shaped and possesses no great lateral extent. Its chief characteristics are great hardness, denseness, and well-developed vertical jointing.

The Payette formation, except where in contact with the rhyolite, is disconformably overlain by the Owyhee basalt series, which is composed of a thick series of very resistant basaltic flows and cinder beds with intercalated tuffs and ashes. It is this unit that forms the topographic feature in the south-central portion called the Owyhee Ridge. The total thickness of this volcanic series is approximately 1,000 to 1,300 feet.

Subsequent to the extrusion of the Owyhee basalt, the area was tilted to the west causing local block faulting in the foothills facing the west side of the Snake River valley and flood plain. Erosion of the land surface continued and a region of relatively high relief was produced.

A basin of deposition was once again formed in this area of relatively great extent. These beds were deposited as a thick sedimentary blanket on the older Mio-Pliocene erosion surface. This series has been correlated with the Idaho formation of similar lithology and stratigraphic position found in southwestern Idaho. Vertebrate remains taken from the north-central portion of the quadrangle have been identified by Arnold Shotwell* and assigned a lower to middle Pliocene age. The formation consists of light-colored, partly consolidated, discontinuous beds of sandstone, siltstone, ash and conglomerate of fluviatile, lacustrine, and

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*Personal communication.

perhaps subaerial origin. This sedimentary series extends beneath the Snake River valley into western Idaho where a thickness of at least 6,000 feet has been measured.

Downwarping in the Snake River flood plain area has given these beds a slight northeasterly dip.

Sands and gravels of Pleistocene to Recent age are found as low-lying terraces flanking the Snake River valley and in the present flood plain and valley bottoms.

R.E.C.

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CONDON MARKER

The Executive Committee, at its meeting of April 4, 1953, appointed a marker committee to work out details of locating and placing a marker in honor of Dr. Thomas Condon. Members of this committee are Lloyd L. Ruff, Chairman; Phil Brogan; and William Clark. The following letter has been received from Phil Brogan.

Mr. Raymond L. Baldwin
4804 S.W. Laurelwood Drive
Portland 1, Oregon

Dear Ray:

I shall be most happy to work with Lloyd Ruff in deciding a place where a plaque can be erected honoring Dr. Thomas Condon. I think it is a fine move on the part of the Geological Society of the Oregon Country.

In all Oregon, there is only one geographic feature that bears Dr. Condon's name - and that is an insignificant volcanic cone, Condon Butte in the Cascades some five miles north of the North Sister. Not even our eastern Oregon town of Condon was named for him.

I am not sure that The Dalles is the place to erect the plaque - I fear Dr. Condon is very much a stranger in The Dalles of 1953. True, he was a resident of Fort Dalles community when he made his first trips into the John Day basin, starting in 1864, but I believe that his greatest contributions to the science of geology were made when he was a more mature geologist at the University of Oregon.

Because Dr. Condon was the University's first geologist, and played such an important role in the study of Oregon geology while stationed there, probably it would be best to erect the plaque on the University campus where a hall now bears his name. This is merely a suggestion.

Kindest regards
Phil Brogan

****

NEWS LETTER SCOOPS NATIONAL PUBLICATIONS

It may be of interest to our members to know that a letter from Dr. Simpson to Mr. Hancock, identifying Lon's elephant-skull find as Miomastodon, appeared in the March News Letter more than three weeks before local and eastern newspapers and national magazines featured the same information. Just another good reason for being a member of the GSOC and keeping up-to-date on current happenings of scientific interest to our Society.

SK

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LON HANCOCK AND HIS MIOMASTODON

The old proverb, "a prophet is without honor in his own country," is partly true of Lon Hancock. Although he has been an amateur paleontologist and geologist for fifty years and has received some recognition from time to time, it took a visit from a famous New York paleontologist and an article in the New York Times, to really bring him and some of his discoveries to the attention of the whole nation.

The ball really started rolling when a reporter from the New York Times happened to be present at the Museum of Natural History in New York when Dr. Simpson received the photograph Leo Simon had taken of an elephant skull found by Lon Hancock some twelve years previously. Dr. Simpson identified it as Miomastodon, a little-known link in the evolution of elephants, and the most perfect specimen in existence. The Times interviewed Lon by telephone for fifteen minutes and asked permission to publish the photograph.

Later in the day, reporters and photographers from Time Magazine converged on the Hancock residence, taking pictures and getting a news story for their publication. Later the local papers also sent reporters and photographers.

Net result of all this activity --- a full column of text in the New York Times of March 26, with a good picture of the Miomastodon skull -- an editorial in the same paper on March 27 -- excellent write-ups and pictures of both Lon and the elephant head in the Journal and Oregonian of March 29 -- and a fine article and picture in the April 6 issue of Time Magazine. (In this picture, Lon wishes to call attention to the fact that the older fossil is on the right.) Probably other papers and magazines have printed these articles and pictures.

The following, part of an editorial from the New York Times of March 27, very appropriately describes Lon Hancock (and this was written by an editor 3,000 miles away who had never heard of him until the previous day).

> "Mr. Hancock, who has been chipping rocks in his odd moments for fifty years, must be one of those rare persons who are not bored when they retire. May he long go on walking the ancient fossil beds of Oregon, and lifting his eyes to a horizon 10,000,000 years away! With such a vista he need not feel that his own threescore years and ten are weighing him down."

Lon is the only Honorary Life Fellow of both GSOC and Oregon Agate and Mineral Society. He is also a past president of each organization and is presently serving a second term as president for OAMS.

We are all proud of Lon Hancock and are happy to see others recognize some of the contributions he has made to science.

A.K.

****

FRIDAY NIGHT MEETING - April 10, 1953

Mr. R. E. Corcoran, geologist with the State Department of Geology and Mineral Industries, lectured on the"Geology and Stratigraphy of the Mitchell Butte quadrangle." His subject was well illustrated with colored slides of the area. Rock specimens from the region were described and passed around the audience. Questions and answers added further interest to the evening. (A short article covering the subject matter of this lecture appears on page 57 of this issue of the News Letter.)

Mr. Ray Schneider displayed a lovely collection of zeolites. In a short talk

he explained characteristics of many of them and mentioned localities in Oregon where they could be found.

The Society extends a vote of thanks to Mr. Corcoran and Mr. Schneider for a very worthwhile evening.

S.K.

****

G.S.O.C. FIELD TRIP - March 29, 1953

About fifty G.S.O.C. members and guests, in 25 cars, assembled at the north end of Oswego at 1:00 P.M. Trip Leader, Rudolph Erickson, pointed out a deposit left by the backwash of the Missoula flood. The caravan then proceeded to the west end of Oswego Lake, near Durham Station, where a gravel deposit left by this flood, was examined. Water poured through the Oswego Lake gateway, carrying material from this area, blocking the former Tualatin River channel.

A stop was made on the "Mt. Road," where the highest point of the flood was noted. Most of the soil on the hillside below had been stripped off by the flood and deposited further on at Peach Cove, damming the Willamette River. Mrs. Johnson kindly permitted the caravan to enter her property, where it was possible to get an excellent view of Peach Cove. Here the Willamette had been dammed by material carried by the flood waters pouring through the West Linn-Oregon City gateway, and had been forced to cut a new channel. Several erratics were found and examined.

A fine view of the terrain of the BeaverCreek-Parrott Creek area east of new Era was obtained at a stop made on the Pete's Mountain road on the way to Willamette. Here the former Willamette valley is filled with sediments and capped with Boring lavas. A short stop was made on the Pacific Highway south of Oregon City, where Mr. Erickson called attention to the former channel of the Tualatin where it flowed eastward to join the Willamette. Here it was possible to get a close-up view of the sediments and Boring lavas.

The caravan proceeded through the Beaver Creek area, where the creek is cutting into the soft sedimentary material which now fills the old Willamette channel. A stop was made on the edge of the Abernethy Creek valley, where the sediments are similar to those of Beaver Creek. Descent was made into the Abernethy Creek valley, following the Holcomb School road. The contact area between the sediments and gravels was observed. These had blocked the Willamette, forcing it to find a new channel between Oregon City and West Linn.

The caravan returned through Oregon City to the Norris Stone's. Here, in addition to the coffee which had been promised, we found relishes, cookies, and even hot dogs for those who had succumbed to temptation and eaten most of their lunch during the trip.

Rudolph Erickson showed slides of the beach, Willamette Valley, and some of the John Day country, all of them enjoyed by well-fed Geesockers.

A hearty vote of thanks was given the Ericksons and our gracious hosts, the Stones. We still wonder how Rudolph Erickson made arrangements with the weather man for such a perfect day.

A.K.

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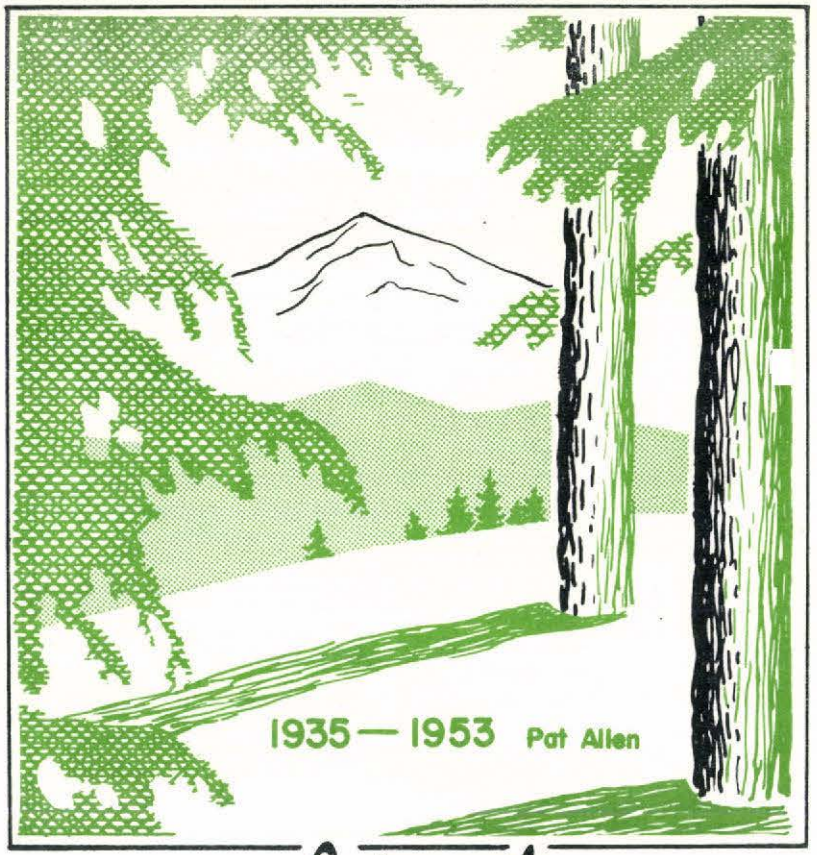
Eighteenth
ANNUAL BANQUET
GEOLOGICAL SOCIETY
of the OREGON COUNTRY
MARCH 13, 1953


BUSHBY



★ Eighteenth ★

ANNUAL BANQUET

GEOLOGICAL SOCIETY of the OREGON COUNTRY

★ *MARCH 13, 1953* ★

LET'S ALL SING

"IN THE CLARNO"
Tune: Clementine

In the Clarno, in the Clarno
Sixty million years ago,
Waved the palm trees in their splendor
Knowing neither ice or snow.

Chorus:
Come the Geesocks, come the Geesocks,
Braving wind, or rain, or tan;
You can hear their merry laughter,
It's the Clarno Caravan.

To this land of calm and beauty
Came the breath of nature's wrath,
Ashes from a fiery mountain
Covered all within its path.

Buried deep beneath this blanket,
Limbs and nuts and fruits galore
Were preserved in nature's store house,
On an ancient lake bed shore.

Years of wind and rain and sunshine
Have uncovered them at last,
Bringing forth to those who seek them
Records of that ancient past.

To this land of sun and sage brush,
Where the fossil nuts are found,
Come the Geesocks with their hammers
Breaking rocks upon the ground.

* * *

LET'S ALL SING

"GOODBYE, ROCK HUNTERS, GOODBYE"
Tune: Goodbye, My Lover, Goodbye

Our Banquet now is at an end
Goodbye, Rock Hunters, goodbye,
We'll work a year and meet again
Goodbye, Rock Hunters, goodbye.
Geodes and fossils, banquets, and wassails,
Campers with "tossles,"
Goodbye, Rock Hunters, goodbye.

* *
*

GOOD NIGHT

* * *

BANQUET COMMITTEE

Cover Design:
Mrs. Robert E. Allen

Corsages:
Mrs. Ben F. Smith

Decorations:
Mr. and Mrs. Albert Keen

Entertainmant:
Music - Mrs. A. W. Hancock
Dr. Arthur C. Jones

Plays - Mrs. Rudolph Erickson

Directors - Mrs. Rudolph Erickson
Mrs. Edward D. Bushby

Gifts:
Mr. H. Bruce Schminky

Hospitality:
Mr. and Mrs. William F. Clark

Interpreter - Menu:
Mr. A. D. Vance

Photography:
Mr. Edward D. Bushby

Programs:
Mrs. Albert Keen
Mrs. William F. Clark

Speaker:
Mr. Norris B. Stone

Tickets:
Mr. and Mrs. Leo F. Simon

General Chairman:
Mrs. Albert Keen

O F F I C E R S

1952	1953
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Mr. E. Cleveland Johnson	Mr. Rudolph Erickson
Mr. Ford E Wilson	Mr. E. Cleveland Johnson
Mr. A. D. Vance	Mr. Ford E Wilson
Mr. Louis E. Oberson	Mr. Norris B. Stone

M E N U

DINNER NO. 1

ROAST PTERANODON ET VOLCANIC AGGLOMERATE
JASPEROID PEBBLES
or
BAKED ONCORHYNCHUS LOAF

THUNDER EGG PSEUDOMORPHS
cum
MUD FLOW

PLICATOSTYLUS GREGARIOUS
(var. sinatriana)

YOUNG CYCAD FRONDS - TENDER BLASTOIDS

CINNABAR NODULES
(in limestone matrix)

AQUA FORTIS ex THE JOHN DAY

* * * *

DINNER NO. 2

TURKEY AND DRESSING
CRANBERRY SAUCE
or
SALMON LOAF

MASHED POTATOES GIBLET GRAVY

STRING BEANS RELISHES

CHERRY PIE

COFFEE OR TEA

* * *

P R O G R A M

Eighteenth Annual Banquet

GEOLOGICAL SOCIETY OF THE OREGON COUNTRY

Mr. Leo F. Simon
Master of Ceremonies

"IN THE CLARNO" Song . . . . . Everybody

DINNER

****

"REVIEW OF 1952" . . . . . Mr. Norris B. Stone

"LOOKING FORWARD IN 1953" - Mr. Raymond L. Baldwin

HONORARY LIFE MEMBERSHIPS . . . Mr. Ford E Wilson

INTERMISSION

"NATIONAL PARKS OF THE SOUTHWEST"
By
Dr. Ewart M. Baldwin
Eugene, Oregon

"I WISH I WAS" Song . . . . . Everybody

"THE FIRST GEESOCKER". . . . . Geesocker Players
Mary Davenport - Joan Ericksen
Richard Walker - John Wheeler

"TIME OUT FOR ICKY" . . . . . Geesocker Players
May Bushby - Leo Simon - Bill Clark

"GOODBYE, ROCK HUNTERS, GOODBYE" . . . . Everybody

* * *

GEOLOGICAL NEWS LETTER

OFFICIAL PUBLICATION OF THE

Vol. 19 No. 6 PORTLAND, OREGON June 1953

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GEOLOGICAL SOCIETY OF THE OREGON COUNTRY

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Vice-Pres:	Mr. Orrin E. Stanley	2601 S.E. 49th Avenue	6	VE 1250
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Mr. Rudolph Erickson (1955) — Mr. Norris B. Stone (1955)
Mr. A. D. Vance (1956)

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Editor Emeritus:	Mr. Orrin E. Stanley	2601 S.E. 49th Avenue	6	VE 1250
Editor:	Mrs. Albert Keen	2715 N.E. 41st Avenue	13	GA 0?29
Asst. Editor:	Mr. Ford E Wilson	11844 S.E. Pine Street	16	
Assoc. Editors:	Mr. Phil Brogan	1426 Harmon Blvd., Bend, Oregon		266-J
	Mr. F. W. Libbey	2259 N.W. Everett Street	10	BR 2145
	Dr. Ruth E. Hopson	4709 N. Willamette Blvd.		TW 3441
	Miss Margaret L. Steere	6205 S.E. Scott Drive	16	VE 0917
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Society Objectives

To provide facilities for members of the Society to study geology, particularly the geology of the Oregon Country. The establishment and maintenance of a library and museum of geological works, maps, and specimens. The encouragement of geological study among amateurs. The support and promotion of geologic investigation in the Oregon Country. The designation, preservation, and interpretation of important geological features of the Oregon Country. The development of the mental capacities of its members in the study of geology and the promotion of better acquaintance and closer association between those engaged in the above objectives.

Persons desiring to become members should contact the Membership Chairman, Mrs. William Clark, 5237 N.E. Wisteria, Phone GA 3242. Annual dues are $3.50 for residents of Multnomah and adjacent counties; $2.50 for others; and $1.50 for Junior members. Remittance should be made payable to the Society.

Society Activities

EVENING MEETINGS: Formal lectures or informal round-table discussions on geological subjects, on the second and fourth Fridays of each month, at Public Library Hall, S.W. Tenth Avenue and Yamhill Street. 8:00 P.M.

FIELD TRIPS: Usually one field trip is scheduled for each month.

LUNCHEONS: Informal luncheons, with geological motif, each Thursday noon in Room 305, YMCA Building, S.W. 6th Avenue and Taylor Street. $1.00 per plate.

PUBLICATION: The Geological News Letter, issued once each month, is official publication.

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CALENDAR FOR JUNE 1953

Thursday June 4 — Luncheon Meeting - Room 305 YMCA

Tuesday June 9 — Library Browse Night - 1202 S.W. Cardinell Drive

Thursday June 11 — Luncheon Meeting - Room 305 YMCA

Friday June 12 — Friday Night Meeting - Library Hall, 8:00 P.M.
Mr. A. W. Hancock, Speaker
He has chosen for his subject "A Tree in Clarno Grew."

Display - Mr. Robert Wilbur will display Nebraska fossil material.

Thursday June 18 — Luncheon Meeting - Room 305 YMCA

Tuesday June 23 — Library Browse Night - 1202 S.W. Cardinell Drive

Thursday June 25 — Luncheon Meeting - Room 305 YMCA

Friday June 26 — Friday Night Meeting - Library Hall, 8:00 P.M.
Dr. Ira S. Allison, Speaker
"Shoreline development (with special reference to the Coast of Oregon)." Illustrated.

Display - The Edward Bushby's will display material collected on their trip to Canada.

Sunday June 28 — Field Trip.
The field trip for June will be held on June 28, 1953, with Dr. James Stauffer of Lewis & Clark College as trip leader.

Members and friends will meet at Staley Service Station, Buxton Junction, Sunset Highway, at 9:00 A.M., Standard Time. This is a rest stop.

Stops will be at four marine fossil locations including Pittsburg Bluff and at Mist.

Distance for round trip - approximately 150 miles. For further information call Leo F. Simon, Trip Chairman, BE 0300 or EM 0549.

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NEW MEMBERS - GSOC

		Zone	Phone
Palmer, Mr. Leroy A. (Mining Engineer)	1209 S.W. 6th Avenue	4	BR 9347
Rubin, Mr. and Mrs. Ernest John (Photogrammetrist with U.S. Forest Service)	2334 S.E. Main Street	15	EA 2684
	514 Builders Exchange Bldg.,	AT 8277, Ext. 30	
	Junior Member		
Radamacher, Jay (Washington High School Student)	229 S. E. 78th	16	LI 2186

J.M.S.

****

WHAT BOOKS DO YOU WANT?

Members are urged to give the book-purchasing committee the names of books they would like to have in the library. Contact R. Erickson, chairman.

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BIBLIOGRAPHY OF OREGON GEOLOGY ISSUED

A new bibliography of the geology and mineral resources of Oregon has just been issued by the State Department of Geology and Mineral Industries as Bulletin 44. This bulletin is the second supplement of the original bibliography issued by the State Planning Board in 1936. The first supplement covering the succeeding ten years through the year 1945 was issued by the Department in 1946. Bulletin 44 covers the five-year period from January 1, 1946, through December 31, 1950.

The bibliography, consisting of 61 pages, is made up both of an author and subject index, thus simplifying the finding of references. A list of the source material is included, and publications used in the compilation include unpublished theses as well as governmental reports placed in open file. The compiler of Bulletin 44 is Miss Margaret Steere, Geologist and Librarian with the Department.

The bibliography may be obtained from the Portland office of the State Department of Geology and Mineral Industries in the State Office Building, or at the Department field offices in Baker and Grants Pass. The price is $1.00 a copy postpaid.

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GSOC LUNCHEON - April 16, 1953

Among the 15 members present were three women; Miss Hughes, Dr. Hopson, and Mrs. Keen. . .Mr. Elder had some rock specimens from a quarry on Steens Mountain. . . Mr. Erickson brought two interesting publications priced at $1.35 each. They were: Illustrated Key to West North American Gastropod Genera by Keen and Pearson; and Illustrated Key to West North American Pelecypod Genera by Keen and Frizzell. These would seem to be of great importance to any person interested in shells, recent or fossil. They may be ordered from Margaret Steere. . .It was reported that Business Manager Kelham was in the hospital for sinus treatment. . .Dr. Hopson brought a small box containing an obsidian scraper or spear point, a tooth, and a few unidentified bones.

O.E.S.

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TREE-RAFTED ERRATICS ALONG THE COLUMBIA RIVER

An Abstract By
S. C. Sargent

For more than half a century geological observers have been recording the presence of erratic pebbles, cobbles, and boulders along the Columbia Valley. These rocks are often conspicuously different from those of the local terrain in rock type, size, angularity, and distribution. Many different rocks are represented among the erratics, chiefly granite, gneiss, slate, schist, quartzite, and phyllite. Basalt fragments and sand and gravel in iceberg mounds or clustered with foreign rock types have also been considered erratics. The question naturally arises: How did they get here and what is their significance? Is it possible that they were deposited during some catastrophic event and can thus be used as markers for the event? Or could they be a part of normal deposition as well, and of questionable value as "index sediments"?

At an early date Diller, Bretz, and Washburne independently suggested that the erratics were probably dropped from ice floating in an estuary formed by late Pleistocene submergence of the Columbia Valley. At this time it was believed that the erratics were brought in by icebergs from the Pacific Ocean. Their original source was thought to be in the mountain ranges bordering the Pacific in northern Washington, Canada, and Alaska.

In 1925 Bretz abandoned his hypothesis of late Pleistocene submergence in favor of a "Spokane Flood." According to Bretz this was a catastrophic flood of tremendous proportions caused by the sudden release of glacial waters. The erratics were thus attributed to ice-rafting from east of the Cascade Mountains by the Spokane Flood. The concept of a catastrophic flood was challenged for nearly two decades but in 1942 Pardee made the Bretz concept of the flood more acceptable when he presented evidence that the ice dam of glacial Lake Missoula broke suddenly, releasing approximately 500 cubic miles of water into the lower Columbia basin.

In 1935 Allison made a special study of erratics in the Willamette Valley, including the Portland area. He assigned a Spokane or early Wisconsin age to the erratics. He believed that they were ice-rafted by a Spokane Flood differing somewhat from the flood described by Bretz.

There has been a general tendency to use the flood as a stratigraphic horizon and to use the erratics as a sort of index sediment to the flood. Perhaps it was the presence of erratics in the Portland gravel that caused Bretz to assign the "Portland delta" to the Spokane Flood. Allison later showed the Portland delta to be made up of deposits of several different ages, although he reported erratics only in the veneer of debris left on the Portland delta by the Spokane Flood.

Although no erratics have been definitely assigned to a pre-Spokane Flood age, they occur in almost all the alluvial deposits of the Columbia River from Pliocene to Recent. They are relatively numerous in the Recent gravel bars between The Dalles and Wallula Gateway. In the same area they occur in cemented Pleistocene (?) gravels 100 feet above river level. Erratics are common in the Portland gravel and its up-river equivalents. Angular quartzite fragments are found in the Pliocene, Dalles, and Troutdale formations. In a recent paper, Lowry and Baldwin indicate that the Pliocene (?) Portland Hills silt is water laid because it contains a few quartzite and granite pebbles. These pebbles may also be considered erratics.

The Spokane Flood with its poorly sorted rubbly deposits and its quiet water silts is without doubt responsible for many erratics, particularly the very large boulders, but another means of transportation must be sought for Recent erratics and erratics older than the Spokane Flood. It is suggested that tree-rafting, which is active today, may account for most of the nonflood erratics along the Columbia River. Tree-rafting occurs when an uprooted tree carries in its roots rocks from its native soil. The rocks remain with the tree as it floats great distances during heavy floods, often remaining in the roots until the tree decays.

Tree-rafted erratics were first noted at the site of The Dalles dam. There, at low water, the river follows an angular course around a broad scabland peninsula of the Washington shore. During high floods shallow water covers much of the scabland and forms a trap for driftwood which takes the shorter course across the peninsula. Prior to the beginning of dam construction scores of trees and stumps were scattered over the peninsula. Many of them were concentrated in the log jams on the upstream side of scabland highs. Most of them were at the level of the great flood of 1948, but a few logs in late stages of decay were stranded at the level of the record flood of 1894. Angular erratics were found in the roots of approximately one-fourth of the trees. The rock types could not be distinguished from those attributed to the Spokane Flood. Other erratic-bearing trees have subsequently been found along the reaches of the Columbia. Some of the stones weigh a few hundred pounds.

In view of the evidence presented it is considered erroneous to assign a glacial significance to all erratics found in alluvial deposits along the Columbia. While ice rafting must account for many erratics, ice-rafted erratics are indistinguishable from those transported by trees. Thus many alluvial deposits which have heretofore been assigned to a glacial stage on the basis of erratics alone, may actually belong to an interglacial stage. A closer examination of the erratic-bearing deposits may show that many of them were laid by a normal river, and that the unusual rocks they contain could have been carried, not by ice, but by trees.

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GSOC LUNCHEON - April 2, 1953

Fourteen members were present, the only lady being Dr. Ruth Hopson who had brought two pocket magnifiers (ten power) which had cost much less than the $7.50 usually paid for that magnification. . .Rudolph Erickson had a small mass of tiny concretions, from south of the Snake River, which some members classified as fish eggs. However, Leo Simon cast his vote against this idea. . .Stanley Shirk told of the political situation as it affects the Museum of Science and Industry and several other historical and museum groups in the State. He said the recent trend of thought is to concentrate them in Salem. . .F. W. Libbey mentioned a local newspaper story about drilling for oil in Oregon. . .Robert Wilbur had a letter from a State Highway Department engineer offering a petrified tree stump that was uncovered near Warrendale during the construction of the new Columbia River Highway. It is said to have been found in the Eagle Creek formation. . .Two books were shown: The Two Islands by Dr. Condon (this copy is always in the custody of the president of the society) and Structural Geology by Nevin, owned by Dr. Ewart Baldwin. . . Bruce Schminky had a copy of Steelways with interesting articles on "Cracking Petroleum" and making steel pipe without a welded joint. . .Rudolph Erickson had some very nice colored pictures of the Grand Canyon country.

O.E.S.

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YOUR LIBRARY AND MINE

Library night, March 31, brought out 15 "browsers." Mr. A. W. Hancock (our Lon) was the recipient of congratulations on his find of a Miocene Mastodon skull and for his much-deserved publicity in New York Times, Oregonian, Journal, and Time Magazine. A recent addition to the library is a miscellaneous folder of news items regarding GSOC members. Your contributions to this folder will be appreciated and, right now, I need more on Lon.

The 15-minute surprise program was given by Murray Miller. He talked on certain physical properties of minerals, especially magnetism. Many minerals show this characteristic - not just a chosen few as some of us thought. His display, chosen from his own collection, included various minerals and rocks which exhibit magnetism. He demonstrated the electrical property called piezo-electricity possessed by several minerals. Flat plates cut from quartz, tourmaline, and other crystals, mounted in holders and placed in electrical circuits of radio equipment, allow close control of frequencies in radio broadcasting and other application. Mrs. A. W. Hancock graciously poured for "coffee and. . ." Later, the group enjoyed a few laughs over the banquet pictures taken by Ed Bushby.

On April 14, Mrs. Bruce Schminky graced the head of the "coffee and. . ." table, and Ray Schneider displayed a fine collection or representative quartz crystals including rose, smoky, and amethyst crystals, some with phantoms, rutile, or actinolite enclosed, and many others. After the Quiet Hour, which is over at 8:45, a rampage of discussion opened up - very stimulating and thought provoking!

Recent acquisitions to the library are:

Title	Author	How Acquired
Miscellaneous folder on Europe		Robert F. Wilbur Note: Bob started this folder with a few interesting postcards.
Life Through the Ages (1952)	B. M. Parker	Robert F. Wilbur
Animals of Yesterday (1952)	B. M. Parker	Robert F. Wilbur
Pseudosuchian Reptile from Arizona(1952)	Edw. H. Colbert	American Mus. of Natural History Vol. 99, Art. 10
Geological Soc. of America Bulletins (a) Vol. 63, No. 10, October 1952 (b) " 63, " 12 (pt. I) December 1952 (c) " 63, " 12 (" II) December 1952 (d) " 64, " 1 January 1953 (e) " 64, " 2 February 1953 (f) " 64, " 3 March 1953		Subscription
The Garment of God (1943)	John C. Merriam	Mary Margaret Hughes
Wy'east "The Mountain" (1937)	Fred H. McNeil	Mary Margaret Hughes

Title	Author	How Acquired
Here's Death Valley (1940)	C. B. Glasscock	Mary Margaret Hughes
Guide Book - vicinity of Toronto, Can. (1913)	Hon. W. H. Hearst (Minister of Lands, Forest, and Mines)	Mary Margaret Hughes
Guide for Prospectors in Manitoba, Can.,(1937)	Dept. Mines, Winnipeg, Canada	Mary Margaret Hughes
Prospecting for Uranium (1949)	U.S. Atomic Energy Comm. & U.S. Geol. Survey	Ford E Wilson
Structure of Crystals (1924)	R. W. G. Wyckoff	Ford E Wilson
History of Gems found in North Carolina (1907)	G. F. Kunz	Norris B. Stone

Members, don't you think these recent lists show that our Library is growing very rapidly? Do come and enjoy it. Watch your News Letter for browsing-night dates.

Yours in the interest of Your Library and Mine,

/s/ May R. Bushby, Librarian

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LUNCHEON NOTES - April 9, 1953

Seventeen members were present, including four women. . .Bruce Schminky passed around three publications, the first of which, The Beaver, contained an interesting article about the Rocky Mountain Trench. The Mineralogist desdribed a Colorado petrified forest. The third publication was an unusual one, titled Calico Print. . . Mr. Kelham had some specimens collected from the Troutdale while geologizing along Evans road. . .Leo Simon exhibited some very interesting petrified wood which he found in The Dalles and Moffett Creek areas while scouting our forth-coming trip with Mr. Rudolph Erickson. This trip was also the occasion of an annual wild-flower trip up the Columbia Gorge, but Leo discovered that he was a little too late to see the blossoms at their best. . .President Baldwin read a note from Mr. Stanley, who was called to Southern California by the death of a relative. . . Mr. Erickson had a letter from Dr. Packard regarding some specimens collected at Dixie Creek, near Prairie City, in eastern Oregon. Mr. Erickson had sent the shells to Dr. Packard, but the latter was unable to identify them. . .Mention was made of an article in Time Magazine, under April 6 date, which told about Mr. Hancock's Miomastodon skull. . .Mr. H. G. Rose, who recently enjoyed a 5-week vacation trip to the West Indies, told about some geology studies he made, particularly regarding the depth of the ocean floor. He gave a brief description of the Brownson Deep, just north of Puerto Rico, which, according to Mr. Rose's notes, is 30,246 feet deep in one spot. He has a color film which we will all be looking forward to seeing soon.

E.M.B.

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WHAT'S NEW IN READING

GEOLOGY OF THE ALBANY QUADRANGLE, OREGON, by Ira S. Allison, has been published by the State Department of Geology and Mineral Industries as Bulletin 37. The 18-page bulletin describes the historical, structural, and economic geology of the quadrangle, and includes a geologic map. Among the formations which the author has recognized in the Albany quadrangle are the Eocene Coffin Butte volcanics, Eocene and Oligocene marine sediments, and three stages of Pleistocene gravels. The bulletin sells for 75 cents at the Department, 1069 State Office Building, Portland, Oregon.

A PETROGRAPHIC STUDY OF THE INTRUSIVE AT MARYS PEAK, BENTON COUNTY, OREGON, by Albert E. Roberts, has been published in the May 1953 issue of Northwest Science. The report will be of particular interest to members of GSOC who attended the Marys Peak field trip on May 24. Marys Peak, like many of the other mountains in the Coast Range, owes its prominence to an intrusive igneous cap. According to the author, basaltic magma was forced as a sill into the sedimentary rocks of the Burpee formation, and erosion later removed the overlying sediments, leaving the resistant cap. Most of the report is devoted to petrographic descriptions of the principal rock types in the Peak, but a short review of the general geology is also given. This issue of Northwest Science may be obtained for 50 cents from the State College of Washington Press, Pullman, Washington.

M.L.S.

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Friday Night Meeting, April 24, 1953

Due to the serious illness of Mrs. Stevens, the address by Dr. J. C. Stevens was postponed.

Mr. F. W. Libbey, director of the State Department of Geology and Mineral Industries, lectured on "Subsidence in the Long Beach Area." This phenomenon is causing great interest, to say the least, in that part of the country. Here an oval-shaped area 5 miles by 10 miles is affected. Starting at the edge of this oval and sloping gently toward the center, the subsidence has reached a maximum of 19 feet at this point. It is estimated by engineers that a depth of 24 feet will be reached in the next 3 years, at which point the subsidence will cease.

Various theories have been advanced as to its cause. The most plausible seems to be the fact that huge quantities of oil have been removed from beneath this area, leaving open cavities into which the overlying strata has gradually settled.

Since the property involved is worth more than one billion dollars, various corrective measures have been advanced. Pumping gas into the underground cavities to maintain equilibrium has been suggested. However, no definite steps have been taken as yet.

Slides prepared by Mr. Libbey, showing the area affected by the subsidence, illustrated his lecture.

The quartz display, brought by various members, proved interesting. Many outstanding specimens were on display. Other cooperative displays of different material is planned for the future and it is hoped that more members will participate.

A.K.

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SUBSIDENCE IN THE LONG BEACH HARBOR AREA[1]

Abstract of Talk by F. W. Libbey
At April 24 Meeting of GSOC

Picture to yourself a land surface 10 miles long and 5 miles wide, with more than a billion dollars worth of improvements on it, gradually sinking. This is what is happening at Long Beach Harbor situated in the Wilmington oil field in southern Los Angeles County, California.

The area of subsidence has the shape of an oval bowl 18 feet deep in the center, and all surface points in the affected area have moved horizontally toward the center. Investigators believe that before maximum compaction of the subsurface material is reached, subsidence at the center of the bowl will be 23 to 26 feet.

Before discovery and development of the Wilmington oil field in the early 1930's, surveyors had observed small movements of the earth in the southern part of Los Angeles County of the order of .3 to .4 foot over a period of 10 years. As early as 1940 in the development of the Wilmington oil field it became evident that sinking of the land had started and that it would be desirable in construction of new facilities to take subsidence into consideration.

By 1944 it first became evident to the Engineering Division of the Port of Long Beach that subsidence was trending toward a rate which might no longer permit construction and development projects to live out their normal economic life. Studies were made by a number of investigators and each concluded that the most important cause of subsidence was the draw down in fluid pressures in the oil producing sands, whether such fluid pressures were from gas, oil, or water.

By 1948, subsidence had reached an advanced stage. Re-studies by the original investigators were ordered, and the engineering staffs of all the interested parties in the area were grouped into a technical committee. It was concluded that the only feasible method for retarding subsidence was to maintain subsurface pressure by water injection. It was felt, however, that this solution would not have sufficient benefits for property owners to warrant the cost.

Somewhat prior to 1949, there was much evidence of derangement in a number of oil wells in the form of protruding and collapsed casing. Then a sudden subsurface slippage occurred which sheared or collapsed a large number of wells. This caused a substantial loss in oil production and the almost complete loss of the oil wells which were sheared. Therefore, the Petroleum Division of the General Committee initiated studies which would enable operators to design oil-well holes so as to anticipate expected movement caused by subsidence. The main program consisted of reaming out well holes to a diameter considerably in excess of the diameter of the casing to be inserted in the holes. These reamed-out areas, given the name of bell holes, were limited in vertical distance to the zones in which slippage was anticipated. The annular space around the casing was filled with a jell-like mud of a consistency that would retain its characteristics over a long period of time and permit earth movement with only slight flexure of the casing. In general this program has been successful.

Other current remedial work consists of protecting structures or improvements along the waterfront so that operations may continue there without fear of flooding. It has been necessary to raise wharves, increase height of bulkheads,

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[1] Background for talk was from paper delivered February 18, 1953, at the annual meeting of the American Institute of Mining and Metallurgical Engineers in Los Angeles, by R. R. Shumaker, Chief Harbor Engineer, Long Beach Harbor Commission.

construct earth fills, dikes, retaining walls, and levees. Such measures have, incidentally, protected a great deal of property behind the waterfront that otherwise would long since have been seriously flooded.

The land to the rear, in spite of remedial work along the waterfront, is not immune to trouble, for when the ground subsides to the point where the water table is above the surface, there will appear a new series of problems such as disturbed foundations, disrupted utilities, drainage, pumping, and the like. It will require a general raising of the land surface by deep earth fills and the complete reconstruction of utilities of all types. Such remedial work will approximate 120 million dollars, of which more than one-third has probably already been expended. Although expensive, the cost is reasonably in proportion to the economics of the area.

M. L. S.

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SLIDE AREA FIELD TRIP - April 26, 1953

By
Agnes I. Miller

Fifteen cars loaded with Geesockers met at North Bonneville at 9:30 A.M. where Leo Simon gave instructions for reaching the slide area. Finding the road blocked by construction it was decided to visit a zeolite location a mile and one-half east of Stevenson. This location is approximately in the center of the Cascade Range.

From this locality we crossed the Bridge of the Gods and visited the first slide area, east of Cascade Locks. Leo Simon introduced Lewis Scott, geologist with the State Highway Department, and Ralph Mason, mining engineer with the State Department of Geology and Mineral Industries. Mr. Scott stated that in constructing the roadbed for the new Columbia River Highway, the State Highway Department removed the toe of the slide, and have created a real headache for themselves. The slide is on a moist clay footing of Pliocene age. Large andesite boulders and talus overlie the clay. The slide, starting 300 feet back from the highway and traveling 3 inches an hour, moved the railroad and highway 6 feet. A deep trench and culvert worked fine during the summer and fall but were crushed during the winter, blocking all drainage. The Highway Department is now diamond drilling a well horizontally under the slide in an effort to stabilize it in this manner. Eagle Creek gravels and shales, also a buried forest, underlie the clay base of the slide.

At this time Ralph Mason pointed out the slide on the Washington side, which had occurred about a month previously. This is an old landslide area and the Bridge of the Gods, of Indian myth, was nothing more than a huge landslide.

The second slide area, east of Cascade Locks, keeps undermining the roadbed, causing it to subside. Here also the underlying strata is composed of incompetent clay and talus material. The Highway Department is drilling into this slide with an oil-well type drill trying to locate a tunnel below the slip area to drain the grade.

We went to the Lindsay Creek Area picnic grounds to eat our lunches. Mr. "Ever-ready" Golden had a fire going in no time for anyone who had food to heat. We disbanded here, agreeing it had been another glorious day.

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FRIDAY NIGHT MEETING, May 8, 1953

Mr. Joseph D. Meyers, of the State Highway Department, spoke on "Ground Water." I am sure few of us realized the importance of ground-water study or how interesting this subject could be. Mr Meyers started by giving instructions on the art of water witching, but added a thorough knowledge of the area involved, as well as depths of other wells in the vicinity, would be valuable for anyone going into the business.

Mr. Meyers explained in detail what happens to water which falls in the form of rain. Part runs off, part soaks into the soil, part is absorbed by plants and part evaporates. Percentage tables are formulated, based on the climatic conditions, texture and composition of the soil, etc., which are used to estimate the approximate amount of water available in a given area.

He showed in his illustrations various formations and places in them where water could likely be found. Even in the supposedly arid Sahara Desert water has been found by drilling wells in the right spots in the geologic formations. Mr. Meyers' interesting talk was thoroughly enjoyed.

Richard Walker, one of our junior members, brought the display for this evening. Many fine crystal specimens were exhibited, as well as other material. One of the most outstanding was a fossil fish from the famous Kemmerer, Wyoming, deposit. Dick had spent many tedious hours scraping away the surrounding material to expose the fish. All enjoyed his fine display. It appears some of our older members are going to have to step to keep up with our junior members.

A.K.

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LUNCHEON NOTES

April 23, 1953

Fifteen members attended the luncheon meeting of this date. Bruce Schminky brought several interesting calcite specimens found near Taft. Mrs. James passed around several fossils and granitic material found on the coast. We were pleased to have with us the Gale Dewitts, from Bates, Oregon. Mr. Dewitt brought a piece of slag, removed from a locomotive firebox, which Rudolph Erickson passed around earlier in the meeting to test the identifying abilities of those present. Mr. Dewitt reported that the Grant County Historical Society had purchased material for a museum and that a wealthy cattleman had donated money for a fine building to house it at Canyon City. The museum will be opened soon and all are welcome. The people of Grant County are to be congratulated.

A.K.

May 7, 1953

The brief meeting was noteworthy for Leo Simon's comparative silence. Frankly, we were worried. . .Stanley Shirk spoke at length concerning the liklihood of discontinuing the Audubon Screen Tours unless new means for financing them can be found. It was the consensus that the "tours" are not only very interesting, but valuable educationally. It is hoped that several individuals might be found who would contribute toward their continuance. . .Fay Libbey announced the subjects of the next two evening meetings. . .Norris Stone had a clipping from a Los Angeles paper about the discovery and unearthing of a Miocene whale which lived in Los Angeles County some 12,000,000 years ago. It was found in the Hidden Hills near Calabasis and was identified by Dr. Theodore Downs, Curator of the museum of Los Angeles County.

O.E.S.

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MEMBERSHIP LIST

As of May 29, 1953

Compiled by Mrs. Johanna M. Simon

Name	Address	Zone	Telephone
#Adams, Dr. & Mrs. W. Claude	2614 N.E. Bryce	12	GA 8746
Allison, Dr. & Mrs. Ira S.	2310 Harrison, Corvallis, Oregon		
Bach, Miss Alwina	7607 N. Fowler Avenue	17	TW 1796
Baldwin, Dr. & Mrs. Ewart M.	2058 Harris St., Eugene, Oregon		
#Baldwin, Mr. & Mrs. Raymond L.	4804 S.W. Laurelwood Drive	1	CY 2-1452
Barr, Mrs. Amza	4830 S.E. 62nd Avenue	6	TA 2459
Bartow, Mr. & Mrs. Leslie W.	1153 N. 16th, Corvallis, Oregon		3-7417
*Bates, Mr. & Mrs. E. Newton	94 Cloud View Road, Sausalito, Calif.		
Berg, Mrs. Oscar K.	10936 S.W. 55th	19	CH 3782
Bowers, Mr. & Mrs. Howard E.	P.O.Box 452, Uravan, Colorado		
Boylan, Mr. & Mrs. Bert C.	4305 S.E. Ramona St.	6	SU 2153
Brogan, Mr. & Mrs. Phil F.	1426 Harmon Blvd., Bend, Oregon		266-J
Bruckert, Mr. & Mrs. Walter	P.O.Box 421, Wasco, Oregon		
Bryan, Mr. & Mrs. R. L.	6309 S.W. 32nd Avenue	19	CH 1058
Buck, Mr. & Mrs. Shirley	2730 McLoughlin Blvd., Milwaukie, Oregon	22	EV 1-4153
Burke, Mr. & Mrs. Melvin H.	338 N.W. 20th Avenue	9	BE 4758
Bushby, Mr. & Mrs. Edward D.	1202 S.W. Cardinell Drive	1	CA 2123
Butler, Mrs. J. Dean	4404 S.E. Hill Road, Milwaukie, Oregon		EV 1-2854
Calef, Mr. & Mrs. M. H.	2405 N.E. 41st Avenue	13	GA 3642
Campbell, Donald R.	2505 N. Emerson	11	WE 0573
Campbell, Robert M.	1700 S.E. 6th Avenue	2	EA 4633
Carpenter, Mr. & Mrs. Chas. B.	2504 N.E. Dunckley St.	12	TR 7475
Clark, Mr. & Mrs. William F.	5237 N.E. Wisteria	13	GA 3242
Cleghorn, Mr. & Mrs. John C.	219 High St., Klamath Falls, Ore.		K.F. 5424
Coats, Miss Ruth Emily	3846 Skyline Road, Carlsbad, Calif.		
Conner, Mrs. Estella I.	1832 S.W. Salmon	5	BE 8911
Cole, Mr. A. O.	305 Lewis Bldg.	4	AT 2331
Dale, Mr. & Mrs. Philip A.	Box 487, John Day, Oregon		585-W
Davenport, Mr. & Mrs. Lee L.	Route 6, Box 353, Vancouver, Wash.		
Davis, Mr. Bradley Moore	2814 S.W. Labbe Avenue	1	CA 2150
#Davis, Mr. & Mrs. Franklin L.	7114 S.W. Corbett Avenue	1	CI 8975
Davis, Mr. & Mrs. Leslie C.	7704 S.E. Taylor Street	16	KE 6723
DeWitt, Mr. and Mrs. Gail T.	Bates, Oregon		
Elder, George V.	6922 S.E. Brooklyn St.	6	
Ericksen, Mr. & Mrs. Toralf R.	3395 S.E. 9th Avenue	2	EM 0701
Erickson, Mr. & Mrs. Rudolph	249 S.W. Glenmorrie Drive, Oswego, Oregon		BL 1-1873
Evans, Mr. & Mrs. Jack S.	Box 55, Troutdale, Oregon		
Fenton, Dr. & Mrs. Ralph	Route 2, Box 551, Oswego, Oregon		CI 7638
Fischer, Mr. & Mrs. Virlis L.	420 N.W. Skyline Blvd.	1	BR 4639
Foley, Mrs. Mary J.	7 - 10th Street, Hood River, Oregon		
Fowler, Miss Myrtice E.	6116 N.E. Cleveland Avenue	11	MU 6385

#Charter Member.

*Fellow - past president.

Name	Address	Zone	Telephone
Galt, Mr. James	1135 S.W. Montgomery St.	1	BE 4601
Gilchrist, Dr. & Mrs. Francis G.	0644 S.W. Palatine Hill Road	1	CH 4248
Golden, Mr. & Mrs. Ray S.	1966 S.W. 5th Avenue	1	BR 2078
Gordon, Mr. & Mrs. Ted, Sr.	4710 Sunnyside Road, Salem, Oregon		
Gooch, Ruth G.	8637 S.E. Alder St.	16	KE 6897
Gruber, Mr. & Mrs. William B.	4700 S.W. Humphrey Blvd.	1	BE 6505
Hamilton, (Jennings) Rose	1984 S.W. 6th Avenue	1	AT 0890
Harnisch, Mr. & Mrs. Carl	Box 335, Rte. 2, Albany, Oregon		2667 R4
*+#Hancock, Mr. & Mrs. Alonzo W.	2720 S.E. 84th Avenue	6	SU 5285
Haselton, Mr. G.	1107 S.W. 20th Avenue	5	BE 8453
Haumann, Mr. & Mrs. George	36 Meikle Place	15	VE 5485
Haven, Mr. & Mrs. Leo W.	2932 N.E. 47th Avenue	13	GA 2426
Hazelhurst, Mr. & Mrs. G. C.	818 N.E. Floral Place	13	MU 1042
Heiberg, Mr. & Mrs. Harry M.	2726 S.W. Nevada Court	1	CH 9742
Henderson, Mr. & Mrs. Dwight J.	838 S.E. Peacock Lane	15	EA 0814
Henley, Miss Ada	2015 S.E. Pine St.	15	EA 1475
*+#Hodge, Dr. & Mrs. Edwin T.	2915 N.W. Luray Terrace	10	BE 4821
Hopson, Dr. Ruth E.	4709 N. Willamette Blvd.	3	TW 3441
+Hughes, Miss Mary M.	1524 S.W. 10th Avenue	1	BR 4662
James, Mrs. Mildred P.	135 S.E. 52nd Avenue	15	EA 5456
#Jennison, Mr. & Mrs. Harri L.	1561 S.E. Linn St.	2	FI 2701
#Johnson, Mr. & Mrs. E. Cleveland	12311 S.E. Stark Street	16	KE 1024
*#Jones, Dr. & Mrs. Arthur C.	3300 S.W. Heather Lane	1	BE 3955
Keen, Mr. & Mrs. Albert	2715 N.E. 41st Avenue	13	GA 0229
Kelham, Mr. & Mrs. Edward A.	14018 S.E. Linden Lane	22	EV 1-2196
Kellmer, Mr. & Mrs. Earl B.	6105 N.E. Rodney	11	MU 1093
Kern, Mr. & Mrs.	164 S.E. Kelly St., Gresham, Ore.		GR 3633
#Kimbrell, Mr. & Mrs. Geary	2522 N.E. 57th Avenue	13	GA 9995
Klatt, Mr. Joseph F.	7315 S.E. 52nd Avenue	6	
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Lange, Mrs. Nellie V.	1534 S.E. 56th Avenue	15	EM 7202
Latourette, Kenneth Scott	409 Prospect St., New Haven 11, Conn.		
Laurence, Mr. & Mrs. T. Herbert	1808 S.E. 35th Place	15	EA 5294
Lawrence, Dr. & Mrs. Donald B.	2420-34th Ave.,Minneapolis, Minn.		
*Libbey, Mr. F. W.	2269 N. W. Everett St.	10	BR 2145
Lytle, Mr. & Mrs. Marvin J.	5344 S.E. 34th Avenue	2	TA 9601
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Miller, Lotus Simon	1821 University Ave., Madison 5, Wisconsin		
Minar, Mr. & Mrs. Earl W.	2126 E. Burnside Street	15	VE 2363
Mueller, Mr. Godfrey	7117 S.E. Harold Street	6	TA 4724

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#Poppleton, Mrs. Irene	12640 S.W. Riverside Drive	1	CI 7222
#Reichen, Mr. & Mrs. Sam	8131 S.E. Crystal Springs	6	SU 8775
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#Richards, Mr. & Mrs. Carl P.	530 N. 19th St., Salem, Oregon		
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#Strong, Mrs. F. H.	2755 N.E. 51st Avenue	13	AT 0191
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Triol, Miss Ella	2547 S.E. 27th Avenue	2	EM 0989
#Underwood, Dr. Herbert L.	5226 S.W. Menefee Drive	1	BR 4692

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Weber, Dr. & Mrs. D. E.	404 S.E. 80th Avenue	16	KE 7340
Weinzirl, Dr. & Mrs. Adolph	3536 N.E. 27th Avenue	12	GA 5706
White, Miss Mella C.	7114 S.W. Brier Place	1	CI 7125
Wilbur, Mr. Robert F.	2020 S.E. Salmon Street	15	VE 7284
*Wilson, Mr. & Mrs. Ford E	11844 S.E. Pine Street	16	
Zimmer, Miss Hazel F.	805 S.E. 60th Avenue	15	EM 8319
Zimmer, Miss Ruby M.	805 S.E. 60th Avenue	15	EM 8319

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Davis, Greg	Cardinell Hall, Village, Stanford, California		
Hampton, Eugene	7776 S.W. 5th Avenue	1	CI 7788
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Radamacher, Jay	229 S.E. 78th Avenue	16	LI 2168
Walker, Richard	3526 S.W. Nevada Court	1	CH 5563
Wolfe, Jack A.	4530 S.E. Clinton Street	6	FI 1307

News Letter Subscribers

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Trumbull, Ellen James	3062 S. Buchanan, Apt. 2, Arlington, Virginia		

Summary

Adult members	137
Junior members	7
Total	144
News Letter subscribers	2

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GEOLOGICAL NEWS LETTER

OFFICIAL PUBLICATION OF THE

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GEOLOGICAL SOCIETY OF THE OREGON COUNTRY

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Society Objectives

To provide facilities for members of the Society to study geology, particularly the geology of the Oregon Country. The establishment and maintenance of a library and museum of geological works, maps, and specimens. The encouragement of geological study among amateurs. The support and promotion of geologic investigation in the Oregon Country. The designation, preservation, and interpretation of important geological features of the Oregon Country. The development of the mental capacities of its members in the study of geology and the promotion of better acquaintance and closer association between those engaged in the above objectives.

Persons desiring to become members should contact the Membership Chairman, Mrs. William Clark, 5237 N.E. Wistaria, Phone GA 3242. Annual dues are $3.50 for residents of Multnomah and adjacent counties; $2.50 for others; and $1.50 for Junior members. Remittance should be made payable to the Society.

Society Activities

EVENING MEETINGS: Formal lectures or informal round-table discussions on geological subjects, on the second and fourth Fridays of each month, at Public Library Hall, S.W. Tenth Avenue and Yamhill Street. 8:00 P.M.

FIELD TRIPS: Usually one field trip is scheduled for each month.

LUNCHEONS: Informal luncheons, with geological motif, each Thursday noon in Room 305, YMCA Building, S.W. 6th Avenue and Taylor Street. $1.00 per plate.

PUBLICATION: The Geological News Letter, issued once each month, is official publication.

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CALENDAR FOR JUNE 1953

Thursday July 2 — Luncheon meeting - Room 305 YMCA

Thursday July 9 — Luncheon Meeting - Room 305 YMCA

Friday July 10 — Friday Night Meeting Library Hall 8:00 P.M.
Mr. Walter H. Zwick, Speaker. "Travel pictures in Korea."
Mr. Zwick has recently returned from Korea where he was an engineer with the Army Air Force.

Display - Identified Fossil Woods - Albert Keen.

Thursday July 16 — Luncheon Meeting - Room 305 YMCA

Tuesday July 21 — Library Browse Night - 1202 S.W. Cardinell Drive

Thursday July 23 — Luncheon Meeting - Room 305 YMCA

Friday July 24 — Friday Night Meeting Library Hall 8:00 P.M.
Mr. J. V. Vidos, Speaker. "Bauxite Mining in Surinam," illustrated.
Mr. Vidos was formerly superintendent of the Moengo mine in Surinam for Alcoa Mining Company.

Display - Mr. Earl Minar will display his fine collection of polished granite and marble specimens.

Thursday July 30 — Luncheon Meeting - Room 305 YMCA

Field Trip

There will be a field trip led by Ira S. Allison of Oregon State College sometime in July. Further information will be given at night meetings and luncheons as soon as available. (See below.)

Friday August 14 — Annual Picnic. It is time to be thinking of the GSOC Annual Picnic to be held on August 14 in the volcano picnic grounds in Mt. Tabor Park. Plan to include it as part of your summer fun. All details will be found in the next issue of the News Letter.

S.K.

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MORE ABOUT JULY FIELD TRIP

Sunday July 26 — Trip will start at Jefferson Junction on U.S. Highway 99 South of Salem at 9:00 A.M. We will study the region including Stayton and Mill City. Round trip is about 225 miles. Leader: Dr. Ira S. Allison, Professor of Geology at Oregon State College.

Some may like to visit Detroit Dam after the trip.

Call Leo Simon for further information, BEacon 0300 or EMpire 0549.

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FORD E WILSON TENDERS RESIGNATION AS DIRECTOR

June 12, 1953

Mr. Ray L. Baldwin, President
Geological Society of the Oregon Country
Portland, Oregon

Dear Ray:

My wife and I are moving, June 20, 1953, to Gallup, New Mexico, where we will establish our residence.

Therefore, reluctantly and regretfully, I tender to you my resignation as Director of the Society.

We extend to you our most sincere good wishes for a continued successful administration, and our warmest personal regards.

Cordially yours,
/s/ Ford E Wilson

****

NEW MEMBERS - June 1953

		Phone
Brown, Mr. and Mrs. G. Blaine	2521 19th Avenue, Forest Grove, Ore.	1284
(Farmer)	Business Address - Gaston, Oregon, P.O.Box A,	Gaston 425
Ramsey, Mr. C. W.	Goldendale, Washington	6221
(Lawyer)	Interest - General Geology	
Hansen, Mr. Edmund M.	6816 S.E. Long Street, Portland 6	
(Furniture Worker - Doernbecher Mfg. Co.)		

Names to add to membership list - dues received after May 29, 1953

Marshall, Miss Emily L.	3471 S.W. Patton Road	1	BE 6720
Lindeman, Mr. and Mrs. B. J.	2531 S.E. Vinyard Way, Milwaukie, Oregon		EV 1-5841
Buoy, Mr. and Mrs. Leonard M.	13608 12th Avenue, S.W., Seattle 66, Wash.		
Dwyer, Mr. and Mrs. John P.	6729 S.E. 39th	2	SU 7488
Swisher, Dr. K. M.	5020 S.E. 92 Avenue	6	TA 7410
Swisher, Michael (Junior)	5020 S.E. 92 Avenue	6	TA 7410

News Letter Only

New York Public Library, Reference Dept., 476 Fifth Avenue, New York 18, N.Y.
Olmstead, Mr. George C. 1129 James Blvd., Signal Mountain, Tenn.

Mrs. Elizabeth Barr was not given credit for being a Charter Member due to oversight of Secretary. Very, very sorry.

J.M.S.

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LOWER JAW OF THE MIOMASTODON

On his recent visit to Portland, Dr. George Gaylord Simpson, curator of Fossil Mammals at the Museum of Natural Science in New York, urged that further exploration be carried on as soon as possible in the area where Mr. Hancock had found a Miomastodon skull some time previously. Accordingly Lon Hancock and Lloyd Ruff, geologist with the U.S. Army Engineers in the Portland area, spent a week at this location in April. Although hampered by cold weather and snow every day, they were successful in unearthing the lower part of a Miomastodon skull, apparently belonging to the same animal as the upper part of the skull previously discovered. The new find was brought out, still imbedded in hard sandstone, and taken to Mr. Hancock's home, where he spent many hours working away the sandstone to expose the excellent mandible shown in the accompanying photograph.

This lower mandible is four feet long, about fourteen inches wide beyond the teeth, and eleven inches wide at the end of the teeth toward the tusks. A short distance from that it narrows down to two and three-fourths inches where the upper tusks fit over the lower, then eight inches of two tusks which are four inches wide at the end.

(Reduction of above photograph about one-eighth natural size. Photograph by Leo F. Simon, Portland, Oregon.)

B.H.

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Friday Night Meeting - June 12, 1953

A Tree In Clarno Grew

A delightful story was told by Mr. Lon Hancock about the history of life around Clarno during the last 100,000,000 years. According to his story the Clarno area, a world-known collecting field of today, where bipeds lose their thumbnails seeking fossil wood, nuts, and seeds from rhyolitic tuffs, had many thrilling experiences.

In Jurassic times large reptilian beasts ruled the earth. Dinosaurs were cold blooded, egg-laying creatures of various sizes, shapes, and natures. After a long period of their way of life, nature thought it was time for a change. Ferns, cycads, and equisetiums began to spread here and there over the earth. Mammals took over. Soon the world began to take on beauty. Flowering plants, walnut, hickory, peach, almond, and many other varieties of plants joined the parade. In the process of evolution small warm-blooded animals such as eohippus, deer, rhinoceros (about the size of small dogs) began to make their appearance on the road of life.

Then more interesting happenings began to occur around Clarno. A brooklet began to flow, carrying leaves, stems, nuts, and fruits and depositing them in a bog. Occasionally small horses, deer, camels, or rhinoceros would wander by on their continual search for food and safe surroundings. Some of them became mired in the bog. Thus a Brontothere was trapped and became part of the record. A little palm tree by the side of the brooklet watched this passing parade of life and marveled. But tragedy was to strike this peaceful world. Ashes began to fall like snow from the erupting volcanoes near by, burying every living thing. It was indeed a changing world. Mountains began to rear their lofty peaks to the west, shutting off the warm sea breezes. Molten lava issuing from fissures covered the earth in every direction to a great depth. Ever-changing nature now proceeded to start eroding away the blanket of lava. Colder climate and ice assisted in the process of erosion. Hundreds of cubic miles of material was carried away by the John Day River and its tributaries, finally exposing the record of the Clarno of 60,000,000 years ago.

Those who doubt this story may visit the Clarno and see the record for themselves, or (and this is a much easier way) visit Mr. Hancock's private home museum where he has on display his collection of the records of Clarno.

The unusually large attendance, in spite of the bad weather and the Rose Festival, was a tribute to Mr. Hancock's story-telling ability.

Mr. Robert Wilbur presented a display of fossils from Nebraska. Sections of fossiliferous crust containing brachiopods, clamshells, crinoids, and other fossil specimens were beautifully arranged. The signs read that the crust was a part of a marine section of ocean bottom from the middle west. During Permian times this area of the country was covered by a shallow sea.

We enjoyed seeing these fossils from another part of our country.

S.K.

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THE CLARNO FORMATION

By
Jack Wolfe

Introduction

The formation discussed in this report, the Clarno formation, lies in the John Day Basin of Oregon. There have been much doubt and disagreement concerning the age of the formation, but the new material collected by A. W. Hancock and myself sheds some light on the subject. It is the purpose of this report to show the significance of some of this new material, and to arrive at logical conclusions pertaining to the relationships of the Clarno to other fossil floras, and to the age.

Mr. Hancock and I have collected our material at two outcrops of tuff, one of which is the type locality[1] and the other is located a short distance away.[2] The latter is commonly referred to as the "nut bed." The only previous collection from the nut bed was made by Dr. C. A. Arnold and R. A. Scott, of the University of Michigan, where Scott is now preparing for publication his doctoral thesis on the Clarno.

Composition of the Fauna

Although only two species of animals are known from the Clarno, both are type species. Only recently have animal remains been found in the nut bed in any abundance, although the first evidence of animal life was found in 1942. The first animal remains discovered were a tooth of a hyracadont,[3] a small cursorial rhinoceros. According to Stirton, the tooth most closely resembles that of Hyrachus modestus Leidy, from the lower Bridger, or lowermost Middle Eocene. This family of rhinoceroses has a known geologic range from the middle Lower Eocene to the middle Upper Eocene, but all except three specimens have been found in the Middle Eocene.[4] Last summer were found the teeth of a second animal, of which Shotwell said: "As near as I can tell without additional preparation it is a small Brontothere, probably Metarhinus."[5] This genus occurs in greatest abundance in deposits of Middle Eocene age. All of the animal remains were found by Mr. Hancock, with the exception of a vertebra that I found that can "safely" be referred to Metarhinus.[6] These mammalian remains are of great importance, since they were the first signs of the genera Metarhinus and Hyrachus outside of the Rocky Mountain formations, with the exception of a specimen from China referable to Hyrachus.[7]

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1. SW¼ sec. 26, R. 19 E., T. 7 S.
2. SE¼ sec. 27, R. 19 E., T. 7 S.
3. Stirton, Jour. Paleont., vol. 18, no. 3.
4. Wood, Am. Mus. Nat. Hist. Bull., vol. 67, pp. 181-295.
5. Shotwell, written communication, October 1952, to A. W. Hancock.
6. Shotwell, oral communication, November 1952, to A. W. Hancock.
7. Wood, op. cit.

Composition of the Flora

At the present, the nut bed is probably the only locality in the world where fossil fruits are found in such excellent preservation so abundantly. Wood is also found there abundantly, but since not much work has been done on the Clarno most of the wood remains unidentified. Even though the leaves at most localities are curled so that it is difficult to obtain complete specimens, the texture of the leaves is very evident.

In 1902 Knowlton listed 22 forms from the Clarno, some of which had been previously described by Lesquereux[9] and Newberry.[10] Their material, however, was from the Cherry Creek and Currant Creek deposits.

Equisetium oregonense*
Lygodium kaulfussii
Asplenium subsimplex
Lastrea fischeri
Pteris pseudo-pinnaeformis
Salix schimperi
Juglans rugosa
Juglans bendirei*
Carya (Hicoria) oregoniana*
Quercus furcinervis americana
Quercus sp.
Cinnamomum dilleri
Ficus tenuinervis
Magnolia culveri
Magnolia lanceolata
Rhamnus cleburni var*
Cornus ferox*
Aralia digitata
Aralia sp.
Diospyros alaskana
Phyllites wascoensis*
Phyllites sp.

Since then several species have been referred to by other writers as occurring in the Clarno. Most of this was done by Chaney, although Arnold, Scott, and others have contributed.

Osmundites oregonensis*
Osmundites chandleri*
Dioon sp.*
Attalea ? sp.** *
Smilax goshenensis
Juglans cf. major** *
Ocotea eocernua
Persea pseudo-carolinensis
Nectandra sp.
Platanophyllum angustiloba
Platanus sp.**
Clastrus ferrugineus
Paleophytocrene foveolata**
Paleophytocrene pseudypersica** *
Paleophytocrene hancockii** *
Rhus mixta
Astronium oregonum
Vitis sp.**
Vitis sp.
Diospyros sp.
Microdesmis orientalis
Alangiophyllum petiocaulum

As stated before, my material came from the type locality and near the type locality. Many of the specimens that I have identified are referred only to genus, since I do not have adequate material for comparisons. However, the material that I have referred to a definite species I feel sure belongs in that species or in one very closely allied. Some of the species named below have been recorded from other localities, but I feel that it would be better to name those here.

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9. Lesquereux, Rept. U.S. Geol. Surv. Terr., vol. 7.
10. Newberry, U.S. Geol. Surv. Mon. 35.

*(On this and subsequent lists, * denotes new form and ** denotes fruit.)

Cephalotaxus sp.**
Sabalites sp.
Palmospermum minimum**
Palmoxylon sp.
Carya sp.**
Quercus sp.**
Erythopalum sp.**
Cercidiphyllum elongatum
Tinospora excavata**
Tinomiscium sp.**
Magnolia dayana
Cinnamomum dilleri
Platinium sp.
Copaifera ? sp.**
Burserocarpum sp.**
Icacinicarya platycarpa**
Paleophytocrene foveolata var. minima**
Tetracera oregona
Nyssa sp.**
Langtonia bisulcata**
Lanfrancia sp.**
Aralia (Celastrus) taurinensis[11]

Altogether, the Clarno flora comprises 66 forms, including 7 pteridophytes, 2 gymnosperms, 5 monocotyledons, and 52 dicotyledons. The Lauraceae, Menispermaceae, Icacinaceae, and Juglandaceae are the most abundantly represented families. The palms and ferns are also exceedingly numerous, as is true in most subtropical floras.

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11. According to Brown, the generic status of this species is not satisfactory, since Aralia californica differs too much from the fossil for them to be related. There are some leaves from the Fort Union which are definitely Celastrus, and which will be referred to Celastrus taurinensis in Brown's forthcoming paper on the Fort Union.

(This is the first part of the paper recently submitted by Jack Wolfe, 16-year old student of Franklin High School, to the Westinghouse Science Talent Search. This paper won a trip for Jack to Washington, D.C., where he placed in the top ten in the nation. He is a Junior member of GSOC. The paper will be concluded in the August issue of the News Letter -- Editor.)

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GEM AND MINERAL SHOW

All GSOC members are cordially invited to attend the Gem and Mineral Show to be held in connection with the Northwest Federation Convention of Mineralogical Societies to be held at the Public Auditorium September 5-6-7. Also all are invited to participate in the displays. If you have material which would make a good display this will be a fine chance to gain a little publicity for our society. Federation cases will be furnished free of charge as long as they last or if you have a suitable case you may use it. Those interested in entering a display please contact Ray Schneider.

A.K.

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GSOC LUNCHEON NOTES - June 4, 1953

Fifteen members were present at the luncheon today. Mr. G. Blaine Brown, of Forest Grove, was introduced by Mr. Erickson and joined the Society before the end of the luncheon. Two specimens were passed around by Mr. Erickson, one sent by Dr. Stauffer and the other by Gail DeWitt. Tom Matthews passed around an interesting article on Harvester Red Ants. Norris Stone called attention to the cards on display in Portland Traction Company busses honoring Mr. Stanley Shirk as Citizen of the Week. It was announced that the Applegath collection of stuffed animals had been turned over to the Museum. Dr. Gilchrist told of a geology class to be conducted by himself and Dr. Stauffer in the Wallowa's later in the summer.

****

A.K.

MR. ORRIN STANLEY REPORTS

Simpson's Hotel, Jacala, Mexico, 6-17-'53

G.S.O.C. News Letter

My arrival here in time for dinner this evening reminded me that Dr. Booth got some very nice fluorescent rocks from Mr. Simpson's mine when he and Mrs. Booth were touring Mexico, and as I sat in solitary state in the dining room I recalled how charmed Mrs. Stanley and I were in 1938 when we spent a night here. The room is open from about four feet above the tiled floor to the eaves of the palm-thatched roof. One looks out across the little town and there is no sound other than the voice of a distant rooster and the still more distant church bells. The solitary waitress lays the menu before me, and as there are no choices, picks it up again and brings the bits of toasted bread, and a little later a plate of very good soup, its line of descent is unknown, which may be just as well. Later a plate of roast beef and potatoes with gravy, a very generous serving of black beans and two little rolls, cut partly through for easy breaking into "takes" and buttering. Coffee with canned milk and a glass of water follow, and after I have done my darnedest with that course, removes the plates and brings the dessert, which tonight (and maybe every night) consists of cocoanut frosted yellow cake. Nothing to keep one awake, you see.

Since the menu said the dinner is nine pesos, I threatened the waitress with a ten-peso bill. She asked if I were to be here for breakfast at seven, and when I said I would she said to pay in the morning. The same thing went for the postcards I took from the rack.

A very hard rain has just started. We had a terrific downpour at Tamazunchale just as I finished my lunch there in a room overlooking a little green river in which some big pigs were bathing. I waited about fifteen minutes before daring to start up the grade from there, then moved slowly forward, glad to get a little breeze through the car as a relief from the stifling heat. There had been rain, also, at Mantes, where I had spent the night. Being an Oregonian, I had my rubber overshoes in the car, but had to wade without them to open the car. The hotel parking lot had several inches of water in it, and the gutters and streams in the town were full of muddy water.

Jacala is at an elevation of about 4,600 feet so the temperature was pleasantly cool here, even before this shower.

My progress this afternoon was slowed up by the scenery. The road is mostly a series of sharp curves, and the pavement is wide enough for safe driving, but the places to park to crack rocks and take pictures are very seldom where the rocks need to be cracked and the pictures should be taken, so it was with a badly bruised, if not entirely broken heart, that I came over the hump.

Much of the rock near the summit appears to be limestone, mostly tilted to an angle of eighty or eighty-five degrees from the horizontal. In some places it is massive and at one point I saw what appeared to be a half lime kiln built against the bluff to burn the lime before quarrying it. And we North Americans kid ourselves into believing that we are efficient.

The job of pulling weeds from one of these cornfields is a cinch, too. One scarcely needs bend his back to pull the weeds from the next row up-hill. It is "right there." But the climb from the road to the field makes up for labor saved in the field. If you haven't seen one of these fields you wouldn't believe what I say about it, so what's the use?

In Iowa I visited people with whom I had attended college, comrades of the War with Spain, and engineering friends of my early days in the profession. Had a really wonderful time. But heading south through Iowa, Missouri, Kansas, Oklahoma, and Tesas, the weather grew progressively hotter; and Mexico, until this afternoon, was no relief. If this is a warning of what may come in that dim future of which we hear so much and know so little, I shall try to be a very, very good little boy, beginning as of now. I have not hated anybody enough to send him the usual postcard: "Wish you were here." But tonight is different. We could have a grand meeting in Simpson's dining room.

O.E.S.

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YOUR LIBRARY AND MINE

Fourteen members met at our library April 28 to partake of the several activities a browsing night provides. President Ray Baldwin made a noteworthy entrance with four volumes of Published Papers and Addresses of John C. Merriam, sent to us with the compliments of the Carnegie Institute of New York. Part of Volume I is devoted to the study of "Fossil Beds of John Day Country." Besides the broad expanse of technical knowledge, the author's essays and speeches on "Science and Culture," "Adult Education," etc., are very good reading. Merriam's love of nature (a religion with him) is reflected in quotations from Tennyson, Wordsworth, Shelley, Byron, and others. He realized that research in paleontology and geology had but scratched the surface in his great Northwest. A thank you to Mrs. Oscar K. Berg, our amiable co-hostess, and to Dick Walker whose technical remarks and display were a fine lesson in fluorescence.

Although May 5 was uncomfortably warm (89°), over a dozen members appeared. Your librarian attempted to keep the "customers" cool in the upstairs headquarters by serving iced ginger ale and keeping the fans oscillating.

Again on May 19, 12 members and one guest visited the library. It was a "first" for four of the members. All were interested in the latest additions to the library which consisted of more than books this time. Mr. Norris B. Stone had contributed the labor in constructing two more bookcases to match one he made last year. All have adjustable shelves. Shelf space was running low, so your librarian, along with other members of the Society, very much appreciate his prompt solution of this problem. Jack Wolfe purposely held up his 15-minute surprise program until several persons who had been viewing a movie on the Northwest arrived. I know they were not disappointed in taking in two events in one evening for Jack, a Junior member, gave an interesting informal talk on fossils of the Bridge Creek Formation of the John Day Country. There was quite a professional touch exhibited and we feel that Jack will go far in the field of science given a few more years of studying, searching, and researching. We do thank him for the information and also for his display of fossil metasequoia, birches, oaks, elms, redbud, sweet gum, etc.

On June 9, sixteen members shared in the acceptance of a "give-away" of carnotite, kimberlite, gypsum sand, peridote, and pyrogarnet sand, etc., by Mr. and Mrs. Ford Wilson who are moving to Gallup, New Mexico. We will miss them at all of our affairs, but wish them good luck and success. Ford is divorcing himself from geology and will be a construction engineer in his new position. A thank-you to Mrs. Ray Baldwin for being such a gracious and capable co-hostess. President Ray Baldwin was greeted eagerly and loquaciously as he delivered several boxes containing the geological library of the late A. D. Vance which has been donated to us by the Vance family. As I am able to

catalog the items a few at a time, this column will list those ready to be loaned. I am sure that the use of this collection of material on geology and paleontology by so many of A. D. Vance's friends will keep the memory of "Al" forever green.

Recent acquisitions to the library are:

Title	Author	Donator
The Earth's Crust	L. Dudley Stamp	Mr.&Mrs. Al Keen
Mazama - Vol. 35, No. 4, April 1953	Mazamas	Exchange
" " 18 " 12, Dec. 1936	"	Carl Richards
Ward's Natural Science Bull., March 1953	Ward's	Request
The Geode: Vol.8, No. 4, 9, 11	Salem Geol. Soc.	Exchange
" 9, " 1, 2		
The Ore.-Bin: Vol. 14, No. 11, Nov. 1952	Oregon Dept. Geol	
" 15, Nos. 1, 2, 3, 4, 1953	and Min. Ind.	
Volume 63, No. 11, Nov. 1952	Geol.Soc. Am.	Subscription
Problems of Land Connections across the South Atlantic, with special reference to the Mesozoic, Vol. 99, Art. 3, 1952	Am. Mus. Nat. Hist.	Eleanor Gordon
A New Fossil Tortoise from Mona Island, West Indies, and a tentative arrangement of the tortoise of the World, Vol. 99, Art. 9, 1952	Am. Mus. Nat. Hist	Am. Mus. Nat. Hist.
Gigantopithecus Blacki Von Koenigswald, a Giant Fossil Hominoid from Pleistocene of Southern China - Vol. 43, Part 4, Anthropological Papers of American Museum of Natural History	By G.H.R. Von Koenigswald	Am. Mus. Nat. Hist.
The Spectroscope in Determinative Mineralogy - reprint from Am. Mineralogist 32:322-335, 1947	Peterson, Kauffman, and Jaffe	
Late Cenozoic Geology of the Lower Columbia River Valley, Oregon and Wash. (reprint of p. 1-24 of Vol. 63, Jan. 1952, Geol. Soc. Am. Bull.)	E. M. Baldwin and W. D. Lowry	E. M. Baldwin
Faulting in the Lost River Range Area of Idaho. (Reprint of p. 884-902 of Vol. 249 of Am. Jour. of Science.)	E. M. Baldwin	E. M. Baldwin
Siletz River Volcanic Series, Northwestern Oregon. (Reprint from Am. Assoc. Pet. Geol. Bull,, Vol. 32, No. 5.)	P. D. Snavely, Jr. and E. M. Baldwin, May 1948	E. M. Baldwin
Principles of Paleobotany, 1939	Wm. C. Darrel	Eleanor Gordon
Principles of Structural Geology, 1936	Charles M. Nevin	Eleanor Gordon
Fundamentals of Geology, 1913	Geo. McCready Price	Geo.V.Elder
An Introduction to Paleobotany, 1947	Chester A.Arnold	Eleanor Gordon

Title	Author	Donator
Romance of Mining, 1947	T. A. Rickard	Eleanor Gordon
Geology of the Albany Quadrangle, Oregon, 1953	Ira S. Allison	Oregon Dept. Geol. & Min. Ind.
Bibliography of the Geology and Mineral Resources of Oregon (2d supp.), 1953	Margaret L. Steere	Oregon Dept. Geol. & Min. Ind.
Published Papers and Addresses of John Campbell Merriam, Vol. 1, 2, 3, 4	Published by Carnegie Inst.	Publisher

Yours in the interest of YOUR Library and Mine,
/s/ May R. Bushby, Librarian

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FRIDAY NIGHT MEETING - May 22, 1953

Dr. Samuel Dicken, head of the Department of Geography and Geology at the University of Oregon, spoke on "Caves and Karsts." Dr. Dicken had spent considerable time in Kentucky studying the limestone formations and caves for which that region is noted.

The word "karst," Dr. Dicken explained, originated in Yugoslavia, where many caves are found. A karst is a peculiar formation above and surrounding underground caverns, best recognized by many sink holes. The use of this word has spread and is now used in many other countries.

The Kentucky caverns were carved from limestone by underground circulation of water, sometimes on many levels. There are three zones in the formation of caves: (1) the dry zone - upper levels, (2) partly dry zone, where a limited amount of dissolving by solutions takes place, and (3) the region of underground streams, where the cutting is extensive. Hard sandstone formations overlie much of the softer limestone in Kentucky, forming a natural roof for the caverns. This area is Pleistocene in age.

Dr. Dicken's lecture, illustrated with many slides, was thoroughly enjoyed.

Most of those present then visited the Rehabilitation Center as the guests of Dr. and Mrs. Arthur Jones. Dr. Jones explained the aims and operation of the Center and took us on a tour of their many facilities. The rehabilitation work carried on here, each separate unit under the guidance of a trained therapist, was a revelation to all of us. Dr. Jones is certainly to be commended on his fine work and untiring effort which has made such an institution possible.

A.K.

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LUNCHEON NOTES

April 30, 1953

Reading from right to left, as specimens are supposed to be passed, and beginning, of course, with the president, R. L. Baldwin, those present were Leo Simon, Doris W. Jones, E. A. Kelham, Ada Henley, Albert Keen, Norris Stone, Bruce Schminky, Fay Libbey, Tom Matthews, George Elder, Stanley Shirk, Ruth Hopson, Parke D. Snavely, Jr., Rudolph Erickson, Robert Wilbur, and Orrin Stanley. . . . .

Miss Henley reported that she now has the biographies of all past presidents except Leo Simon and Norris Stone in the "President's Book" . . .Bruce Schminky called attention to a short article about "The Care and Feeding of Oil Wells." . . .Mr. Libbey brought two reports of the State Department of Geology and Mineral Industries. They were: "Geology of the Albany Quadrangle," by Ira S. Allison, and "Bibliography of the Geology and Mineral Resources of Oregon (2d supp.)," by Margaret L. Steere. . . He read part of the preface to a bulletin of Hungarian Academy of Science to show that politics permeate all activities - even science - in that country. . .Parke Snavely told of test wells being drilled in southwestern Washington, near Centralia. . . .President R. L. Baldwin reported the acquisition of four volumes of Merriam's lectures and writings on geology for the society's library. He also said that Mrs. Vance had offered the geological library of Mr. Vance to the GSOC and his fossil collection to the Oregon Museum of Science and Industry. . .Tom Matthews had several small specimens of the uranium and thorium families. . .Rudolph Erickson had talked with a well driller who had sunk a 900-foot well on Mt. Tabor, the top 500 feet being through lava rock and the last 400 feet through gravel. He hopes to have the complete log later. . .It was reported that Mrs. J. C. Stevens has been dismissed from the hospital and can see callers at her home. . .Mrs. Keen, also, is again at home after a short stay at a hospital. . .Mrs. Jones had a copy of American Scientist for April 1953, containing an article on the "evolution of insects" by F. M. Carpenter. . .Parke Snavely outlined a possible future trip to the Olympic Peninsula. . .Leo Simon described last Sunday's trip along the Columbia River. . .Norris Stone had talked with Phil Brogan about the most desirable location for a plaque commemorating the work of Dr. Condon. They thought that a point near Condon Hall at the State University would be appropriate. . .Dr. Hopson invited the GSOC members to make the trip to Saddle Mountain with her geology class on May 17.

O.E.S.

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May 14, 1953

The 28 people present at this luncheon meeting were: Raymond L. Baldwin, president, A. W. Hancock, May R. Bushby, Edward D. Bushby, E. A. Kelham, Albert Keen, G. V. Elder, F. L. Davis, Ada Henley, Mr. and Mrs. Leo F. Simon, Mildred R. James, R. F. Wilbur, Norris Stone, Ruth E. Hopson, J. C. Stevens, Stanley Shirk, and his guest Kelsie R. Osborn, Executive Secretary Oregon Trails, Rudolph Erickson, H. Bruce Schminky, Doris Jones, Margaret Hughes, Gladys Baldwin, Estella Conner, Mrs. E. C. Johnson a "first offender," Elizabeth Barr, Rose Jennings, and Orrin E. Stanley. . .O. E. Stanley brought a short article clipped from the magazine Fate, giving late facts about the mysterious relics being dug up near Acumbaro, Mexico. The accompanying illustrations appear to be evidence that the specimens are of recent origin. . .Rudolph Erickson mentioned an article in Natural History telling of a "blow-up" of a mountain in New Guinea. . .President Baldwin read part of a letter from E. N. Bates saying that he was sending a piece of the stick from which the society's gavel was made, and a piece of beeswax found within a few feet of the same spot on the beach near Nehalem. These will be sent to an expert to determine the probable length of time since they were deposited on the beach. . . Rudolph Erickson announced the coming trips and also said that he had met a man who showed him a slender tusk that had been found not far from Hood River. . . A. W. Hancock had recently been in Eastern Oregon with Lloyd Ruff where they dug up additional pieces of the skeleton of the elephant that is bringing Lon into national prominence. . .Mrs. Arthur C. Jones brought several copies of a pamphlet on "Iris Agates" by Dr. Francis Jones. . .A newspaper clipping telling that Wildcat Mountain has been set aside by the Prineville Chamber of Commerce as a "free hunting ground" for geologists was read. . .Representing the Society, Norris Stone, in a graceful speech, presented Orrin Stanley with a "slide file" to hold 240 kodachrome slides. . .Those in attendance at this luncheon signed a "going-away" card, wishing Orrin well in his retirement from his city job, and, though they did not know it at the time, his final appearance as luncheon reporter.

O.E.S.

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GEOLOGICAL NEWS LETTER

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GEOLOGICAL SOCIETY OF THE OREGON COUNTRY

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Society Objectives

To provide facilities for members of the Society to study geology, particularly the geology of the Oregon Country. The establishment and maintenance of a library and museum of geological works, maps, and specimens. The encouragement of geological study among amateurs. The support and promotion of geologic investigation in the Oregon Country. The designation, preservation, and interpretation of important geological features of the Oregon Country. The development of the mental capacities of its members in the study of geology and the promotion of better acquaintance and closer association between those engaged in the above objectives.

Persons desiring to become members should contact the Membership Chairman, Mrs. William Clark, 5237 N.E. Wistaria, Phone GA 3242. Annual dues are $3.50 for residents of Multnomah and adjacent counties; $2.50 for others; and $1.50 for Junior members. Remittance should be made payable to the Society.

Society Activities

EVENING MEETINGS: Formal lectures or informal round-table discussions on geological subjects, on the second and fourth Fridays of each month, at Public Library Hall, S.W. Tenth Avenue and Yamhill Street. 8:00 P.M.

FIELD TRIPS: Usually one field trip is scheduled for each month.

LUNCHEONS: Informal luncheons, with geological motif, each Thursday noon in Room 305, YMCA Building, S.W. 6th Avenue and Taylor Street. $1.00 per plate.

PUBLICATION: The Geological News Letter, issued once each month, is official publication.

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CALENDAR FOR AUGUST 1953

Thursday Aug. 6	Luncheon Meeting - Room 305 YMCA
Thursday Aug. 13	Luncheon Meeting - Room 305 YMCA
Friday Aug. 14	Annual Picnic - Mt. Tabor Park
Thursday Aug. 20	Luncheon Meeting - Room 305 YMCA
Sunday Aug. 23	Boat Trip - Leave Washougal, Washington, at 8:30 A.M. Boats will go to Bonneville Dam and return. Trip will be led by Dr. Ewart M. Baldwin. Cards with complete information will be sent to members and should be returned immediately if you wish to make the trip.
Tuesday Aug. 23	Library Browse Night - 1202 S.W. Cardinell Drive.
Thursday Aug. 27	Luncheon Meeting - Room 305 YMCA
Friday Aug. 28	No Evening Meeting - Vacations.

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ANNUAL PICNIC - MT. TABOR PARK - AUGUST 14, 1953

The time is 6:30 P.M. The place is the Volcano picnic area in Mt. Tabor Park.

The picnic will be conducted cafeteria style as usual. Each family group is requested to bring one dish only, said dish to serve at least four extra persons for each member in the group furnishing the dish. A hot casserole, a salad, or a dessert such as pie, cake, or pudding, are the suggested dishes. Those bringing hot dishes are requested to bring an extra pan, deep enough to hold hot water around the serving dish to keep it warm on the table. New members, who have not been to past picnics are requested to call Mrs. Amza Barr, TA 2459, if in doubt as to what to bring.

Bring your own plates, silver, and cups, and be sure that there is a proper spoon or knife to cut and serve the dish that you bring for the picnic.

The society will furnish coffee, sugar and cream, and hot buttered rolls.

After the picnic supper is finished, there will be a geologic upheaval at the Volcano Theater. MC Albert Keen will direct the flow of lava in such a way as to protect the audience.

Come and bring your friends!

B.S.

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GEM AND MINERAL SHOW

All GSOC members and their friends are cordially invited to visit the Gem and Mineral Show to be held at the Public Auditorium September 5-6-7. This show is held in connection with the annual convention of Northwest Mineralogical Societies and promises to be an outstanding one. In addition to displays of the finest gemstones and minerals the northwest has to offer, hourly programs consisting of slides, moving pictures, and lectures are scheduled. These will be on subjects of special interest to those attending, and will add to your enjoyment of the show

* * * * *

Lon Hancock to Display Miomastodon Skull

Lon Hancock will display the complete skull of the Miomastodon merriami, the only one in existence, at the Gem and Mineral Show to be held at the Public Auditorium, September 5-6-7. The lower mandible of this four-tusked member of the elephant family was pictured in the July issue of the News Letter, while the upper jaw attracted nationwide interest some months past. This will be the first opportunity anyone has had of seeing the complete skull of this scientifically important specimen.

* * * * *

Ralph Mason to Speak at Gem and Mineral Show

Mr. Ralph S. Mason, mining engineer with the State Department of Geology and Mineral Industries, will lecture Monday, September 7, at the Gem and Mineral Show to be held in the Public Auditorium. His subject will be "Economic Minerals of Oregon." Mr. Mason will have a fine collection of minerals to illustrate his lecture. GSOC members and their friends are cordially invited to avail themselves of this opportunity to learn more of Oregon's economic minerals.

A.K.

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LUNCHEON NOTES - May 21

Present were Johanna Simon, Stella Conner, Dr. Ruth Hopson, Rose (Jennings) Hamilton, Mary Davenport, Ada Henley, and Messrs. Baldwin, Matthews, Libbey, Wilbur, Simon, Elder, Keen, Stone, Schminky, Stanley, and Palmer, the latter being one of our newest members. Also present were Rose Hamilton's three guests, Mr. and Mrs. John Rush and Mrs. Ruth Rush. . .We heard an interesting discussion of the difference between a cyclone and a tornado, and learned that north of the equator hurricanes go counter-clockwise; south of the equator, clockwise. (So do our climbing vines). . .Mr. Matthews exhibited a specimen of low-grade pitchblende (impure uranium oxide) from an old mine in Idaho; one of pegmatite containing large crystals of quartz, feldspar, and hornblende; and a specimen of almost solid garnet, found near Virginia City, Montana. . .Mr. Wilbur produced a concretion of upper Oligocene from a quarry below the Astor Column in Astoria. . .President Baldwin read an interesting letter from Ford Wilson describing their travels. . .Mr. Libbey announced the possibility of a visit from Dr. Chaney this coming summer. . .This being Mr. Stanley's last appearance before leaving for Mexico and way points, he was excused by President Baldwin from reporting the luncheon notes. (Then we knew how much we'd miss him!) This thankless little chore has long been a voluntary contribution by Orrin Stanley, who has done it quietly, faithfully, and most efficiently.

A.H.

THE CLARNO FORMATION

By
Jack Wolfe

(Continued from July News Letter)

Correlation

With several floras of Eocene age now known from the Pacific coast, the correlation of the Clarno is made somewhat easier. However, one must bear in mind that earlier conclusions regarding plant migrations and botanical provinces in western North America during the Eocene may be incorrect through incomplete knowledge. In this correlation the writer will use only those identifications based upon material found at the nut bed, for he does not know the relative abundance of those species mentioned by others as being present in the Clarno. And it would be unwise to accept the determinations of Lesquereux, Newberry, or Knowlton, for many of them were based upon fragmentary material.

It is now accepted that the Clarno belongs in the Eocene, with the consensus favoring the upper horizon.[12] Actually no one has put forth any convincing evidence for assigning the Clarno to the Upper Eocene. On the basis of the large number of species shared by the Clarno and Upper Eocene Comstock, it was assumed that they were of the same age. Yet, the same situation was noted by MacGinitie[13] in connection with the Chalk Bluffs and LaPorte floras, and by Berry with the Jackson and Claiborne.[14] In those cases it was recognized that the presence of many common species in floras of the same region does not necessarily mean that the floras are of the same age.

The groups suggested by MacGinitie[15] for use as age markers may not be valid, for at that time the Chalk Bluffs was the only well-known Middle Eocene flora from the Pacific coast, and it could not be determined how provincial in character it might be. The associated mammalian remains in the Clarno clearly indicate a Middle Eocene age, and would seem to show that the Clarno was not separated from the rest of the continent by any physical barrier. MacGinitie[16] also admitted that the Chalk Bluffs grew on the western slope of a fairly large mountain range, and so we might expect the Chalk Bluffs to have been somewhat isolated and have some distinct floral characteristics.

A somewhat fair standard for separating the Upper Eocene from the Middle Eocene floras is the relative abundance of the paleotropical and neotropical elements. One of the typical early Eocene characteristics in the Rocky Mountain and Pacific coast floras is a strong paleotropical element, well developed in the Chalk Bluffs. The fact that four of the most abundant Clarno families find their modern equivalents in the paleotropics should indicate an age older than the definitely neotropical Comstock and Goshen. The presence of several species of Paleophytocrene (Phytocrene), Tinomiscoidea (Tinomiscium), Tinospora, and the Eocene relatives of Mastixia, bespeak of a time before the full effect of the

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12. Sanborn, Carnegie Inst. Wash. Pub. 465, pt. I, p. 13, 1937
13. MacGinitie, Carnegie Inst. Wash. Pub. 534, p. 86, 1941.
14. Berry, U.S. Geol. Survey Prof. Paper 92, p. 34, 1924.
15. MacGinitie, op. cit.
16. Idem.

plant invasion from the American tropics had been felt. Probably the most striking feature of the Clarno is the presence of Juglans. By far the most abundant fruit at the nut bed is a small walnut which, although resembling Juglans major very much, perhaps finds its closest alliance with some of the walnuts now inhabiting southeast Asia.[17] As in the Chalk Bluffs, a somewhat cooler factor, composed of Juglans, Zamites, and Quercus, is present. Although the Clarno does have a large amount of tropical and subtropical genera, it must be remembered that the Chalk Bluffs flora grew in upland valleys, whereas the Clarno, for the most part, represents deposits laid down in coastal plains. Thus, it is seen that the Clarno and Chalk Bluffs have much in common, and that differences are mainly the result of somewhat different elevations.

Although correlating a flora on the Pacific coast with one in England is most likely a bed practice, the Clarno appears to be of the same age as the Middle Eocene London Clay, in which occurs an abundance of pyritized fruits. The resemblance is due to the Clarno's large paleotropical element, and to the obvious fact that many types of plants, due to poor leaf preservation or distance from site of deposition, will only be represented in the fossil record by fruits. However, the climatic belt in which the Clarno lived has had too much of a range during geologic time to be able to correlate floras so distantly separated. Dr. C. A. Arnold, under whose supervision Scott is working, said: "On the basis of the fruits alone, one would be inclined to call it (the nut bed) Middle Eocene because of the resemblance to the . . . Middle Eocene London Clay. However, Upper Eocene is not impossible."[18]

Although much more collecting needs to be done, it is fairly safe to conclude that the Clarno is of Middle Eocene age, substantiated by both animal and plant remains. A thorough study of both the American and Asiatic modern floras also should be undertaken in order that we might better understand the Eocene plant associations. The Chalk Bluffs apparently was contemporaneous with the Clarno, the former inhabiting the uplands and lower slopes, while the latter occupied the coastal plains. MacGinitie's age for the Chalk Bluffs would then place the Clarno in the lower part of the Middle Eocene.

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17. Arnold, written communication, November 1952.
18. Arnold, written communication, November 1952.

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LUNCHEON NOTES - May 28, 1953

Eighteen members and guests sat at the luncheon table presided over by President Baldwin. The men were: Kelham, Erickson, Keen, Schminky, C. Phillips, Elder, Baldwin, Matthews, Stone, Libbey, and Simon. Ladies present were: Steere, Conner, Jones, and Henley. Margaret Steere introduced Mr. R. E. Corcoran, of the State Department of Geology and Mineral Industries. Another visitor was Mrs. Owen who so ably runs the mimeograph room for the Department. Pres. Baldwin gave a short talk on the history of the president's gavel. Mr. Kelham told of a recent trip down the coast and showed samples of sand gathered enroute. Mr. Erickson passed around transparencies of the Jason Lee Pulpit Rock at The Dalles, together with an electrically lighted viewer which temperamentally refused to "view" most of the time unless tapped on the table with the proper amount of firmness. Leo Simon described last Sunday's trip to Marys Peak through storm, snow, hail, rain, and fog. He said it was a very enjoyable trip. Mrs. Jones brought the June issue of Scientific American containing an article throwing new light on the famous Stonehenge monuments of England. Mr. Libbey told of the forthcoming lectures for the month of June. Mr. Simon and Mr. Phillips wound up the meeting with a learned discussion of the flora of the Coast Range.

E.A.K.

MARYS PEAK TRIP
May 23, 1953

Twenty-one cars, from Portland, Salem, and Eugene, assembled at the Philomath 'Y' to form a caravan for the ascent to Marys Peak. At this point, Dr. Ewart M. Baldwin, Trip Leader, told us to watch for the Corvallis Fault, which parallels the highway, "in the curves."

At the first stop, Dr. Baldwin gave us the general geologic picture of Marys Peak, which is: 1. Siletz Volcanics; 2. King's Valley - sedimentary member of the volcanics; 3. Tyee - sandstone and shale; 4. a sill; 5. sediments and snow.

The second stop was at the fault between the Tyee and the King's Valley formations. Some fossils were found in the King's Valley sediments and plant fragments were noted in the Tyee formation.

The third stop was at a very beautiful waterfall. Here the road is cut through the sill, affording a wonderful opportunity to observe the "jointing and texture."

The next stop was at the picnic area where the camp committee set up stoves and had coffee water boiling in a matter of minutes. But, Mrs. Jane Erickson and Mrs. Johanna Simon were responsible for the excellence of the coffee. They stood, "out in the hail and the rain and the snow," making pot after pot of coffee, while the rest of us sought out a more favorable spot in which to eat our lunch.

It is doubtful if Leo Simon had time to eat his lunch. He was continuously surrounded by folks asking him to identify plants, flowers, mosses, shrubs, and trees.

After lunch, some of the more enthusiastic members climbed to the top of the peak. The car in which your reporter was riding left for home by way of Waldport. As we started for the coast, we stopped for one last look at the Peak. From there, the group on top looked like so many colored dots moving about a miniature lookout station.

The G.S.O.C. is greatly indebted to Dr. Baldwin for leading us on such a delightful and instructive trip. It proved to be a combination of Geology, Geography, Botany, Ornithology, food, fun, and beautiful scenery.

C.C.

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GSOC LUNCHEON NOTES - JUNE 11, 1953

Those present included Messrs. Erickson, Keen, Schminky, Wilbur, Baldwin, Kelham, Libbey, Matthews, Stone, and Miss Mary Davenport. The first specimen passed around was a bottle of sand, composed of pure gypsum, from White Sands, New Mexico, sent up by Mr. Ford Wilson. Mr. Schminky announced that the men's skits for the annual picnic on August 14 were well under way. Mr. Erickson told of marine fossil shells reported in two locations near Mt. Washington. Mr. Keen had an autographed, 1953 edition of Life of the Past, by George Gaylord Simpson. This book may be obtained by writing to the American Museum Book Shop in New York. Mr. Simon passed around two specimens of specular hematite, one of them from Eagle Bar, Idaho. Mr. Libbey passed around two fine gastroliths from Colorado. He also spoke briefly on the diatomaceous earth found near Burns, Oregon.

M.D.

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A LETTER FROM THE WILSONS

Dear Friends,

Greetings from the land of Navajos, sunshine, high taxes, and tired vegetables. We are pretty much New Mexicans now, browned by three weeks of pure sunlight, and getting accustomed to the 6500-foot elevation.

Only by great good fortune did we find a house to rent. The housing situation is really tight.

The new job looks good so far. Work is at Wingate Ordnance Depot, an active army installation about ten miles east of Gallup. Corps of Engineers supervise a contractor who is constructing another group of igloos there.

The only trips we have taken are a repeat to Petrified Forest in Arizona and one yesterday to Canyon de Chelly National Monument up in the Navajo Country.

Thanks again for the courtesy extended to us at the GSOC luncheon.

Very best wishes,

Ford and Alice

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PERIPATUS STILL EXISTS

Barro Colorado Island, Smithsonian Institution biological station in Gatun Lake, Canal Zone, is an outstanding stronghold of one of the oldest-surviving animals on earth - the soft-bodied, wormlike peripatus. Among all living creatures this worm-insect, which looks like a caterpillar 2 or 3 inches long, is one of the foremost contenders for the title "missing link." It has the circulatory system and various other physiological characters of the insects. Its nervous system and some other features are more akin to those of worms. It may be quite close to the common stock, possibly among the first animals to invade the land, from which both insects and extant worms arose. Specimens of fossil peripatus similar to the living ones were discovered by Dr. Charles D. Walcott, a former Secretary of the Smithsonian Institution, in rocks of Middle Cambrian geological age, which were formed half a billion years ago. These animals were among the very earliest living things to leave their imprint in sea-bottom mud which eventually became rock.

The great sea monsters and the dinosaurs of succeeding ages have been extinct for hundreds of millenniums, but the humble peripatus clings on, largely because of its skill in avoiding attention. On Barro Colorado, it can be found in damp earth under rotting logs. It is quite rigorously protected on the island, although capture of a few for scientific specimens has been permitted. Any census of the peripatus population, of course, is impossible, but it is believed there are several thousand individuals on the island. It usually comes out of its hiding place only at night. Very few persons ever have seen one of the creatures. Although it has primitive eyes, it seldom uses them. Instead, it feels its way around by two hornlike projections on its head, akin to the antennae of insects.

Peripatus is found in Africa, southern Asia, Australia, New Zealand, and South and Central America, but nowhere in great numbers and usually in widely separated localities. In America it is best known in the Canal Zone, parts of South America, and the West Indies, except Cuba. Probably it was once fairly well distributed over the world, but with constant geological changes throughout the ages the places suitable for it became fewer and more isolated, so that now it is rare and local. (From the Smithsonian Institution, July 9, 1953.)

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STEGOSAURUS

Behold the mighty Dinosaur
Famous in prehistoric lore
Not only for his weight and strength
But for his intellectual length.

You will observe by these remains
The creature had two sets of brains:
One in his head (the usual place),
The other at his spinal base.

Thus he could reason "a priori"
As well as "posteriori."
No problem bothered him a bit;
He made both head and tail of it.

So wise he was and solemn
Each thought just filled a spinal column;
If one brain found the pressure strong
It passed a few ideas along.
If something slipped his forward mind
'Twas rescued by the one behind
And if in error he was caught
He had a saving afterthought.

As he thought twice before he spoke
He had no judgments to revoke
For he could think without congestion
On both sides of every question.

Oh gaze upon this model beast
Defunct ten million years at least.

By Bert Leston Taylor

Dear Friends:

I copied this from the original in a display of articulated skeletons in the Paleo section of the University of Nebraska Museum. Have been wondering if Genus Homo might not be a decadent type after all!

/s/ Bob Wilbur

****

FRIDAY NIGHT MEETING - JUNE 26, 1953

Dr. Ira S. Allison, head of the Department of Geology at Oregon State College, lectured on "Shoreline Development," which proved to be a very interesting subject. The complex action of waves is not as well known as stream erosion or glaciation. He explained that the nature of waves varied greatly in shallow and deep water. Breakers and waves concentrate their energy on the sides as well as on the point of headlands, causing caves, coves, spouting horns, natural bridges, sea stacks, etc. The operation of longshore currents causes beach drift, resulting in bars and barriers in some areas and drowned valleys in others. Operating naturally, the action of waves and currents follow a somewhat definite pattern. Man's interference in constructing jetties and other obstructions often cause unusual and disastrous results.

The many beautiful pictures shown greatly enhanced the lecture.

The Edward Bushbys had a very fine display of material collected on their Canadian trip. Specimens of zinc, lead, copper, and cerrusite were arranged in groups with labels of different color for each mineral. The enlarged pictures added greatly to the enjoyment of their well-prepared display.

S.K.

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FIELD TRIP - SUNDAY, JUNE 28, 1953

At 9:00 a.m. on this date 13 cars of "Geesockers" assembled at Vernonia junction on the Sunset Highway opposite Staley's. Under the leadership of Dr. James Stauffer of Lewis and Clark College the caravan struck out for the Upper Nehalem River valley by way of Sunset Tunnel, turning north, downstream, at the former site of the CCC camp. Approximately 6 miles farther the site of the Rocky Point quarry on the west side of the road afforded the first workout for the pickwielders.

Dr. Stauffer explained this formation as a portion of Tillamook volcanic lava extrusion; the oldest rock in the Coast Range. The two-page leaflet he thoughtfully provided for distribution to the group shows this location at the southern end of a fault separating the probable 50-million-year-old Eocene lava from adjacent conglomerate of the Cowlitz formation, the latter probably from the debris of the former. A small lens of greenish interbedded tuff at the base of the lava quarry yielded no fossils to those who tried it but the group struck "pay dirt" at the top where the Cowlitz formation was in contact with the lava. Of upper Eocene age, it was found to contain an interesting assortment of marine mollusks, a specimen of what appeared to be shark-tooth, and an assortment of unidentified material.

After lunch in Big Eddy Park north of Vernonia the group moved on to our "piece-de-resistance," the deposit of fossil Crinoids near Mist. Location was approximately a quarter mile upstream from a wooden bridge across the Nehalem just south of Mist. Dr. Stauffer's description indicates this deposit is in the Keasey formation of early Oligocene age overlying the "Cowlitz sea" which extended inland from the Tillamook area northward as far as the coal-producing area east of Puget Sound. It was further explained that the Crinoids, starfish, and sea urchins existed during a re-invasion of the sea into this north-south gulf.

Professional Paper 233-E of the U.S. Geological Survey, "Lower Tertiary Crinoids from Northwestern Oregon" describes and illustrates beautifully the

Crinoid material found by our group. We are informed this will soon be in our GSOC library. This publication states that finding of this type of Crinoid in this location represents its first reported occurrence in North America. Fragments of five species of a free-swimming type have been found elsewhere, but the Oregon type was anchored, apparently in quiet water not so far offshore as to preclude the finding of ash pebbles and well-preserved land plants intermingled with it, and in moderately deep water adjacent to an explosive type of volcanic activity ashore.

Specimens of undetermined type were found by many of the party in addition to the Crinoid material. Of further interest was a well-defined sedimentary dike filling a very crooked fault. An adjacent property owner had reported seeing a new crack in the surface in line with this fault.

On the return trip some of the group availed themselves of the opportunity of "fossilizing" in the Pittsburg Bluff area which has given its name to the Oligocene formation encroaching on the Nehalem River at that point.

R.F.W.

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FRIDAY NIGHT MEETING - JULY 10, 1953

Mr. Walter Zwick, engineer with the Army Corps of Engineers, presented interesting "Travel Pictures in Korea." He was with the Army Air Force for some time in Korea, where they were engaged in the construction of air fields. His pictures started with the landing at Pusan and covered many of the engineering features of his work. They included also scenes typical of Korea and Korean life, including some of their mining operations. Mr. Zwick stated some of the largest tungsten mines in the world are located in Korea. They contain scheelite and powellite, both very high grade, located in large lenses, which greatly facilitates mining operations.

The specimens of Korean material brought by Mr. Zwick attracted a great deal of attention.

Mr. Zwick was unable to show all of his pictures, due to lack of time, and we are looking forward to seeing the balance of them in the near future.

Al Keen had an especially fine display of polished fossil woods. Time and energy had certainly gone into this display, as most of it was in the form of small polished cubes about 1½ inches square. The display represented some 35 to 40 different woods, ranging in age from 10,000,000 to 160,000,000 years.

M.D.

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GSOC LUNCHEON NOTES

June 18, 1953

A small but select group of ten attended the luncheon of this date. In the absence of both our president and vice president, Norris Stone presided. Leo Simon announced the next field trip to be held June 28. Mr. Stone was on the verge of introducing two guests when it was discovered that they were Ford and Alice Wilson, who are rarely able to attend our luncheons. Ford told of meeting Dr. John Allen, GSOC member and past president, on his recent vacation trip to New Mexico. They had spent a day together on a field trip into the Navaho country and brought back

specimens which Ford had previously passed around to members. The Wilsons are transferring to Gallup, New Mexico, where Ford is to be construction engineer on a government project near there. We are all sorry to see them leave but wish them the best of luck. They are thinking of forming a GSOC-Southern Branch, in New Mexico, with themselves and Dr. John Allen as charter members.

A.K.

* * * * *

June 25, 1953

For the second straight time only ten members attended the luncheon. Ed Kelham brought a faceted quartzite from near Boring, which he passed around for inspection. The talk centered around a recent article in the Readers Digest, which told of obtaining 20 acres for $1.25 by filing on it as a mineral claim. Mr. Libbey explained that this could not be done in Oregon unless it could be proved that minerals actually existed on the property filed on. In some states it is possible to file on 20 acres of timber as a mineral claim, thus defeating the purpose of this part of the mining laws. Legislation is pending in Congress to correct this condition.

A.K.

* * * * *

July 2, 1953

How much we miss Mr. Stanley at these Thursday luncheons for he always had his pencil and paper ready to take notes of meeting. Late in afternoon of July 2 I realized no one had taken notes of that meeting, so will try to give some from memory. We are feeling the effects of vacations and hot weather, as we had only eleven at this meeting.

No specimens were passed around. Dick Walker was saying goodbye to us for a while as he has joined the Army and is leaving for Fort Lewis July 7, later to go to Fort Ord. He has made application for Military Police.

Rudy Erickson made reports on condition of Dr. Jack Stevens who suffered a stroke yesterday and is now at Good Samaritan Hospital. Fay Libbey passed around a bulletin "Lower Tertiary Crinoids from Northwestern Oregon," U.S. Geological Survey Professional Paper 233-E, price $1.00. Several wanted copies and Leo Simon sent in an order for these. Rudy Erickson said he had already ordered two - one for his own library and the other for the G.S.O.C. Library.

Leo passed around two issues of Geode - some discussion regarding a going-away party for Mrs. Vance who is moving to Los Angeles about the first of August. Our schedule of meetings is rather heavy in late July, so it was decided if party was held to have it at the home of Dr. and Mrs. Jones, July 18, Saturday afternoon.

* * * * *

July 9, 1953

Fair weather and vacation time cut down the luncheon group considerably. We suspect it takes stormy weather to bring out the Geesockers in force. . .Mr. Libbey introduced Mr. Hollis Dole who has rejoined the staff of the State Dept. of Geology and Mineral Industries after an extended leave of absence for post-graduate studies. Mr. Dole showed us a fossil belemnite found in an outcrop of Jurassic sandstone on the Rogue River trail some miles above Agness. He gave an interesting description of the many species of these marine animals that flourished in ancient seas. Mr. Kelham brought a specimen of Jurassic basalt found along Hunter Creek in Curry County. Al Keen showed a chunk of high-olivine basalt from the Coast Range. Mrs. Jones passed around a copy of Science Monthly for May containing a very interesting article on glaciation. Mr. Erickson showed a large, heavy clamshell, Pisoclam, from Hueneme Beach, Calif. He and Leo Simon told of a recent trip to the Colowash River where another slide is evidently preparing to let go. Hope was expressed that it would expose a new supply of leaves for Geesockers to carry off.

E.A.K.

GEOLOGICAL NEWS LETTER

OFFICIAL PUBLICATION OF THE

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GEOLOGICAL SOCIETY OF THE OREGON COUNTRY

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President:	Mr. Raymond L. Baldwin	4804 S.W. Laurelwood Drive	1	CY 2-1452
Vice-Pres:	Mr. Orrin E. Stanley	2601 S.E. 49th Avenue	6	VE 1250
Secretary:	Mrs. Leo Simon	7006 S.E. 21st Avenue	2	EM 0549
Treasurer:	Mr. Robert F. Wilbur	2020 S.E. Salmon Street	15	VE 7284

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Mr. Rudolph Erickson (1955) — Mr. Norris B. Stone (1955)
Mr. A. D. Vance (1956)

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Committee Chairmen

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Field Trips:	Mr. Leo F. Simon	Museum:	Dr. J. C. Stevens
Membership:	Mr. William F. Clark	Public Relations:	Mr. C. D. Phillips
Publicity:	Mr. H. Bruce Schminky	Librarian:	Mrs. Edward Bushby
Social:	Mrs. William F. Clark	Historian:	Miss Ada Henley
Research:	Mr. Rudolph Erickson	Display:	Mr. Albert Keen

Society Objectives

To provide facilities for members of the Society to study geology, particularly the geology of the Oregon Country. The establishment and maintenance of a library and museum of geological works, maps, and specimens. The encouragement of geological study among amateurs. The support and promotion of geologic investigation in the Oregon Country. The designation, preservation, and interpretation of important geological features of the Oregon Country. The development of the mental capacities of its members in the study of geology and the promotion of better acquaintance and closer association between those engaged in the above objectives.

Persons desiring to become members should contact the Membership Chairman, Mrs. William Clark, 5237 N.E. Wistaria, Phone GA 3242. Annual dues are $3.50 for residents of Multnomah and adjacent counties; $2.50 for others; and $1.50 for Junior members. Remittance should be made payable to the Society.

Society Activities

EVENING MEETINGS: Formal lectures or informal round-table discussions on geological subjects, on the second and fourth Fridays of each month, at Public Library Hall, S.W. Tenth Avenue and Yamhill Street. 8:00 P.M.

FIELD TRIPS: Usually one field trip is scheduled for each month.

LUNCHEONS: Informal luncheons, with geological motif, each Thursday noon in Room 305, YMCA Building, S.W. 6th Avenue and Taylor Street. $1.00 per plate.

PUBLICATION: The Geological News Letter, issued once each month, is official publication.

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CALENDAR FOR SEPTEMBER 1953

Thursday Sept. 3 — Luncheon Meeting - Room 305 - YMCA

Thursday Sept. 10 — Luncheon Meeting - Room 305 - YMCA

Friday Sept. 11 — Meeting canceled - see below
Meet with Astronomical Society, Monday, September 14.

Sunday Sept. 13 — Field Trip
Geology from Hood River to Celilo Falls. This trip will be led by Mr. Sam Sargent, geologist with the Corps of Engineers, U.S. Army. Mr. Sargent, it will be remembered, talked to us some time ago on "Tree-rafted Erratics." He has done a large amount of research work in this area and we are very fortunate in having him as trip leader.

We will leave Hood River at 9:00 A.M. sharp. Assemble at the west end of Hood River. Watch for GSOC cars and signs. Be sure and have your GSOC bumper cards front and back on your car. Caravan will break up in time to allow members to watch Indians salmon fishing at Celilo Falls.

Bring your lunch.

Monday Sept. 14 — Meeting with Astronomical Society - Library Hall - 8:00 P.M.
See letter on page 98.

Thursday Sept. 17 — Luncheon Meeting - Room 305 - YMCA

Tuesday Sept. 22 — Library Browse Night - 1201 S.W. Cardinell Drive
See "Your Library and Mine" for special program for this night.

Thursday Sept. 24 — Luncheon Meeting - Room 305 - YMCA

Friday Sept. 25 — Friday Night Meeting - Library Hall - 8:00 P.M.
Bruce Schminky will show slides taken on his recent trip to Mississippi and tell us about them. He will also display some of the interesting material picked up on this trip.

Tuesday Oct. 6 — Library Browse Night - 1202 S.W. Cardinell Drive
See "Your Library and Mine" for special program for this night.

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PORTLAND ASTRONOMICAL SOCIETY
3007 N. E. Holman Street
Portland 11, Oregon
August 7, 1953

Mr. Raymond L. Baldwin, President
Geological Society of the Oregon Country
3804 S. W. Laurelwood Drive
Portland, Oregon

Dear Mr. Baldwin:

We invite you and other members of the Geological Society and their friends to be our guests at 8:00 P.M., September 14, in Library Hall, at the Portland Public Library.

The occasion will be an illustrated lecture, the subject of which we think will be of general interest, particularly to geologists and others with scientific leanings.

James H. Karle, of the Department of Physics, Lewis and Clark College, will explain how distances and velocities are measured in astronomy. Mr. Karle is an excellent speaker; and the talk will be lively, stimulating, informal and non-technical, illustrated by screen projections.

The talk will demonstrate that astronomy is not a dry statistical science with incomprehensible figures, but a very live, stirring subject that can be personally exciting.

We shall appreciate it if you will convey this invitation to your members.

Very truly yours,

/s/ Paul E. Barden, President

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CITIZEN OF THE WEEK

Lon Hancock has collected another honor - Citizen of the Week. He devotes much of his spare time lecturing to students on paleontology at his home museum, and conducts field trips into the Clarno and John Day areas during summer months for the Museum of Science and Industry. This year he is serving as president of the Oregon Agate and Mineral Society. To many of us he is not only "Citizen of the Week" but "Citizen of the Year."

N.B.S.

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ROMANCE DEPARTMENT

Mrs. May R. Bushby wishes to extend an invitation to her GSOC friends to attend the wedding of her daughter, Dorothy May Dale, on Saturday, October 24, 1953, to be held at the Church of the Assumption (right next to Roosevelt High School on Smith) 10:00 A.M.

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THE MAKING OF A MINE

By
John Eliot Allen*

In recent years it has become the fashion in mining circles to say "The day of the prospector is over," and that scientific methods are now necessary to locate those few ore bodies which have not yet been discovered.

The fallacy of this lies in the fact that the prospector, albeit he has turned to more modern methods using new devices and techniques, is still an invaluable aid to the technical man. No, we still need the man who will bring in for analysis the "funny-looking rock," which may or may not turn out to be of value. Perhaps the outstanding example of this is the use by the Atomic Energy Commission of the Navajo Indian, who, with his detailed knowledge of the region, has been able to turn up uranium deposits in areas where they were not even suspected by the highly trained specialists of the government, with all their elaborate detection devices.

However, there is some truth in the idea that the easily discoverable deposits have been found, and a lot of truth in the idea that a knowledge of the geologic occurrence and habit of minerals can save weeks of aimless search by restricting the search to favorable areas. That is the reason that most state geological surveys believe that a detailed knowledge of the basic geological features of any area, even if it does not immediately result in discovery of ore, will eventually prove to be of value to a future prospector, who may be looking for minerals which today have no value. Scientific research, even of the "long-haired" variety, has an unusual and pleasing way of proving to be of eventual practical, dollars-and-cents value. That is a lesson which the general public has learned in the last few years, and I need not belabor the point.

The point I wish to emphasize, however, deals with the steps which must take place before an initial discovery can be transformed into a profitable mining enterprise. It is here where more fortunes, even in the bonanza days, have been lost than have, perhaps, been won! Unless these logical steps are carefully followed, even the most favorable-appearing mineral deposit may prove a failure, with discouragement to the operator and, possibly, tragedy to the investor. Unless all the factors of value of the ore, cost of beneficiation, availability of market, permanence of market, distance of transportation, and many others have been taken into consideration by those interested in developing the deposit, that deposit may prove to be a failure and a disappointment.

In the field of metallic ores such as gold, silver, copper, lead, zinc, and many others, these carefully thought out stages in development are of importance, of course, but it is in the field of development of the nonmetallic minerals, with which we are becoming more and more concerned, that careful consideration of each of these steps becomes imperative. Most nonmetals are low-cost products, hence the margin of profit may be very slight indeed. The difference of a few cents in the market price, the difference in a few miles of transportation, may mean the difference between red and black in the ledger. Comprehensive appraisal of these factors in mining has only too often been obscured by the lure of the bonanza. The successful enterprise today must be thought out and run like any other business, which it is, not as a gamble. Perhaps the modern definition of "ore" will give us a start on this analysis. "Ore" is any rock or mineral substance which can be mined, treated, and sold at a profit. What might not be ore today may be ore tomorrow; the main factor

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*Economic geologist, New Mexico Bureau of Mines and Mineral Resources. Published by permission of the Director.

here is supply and demand. Yesterday the uranium deposits of the Colorado Plateau were not ore. Many of them were known and passed over, since there was no market for uranium. Conversely, what is ore today may not be ore tomorrow. When the United States was unable, during World War II, to obtain quicksilver from the mines in Spain and Italy, many deposits in the west became ore, and mines were developed. When the war was over and we again imported cheap quicksilver, those mines closed down.

The first step in our series is, of course, discovery of the deposit. This may be accomplished by the prospector, by a state survey, or by federal-government or private-company operations. It may cost only a few hundred or it may cost many thousands of dollars. It may take only a few weeks or it may take many years.

The second step is the preliminary examination of the deposit. This is usually divided into two parts, designed to determine first, the presence of potentially valuable mineral in amounts sufficient to justify further investigation, and second, whether that mineral can be economically mined at a profit. The geological or mining expert makes an examination in the field, and carefully samples the deposit for assay, maps the occurrence, outlines the probable extent of the ore body, and makes tentative estimates of the value of the ore from these data. He then considers the economic factors which affect the possible value, such as distance to market, cost of mining, the need of treatment to enrich the material, and a multitude of other factors which must have a favorable balance to justify further investment and expenditure. He must not only analyze the deposit itself, but he should take into consideration such business factors as supply and demand, competition, market location, and potentials before he can decide whether this particular deposit contains "ore." Usually a report of this sort, if favorable and by a reputable expert, can be then used to interest those who can finance further steps. The cost of this step in the development of a given deposit varies from a few thousand dollars to tens of thousands of dollars, and may be accomplished in a few weeks to a few months. If the decision is favorable, and it is decided that all these conditions seem to allow a reasonable profit on further investments, step three may then be taken.

This step consists of preliminary development of the deposit by surface trenching, diamond drilling, detailed geological mapping of the deposit itself, and perhaps geophysical or geochemical prospecting, all to determine tentatively the outlines and borders and probable total available tonnage in a preliminary way. This step is usually financed by a partnership, syndicate or mining company, or by sale of stock in a company formed to develop the deposit. It may take from 6 months to 3 years to complete such preliminary development.

The fourth step in our well-planned and conservative program consists of underground development by pits and shafts or tunnels, or perhaps by closely spaced drilling to definitely determine and block out the ore reserves, their grade, and character. This is the step whose omission has in the past so often led to grief! The mining camps of the west are dotted with the ruins of costly mills which were constructed to treat ore that wasn't there. Step four is usually financed by funds of the mining company or by sale of company capital stock. It may take from 2 to 5 years to complete, and it may cost, depending upon the grade and size of the deposit, tens of thousands of dollars or more. This step in the development of the great San Manuel copper deposit of Arizona has recently been completed at a cost of more than ten million dollars.

Now, in case you are becoming worried about the cost of changing a rock or mineral deposit to an operating mineral industry, we come to the fifth and frequently most expensive step of all, that of installing a mining and treatment plant. This includes the further development of the mine for mining operation, power and water supply, transportation facilities, and in the case of a large isolated deposits, the townsite. This again may be financed as was the previous step. It will take from 2 to 3 years to complete, and its cost may be anywhere from one hundred thousand to many millions of dollars.

The sixth and final step involves the period of tuning up the mine and mill and transition into the production stage. It is less costly and may take from 1 to 6 months.

You will note that each step involves investment of increasing amounts of capital, that after or during each of the first four steps the enterprise may be abandoned with minimum loss should progress prove at any stage that further investment would be unprofitable. Businessmen today certainly operate their own enterprises on this basis, but investors in mining enterprises still frequently forget these principles, with disastrous consequences. Beware of the stock seller who is building a mill but can't give exact extent of ore body!

It is only on such sound business principles that the mining industry, just like any other industry, can hope to gain and retain the confidence of the investing public. In recent years such confidence has been deserved by the great majority of mining developments.

1953

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NEW MEMBERS

		Zone	Phone
Backstrand, Winston Craig Physicist, Techtronix Co.	3524 N.E. 26th Avenue	12	GA 7875
Walsted, Mr. and Mrs. John P. Metallurgist, U.S. Bureau of Mines, Albany, Oregon	264 E. Ash Street, Lebanon, Oregon		
Wirth, Mr. & Mrs. Wilkes B. Longshoreman	8520 N. John Avenue	3	UN 1741
Robertson, Mrs. Bertha C.	3245 N. E. 56th Avenue	13	MU 7355

NAMES TO ADD TO MEMBERSHIP LIST

Macnab, Mr. and Mrs. Jas. A.	3440 N.W. Thurman Street	10	BE 6814
Smith, Miss Almeda	8205 S.W. Canyon Lane	1	CY 2-2315

JMS

CHANGE OF PHONE NUMBERS

Dr. & Mrs. W.C.Adams	GA 8747	Mr. & Mrs. Franklin L. Davis	CH 8975
Dr. & Mrs. Francis G. Gilchrist	CH 8020	Dr. & Mrs. Ralph Fenton . .	CH 7638
Mr. & Mrs. Thomas E. Palmer. .	CH 8254	Mrs. Irene and Miss Grace Poppleton . .	CH 7222
Mr. & Mrs. Marvin J. Lytle . .	FI 5152	Mr. & Mrs. H.F.Travis . . .	CH 7026
Mrs. Minerva Landreth.	FI 8518		

Miss Mella H. White . . . . . CH 7125

E.M.B.

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GSOCers ENJOY VOLCANO THEATER PICNIC

One-hundred twenty-eight people enjoyed the annual picnic on the balmy moonlight evening of August 14. The startling feature to this observer was the many faces of new members and friends of the Society who came to join in the hilarity - with complete sobriety. Some of the familiar "old" faces not in attendance left lonesome places here and there. A sampling of the inner cores is voiced as the people speak thus:

Leo Simon: When the dinner bell rang I answered the first call and was first in line. Filled up twice, too.

M. H. Calef: You can't beat this. People can move around and visit. Not in all the USA could people find such an ideal location as a Volcano Theater for a geology picnic.

Ada Henley: (Christened "Ada Honey" by Mary Lou Oberson) I regretted my limited capacity for the great variety of wonderful dishes.

Dr. Claude Adams: I enjoyed the picnic very much. I'm full.

Mrs. Bruce Schminky: Serving was fun - even to tacking the paper on the tables, which Leo had to boss from beginning to end.

Doris Jones: Seems silly for it to get dark before all are served.

Ray Schneider: Enjoyed myself immensely, in fact I stuffed myself. The dinner was served beautifully.

Mrs. Amza Barr: I noticed lots of newcomers tonight.

Lloyd Ruff: Fine turnout.

Earl Minar: We like this kind of picnic and get-together. It was very much of a success. The committee did everything right.

Robert Wilbur: The weather is certainly ideal tonight.

President Ray Baldwin: I think our picnics get better every year. This sociability seems to me outstanding.

Rudy Erickson: This is a grand success. I hope no one ever suggests going back to the old way of bringing your own dinner. This is wonderful.

Mildred Stockwell: I like this way of having one huge salad bowl. (A table full of crisp ingredients.)

Mary Lou Oberson: I like picnics here because I can find red lava.

Norris Stone: If you don't like your wife's cooking you can try another woman's. It kind of makes you free again. You see me walking around here because I ate more than I should.

Viola Oberson: Wonder if Norris ate any of his wife's meat balls in country gravy? I did and went back for more. Thought they were tops!

After the empty serving dishes were cleared away and all was in order, adjournment of the delightful picnic area followed. The Master of Ceremonies, Al Keen, greeted his audience in the Volcano Theater aptly: "It is a pleasure to see such a well-filled audience." Dr. Arthur Jones was able by his magic arm-waving and infectious smile to waft the theme song "Oregon Country" into the ethereal evening skies. Ray Baldwin, Bruce Schminky, Leo Simon, and Eleanor Gordon staged a "makeshift" farce, which resulted in poor Leo having a sore head he will feel for many a day. Breaking the zeolite of numerous colors found by Eleanor, which she claimed was the only one in the world, left Leo completely berserk.

May Bushby, Glenna Teeters, Lon and Berrie Hancock, Carol Waack, Bill Clark, and Stanley Shirk staged the "well-planned" "The Lighthouse Keeper's Daughter." After reels of laughter and assurance that "All's Well That Ends Well" as well as "Love Triumphs in the End," the audience was introduced to a new subchapter of the Society. Officer John Walstead sirened onto the stage calling for Lon Hancock, who can't read "No Trespassing" signs. Lon was immediately arrested for hunting elephants in Baker County. After "Much Ado About Nothing" the audience was relieved to know that:

1. Lon Hancock really DID possess an elephant-hunting license for the State of Oregon which was not only signed by the Governor but contained a (furry) seal of Oregon stamped in the corner.

2. Mr. and Mrs. Ray Golden have EVERYTHING in their truck with which to come to the aid of any traveling Geesocker. For Ray's outstanding contributions in this regard, he was awarded the honor of Fellowship in the Golden Opportunity Subchapter of the Geological Society of the Oregon Country.

3. And most of all - that Lon Hancock does NOT have a criminal face.

The authors of this spicy entertainment were much rewarded for their efforts: Bruce Schminky for "Clarno Nuts" and Norris Stone and Rudy Erickson for the "Fellowship of Golden Opportunity." Glenna Teeters directed the "Lighthouse Keeper's Daughter."

After everyone expressed much appreciation to Mr. Allen of the Portland Park Bureau for his splendid cooperation, Dr. Jones again staged a songfest which went on-and-on-and-on. With great reluctance to end the 18th annual picnic, GSOCers slowly dwindled away from the beautiful Volcano Theater at Mt. Tabor Park.

Viola L. Oberson

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LUNCHEON NOTES - JULY 30, 1953

A group of sixteen, including four members of the fair sex, attended today's luncheon. It is a pleasure to have so many ladies present and we hope they will continue to attend the luncheons. Mr. Bruce Schminky exhibited a fish he had "caught" in the famous Kemmerer, Wyoming, locality. It was a very fine specimen but under 6 inches in length. Most of those present thought he should throw it back. However, it was later decided that since the fish was some sixty million years old already it probably wouldn't grow much more anyway, so he was allowed to keep it. Al Keen passed around a specimen of black smokey quartz, obtained at the San Diego Gem and Mineral Show, and a copy of a booklet entitled Rancho La Brea, which described the La Brea asphalt pits and the fossils recovered from them. These

pits are readily accessible and the Los Angeles County Museum has a splendid display of fossils obtained from them. A visit to both should be a "must" on a trip to this locality. Bruce Schminky announced that plans were progressing rapidly for the Annual Picnic August 14 at Mt. Tabor Park.

A.K.

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YOUR LIBRARY AND MINE

Gardening, vacations, and other summer occupations have slowed down the tempo of library browsing nights during the summer. On July 21, Mrs. Toralf Erickson and daughter joan were congenial co-hostesses who graciously served the 15 members when refreshment time inevitably rolled along. Please remember that I am very grateful when the ladies volunteer to act as hostesses for it saves me considerable time telephoning. I do have a hostess for the September browse night; who will call me and volunteer for the October gathering?

For those who may not already know, your librarian would like to repeat that there is a surprise 15-minute program each library night. Since the programs planned for the September and October meetings require some of the members to take part, they will be announced here. Those persons (not members necessarily) who plan to attend Tuesday, September 22, please bring your specimens of crinoids, especially those found in the Keasey Formation on the Upper Nehalem River trip, June 28, 1953. Please bring also any pictures or slides taken that day. Then, for the October meeting to be held Tuesday, October 6, please bring all the pictures and slides taken on the boat trip up the Columbia River on Sunday, August 23, 1953. Comments from a few experts and a general discussion by all should make these two library nights very stimulating although information will be given in candy-coated-pill fashion, 'n - very easy to take.

A few books which have been cataloged recently are:

Title	Author	How acquired
Paleontology of Tertiary Marine Formations, Vol. 5 (Parts I, II, III), 1942	Charles E. Weaver	A.D.Vance library
Tertiary Stratigraphy of Western Washington and Northwestern Oregon (Vol. 4), 1942	" " "	"
Invertebrate Paleontology, 1935	Twenhofel & Shrock	"
Origin of the Species, 1859	Darwin	"
Methods in Paleontology, 1937	Camp & Hanna	"
Elements of Geology, 1894	Joseph LeConte	"
Textbook of Geology, 1932	Longwell, Knopf & Flint	"
Rocks and Rock Minerals, 1926	Pirsson & Knopf	"
Economic Geology of Mineral Deposits, 1936	E. R. Lilley	"
Paleontology, 1929	E. W. Berry	"

Come and share information and fun - September 22 and October 6.

Yours in the interest of YOUR LIBRARY AND MINE
Mav R. Bushby, Librarian

WHAT'S NEW IN READING

1. The State Department of Geology and Mineral Industries has recently added to its library three master's theses written by graduate students of geology at Oregon State College. Anyone interested in seeing these is very welcome to do so at the Department's office at 1069 State Office Building, Portland. All three of the theses are illustrated by photographs and maps. The titles and authors are as follows:

   a. Stratigraphy and foraminifera of the upper part of the Nye formation, Yaquina Bay, Oregon, by Robert L. Heacock, 1952.

   b. Stratigraphy of the Miocene Agate Beach formation in Lincoln County, Oregon, by John E. Herron, 1953.

   c. Columbia River basalt in relation to stratigraphy of northwest Oregon, by Herbert G. Schlicker, 1953.

2. Evolution of the California Landscape has just been published by the California Division of Mines for the understanding and enjoyment of the layman. Author is Prof. Norman E. A. Hinds of the Department of Geological Sciences, University of California, who describes the surface features of California and relates them to the geology in an interesting, informative, and non-technical way. The book (Bulletin 158) is abundantly illustrated with photographs and drawings. It has 240 pages, is bound in green cloth, and sells for $2.50 (postpaid) by the California Division of Mines, Ferry Building, San Francisco 11, California.

M.L.S.

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REGULAR FRIDAY NIGHT MEETING
July 24, 1953

Mr. J. V. Vidos, formerly superintendent of the Alcoa Mining Company's Moengo Mine, in Surinam, showed some very beautiful colored moving pictures of the Moengo plant and the country surrounding it.

During the showing of the film, Mr. Vidos not only explained what was being shown, but gave many interesting sidelights on the geology and geography of the country and the customs of the people. He also answered questions from the audience. The lecture was closed by a spirited question and answer period.

Mr. Minar's display, of his very fine collection of polished granite, was audibly appreciated.

C.C.

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A BUDDING GEOLOGIST

Master Dick Gordon, age 3 years, of Salem, was observed, reverently, trying to repair the damage done to a certain 'prop' used in the impromptu, heavy drama, given in the Crater Theatre, August 14. When asked what he was doing, Dick said, "that bad man tried to break my Grandmother's crystals." Looking up at Eleanor Gordon, he continued, "I will not break your crystals, Gram, I will take good care of your crystals."

C.C.

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FIELD TRIP FOR JULY 26, 1953

On Sunday July 26, 1953, 12 cars of GESOCers, 31 members and friends lead by Dr. Ira S. Allison of Oregon State College, made a trip over the Mill City-Mehama quadrangles.

On our first stop at the cemetery near Jefferson we inspected a remnant of Lacomb gravels deposited in early Pleistocene time. This was a deeply weathered porphyritic andesite high on a hilltop which must have been a river bed at the time of deposition.

In rapid succession our attention was called to a plug of diabase which undoubtedly was a central vent or feeder for Columbia River lava, a natural overpass where nature cooperated with the road builders to build the highway over the Southern Pacific railroad, and an old quarry where much palagonite (a reaction of hot lava with water) formed an interesting yellow-brown deposit from the basalt tuff. Dr. Allison then pointed out a "cuesta," a hill with an abrupt slope on one side and a gradual slope on the other.

We then drove south crossing Greens' Bridge and noting the youngest physiographic area on the trip, the low river terraces. Stopping at Millers' cemetery we inspected the Linn gravels, the youngest of the Pleistocene gravels seen on the trip. These were not much weathered. There was interesting discussion of various soils produced by the different formations.

After lunch at Stayton Park we drove up off the Linn gravels to Leffler bench at 500 feet elevation. These gravels are mid-Pleistocene in age. Many interesting outlines in the topography were pointed out by Dr. Allison. These were cappings and slopes in the Columbia River basalt (called Stayton lavas by Thayer).

A remnant of Fern Ridge tuff was exposed along the road. This is considered middle Pliocene by Dr. Allison. Near the top of the dip-slope we were following we had a wonderful view of the Little North Fork of the Santiam, Snow Peak, a basaltic cone, the Fern Ridge tuffs, and the Mehama volcanic tuffs. This last is pre-Columbia River basalt and has the same leaves as Illahe and Eugene. A glacial deposit of Leffler gravels at 800 feet elevation proved very interesting just above Lyons. This was the moraine-headed till of Mill City glacial stage another exposure of which was pointed out at Mill City. This is considered the oldest glacial till in the area. Striated stones have been found here.

An interesting roadcut on the new highway from Mill City to Mehama disclosed a waterlaid tuff and mud flows with cross bedding.

A hard pull up the hill to Fern Ridge gave us out last bit of geology for the day, the Fern Ridge tuffs. These are Pliocene waterlaid volcanic tuffs forming a red soil in a high valley in the old Stayton lavas. A view of some of the area we had been over made this trip one never-to-be-forgotten.

A.I.M.

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AUDIT OF TREASURER'S RECORDS FOR YEAR ENDING February 28, 1953

We are very much indebted to Mr. H. E. Walker, who prepared this audit free of charge for the Society.

July 14, 1953

Geological Society of the Oregon Country
Portland, Oregon

Gentlemen:

I have examined the books and records of the Geological Society of the Oregon Country for the fiscal year ended February 28, 1953, and based on my examination submit the following described statements: (See April 1953 News Letter for complete financial statement.)

My examination was not in the nature of a detailed audit, however, I have tested the accounting records and supporting evidence as I deemed appropriate under the circumstances.

In my opinion, the accompanying financial statements present fairly the position of the Geological Society of the Oregon Country at February 28, 1953, and the results of its financial activities for the fiscal year ended February 28, 1953.

Yours truly,

/s/ H. E. Walker
C.P.A.

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LUNCHEON NOTES

August 6, 1953

Eighteen were present, including a visitor, the guest of Mrs. Arthur Jones. She was Miss Frances Jones, a plant biologist from the University of Washington. Miss Jones spent six months last year at the American Friends Service Camp at Valle de Bravo, 85 miles west of Mexico City. As a camper, her work was with rural schools. Mrs. Jones told of having seen some spectacular impressions of palm leaves on the cliff side of Chuckanut Marine Drive, going north from Seattle on a recent trip with Dr. Jones to Whidby Island. She passed around a small specimen of fossil moss from Ohio, also some photographs of Detroit dam. Dr. and Mrs. Jones, in Seattle, met our former member, Eve Catlin, now Mrs. Alex Linden. . . Mr. Erickson stated that Mr. Hancock, investigating a report that a dinosaur, 82 feet long, had been discovered near Monument in the John Day area, found instead, bones of a late mastodon scattered along that distance. . .Leo Simon reported forty registrations for the Columbia River trip on Sunday, August 23. . .Mr. Stone

passed around the official report on the audit of the treasurer's report, also a letter from the State's agricultural department's extension division replying to his query regarding possible damage in this state from the Praying Mantis. He was assured there is no danger. . .Leo Simon showed a copy of the July bulletin of the Geological Society of America. . .Present were Messrs. Palmer, Baldwin, Simon, Kelham, Wilbur, Stone, Schminky, Elder, Erickson, Matthews, Libbey, Dole, Keen, Dr. Adams, Mrs. Arthur Jones, Miss Margaret Hughes, Mrs. Amza Barr, and Miss Frances Jones.

E.M.B.

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THE 1953 ANNUAL PICNIC

To the Members and Officers of the GSOC:

The picnic has now become history and we hope that everyone had a good time. It is with the greatest of pleasure that I present here the names of those who gave their time and efforts to make it a success.

The abundance of food can be credited to the committee headed by Mrs. Wm. Clark. Mrs. Amza Barr made most of the phone contacts with members regarding dishes to bring. The big supply of delicious vegetable salad, and of which nary a sprig remained after the meal, was made by Mrs. Ray Golden. The Misses Myrtice Fowler, Kate Rosa, and Almeda Smith brewed the coffee and tea. The Mesdames Ethel Opitz, Neil Robertson, H. B. Schminky, and Leo Simon set and arranged the tables.

Those taking part in "Clarno Nuts," by force or otherwise, were Ray Baldwin, Leo Simon, Dr. Arthur Jones, H. B. Schminky, and Mrs. Ted Gordon.

"The Lighthouse Keeper's Daughter" was directed by Miss Glenna Teeters. Mrs. Ed. Bushby was reader, Mr. and Mrs. Lon Hancock played the keeper and his wife, Miss Carol Waack was their daughter, the villain was Wm. Clark, and Stanley Shirk played the doctor.

"The Fellowship of Golden Opportunity" was the brainchild of Rudolph Erickson and Norris Stone. For obvious reasons, Lon Hancock had no advance knowledge about this skit. Besides the authors, Ray Golden, John Walstead, Jane Erickson, Albert Keen, and Leo Simon were in the cast. Ray Golden was also unaware that he was to be presented with materials to improve his services on field trips. His reply was spontaneous and very well presented. Norris Stone made the "Lie - sense" (Banquet Chairman note for a cover designer).

Dr. Jones as song leader and Mrs. Hancock as pianist, made such a good team that the group might have spent the night in singing.

This was Albert Keen's first job as an MC, and we think that he did himself proud.

Park foreman, Sam Allen, must also be added to this list. He had the water boiling for the coffee makers, he saw that there were enough tables and benches in place for our use, and he set up the speaker and lights in the Volcano Theater.

It is to this group that the Society owes its thanks for the parts that they played in making this another good picnic. I, too, wish to express to them my own thanks and appreciation for their help.

H. B. Schminky

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GEOLOGICAL NEWS LETTER

OFFICIAL PUBLICATION OF THE

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GEOLOGICAL SOCIETY OF THE OREGON COUNTRY

Officers of the Executive Board, 1953 - 1954

			Zone	Phone
President:	Mr. Raymond L. Baldwin	4804 S.W. Laurelwood Drive	1	CY 2-1452
Vice-Pres:	Mr. Orrin E. Stanley	2601 S.E. 49th Avenue	6	VE 1250
Secretary:	Mrs. Leo Simon	7006 S.E. 21st Avenue	2	EM 0549
Treasurer:	Mr. Robert F. Wilbur	2020 S.E. Salmon Street	15	VE 7284

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Mr. Rudolph Erickson (1955) Mr. Norris B. Stone (1955)
Mr. A. D. Vance (1956)

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Assoc. Editors:	Mr. Phil Brogan	1426 Harmon Blvd., Bend, Oregon		266-J
	Mr. F. W. Libbey	2259 N.W. Everett Street	10	BR 2145
	Dr. Ruth E. Hopson	4709 N. Willamette Blvd.		TW 3441
	Miss Margaret L. Steere	6205 S.E. Scott Drive	16	VE 0917
	Mrs. William Clark	5237 N.E. Wisteria	13	GA 3242
Library Editor:	Mrs. Edward Bushby	1202 S.W. Cardinell Drive	1	CA 2123
Business Manager:	Mr. Edward Kelham	14018 S.E. Linden Lane	22	EV 1-2196

Committee Chairmen

Programs:	Mr. A. D. Vance	Service:	Mr. F. W. Libbey
Field Trips:	Mr. Leo F. Simon	Museum:	Dr. J. C. Stevens
Membership:	Mr. William F. Clark	Public Relations:	Mr. C. D. Phillips
Publicity:	Mr. H. Bruce Schminky	Librarian:	Mrs. Edward Bushby
Social:	Mrs. William F. Clark	Historian:	Miss Ada Henley
Research:	Mr. Rudolph Erickson	Display:	Mr. Albert Keen

Society Objectives

To provide facilities for members of the Society to study geology, particularly the geology of the Oregon Country. The establishment and maintenance of a library and museum of geological works, maps, and specimens. The encouragement of geological study among amateurs. The support and promotion of geologic investigation in the Oregon Country. The designation, preservation, and interpretation of important geological features of the Oregon Country. The development of the mental capacities of its members in the study of geology and the promotion of better acquaintance and closer association between those engaged in the above objectives.

Persons desiring to become members should contact the Membership Chairman, Mrs. William Clark, 5237 N.E. Wistaria, Phone GA 3242. Annual dues are $3.50 for residents of Multnomah and adjacent counties; $2.50 for others; and $1.50 for Junior members. Remittance should be made payable to the Society.

Society Activities

EVENING MEETINGS: Formal lectures or informal round-table discussions on geological subjects, on the second and fourth Fridays of each month, at Public Library Hall, S.W. Tenth Avenue and Yamhill Street. 8:00 P.M.

FIELD TRIPS: Usually one field trip is scheduled for each month.

LUNCHEONS: Informal luncheons, with geological motif, each Thursday noon in Room 305, YMCA Building, S.W. 6th Avenue and Taylor Street. $1.00 per plate.

PUBLICATION: The Geological News Letter, issued once each month, is official publication.

CALENDAR FOR OCTOBER 1953

Thursday Oct. 1	Luncheon Meeting - Room 305 YMCA
Tuesday Oct. 6	Library Browse Night - 1202 S.W. Cardinell Drive
Thursday Oct. 8	Luncheon Meeting - Room 305 YMCA
Friday Oct. 9	Friday Night Meeting, Library Hall, 8:00 P.M. Dr. Ruth Hopson will tell us about the Lava Beds National Monument in northern California, where she was naturalist during the past summer. Dr. Hopson will also bring interesting specimens picked up during the summer as the display for this evening.
Sunday Oct.11	There will be a field trip on this date, either to little crater lake in the Mt. Hood area, or down toward the coast if weather conditions prevent getting into the Mt. Hood area. Definite announcement will be made as soon as possible at the luncheons, at the meeting of October 9, and through newspaper notices.
Thursday Oct. 15	Luncheon Meeting - Room 305 YMCA
Thursday Oct. 22	Luncheon Meeting - Room 305 YMCA
Friday Oct.23	Friday Night Meeting, Library Hall, 8:00 P.M. An illustrated lecture entitled "Notes along the northern California and southern Oregon coast," will be given by Dr. Francis G. Gilchrist of Lewis and Clark College. Display - Everyone attending is asked to bring a few good specimens from the Beverly beach area. Many of our members have very fine material from this location and we should have an outstanding display.
Thursday Oct. 29	Luncheon Meeting - Room 305 YMCA
Tuesday Nov. 3	Library Browse Night - 1202 S.W. Cardinell Drive.

NEW MEMBERS - September 1953

		Zone	Phone
Williamson, Dr. and Mrs. K. J.	15316 S.E. Woodland Way	22	EV 1-2557

JUNIOR MEMBER

Dunham, John E. (John is Miss Hughes' nephew.)	Finelon Falls, Ontario, Canada P.O. Box 86

CHANGE OF ADDRESS

Bartow, Mr. and Mrs. Leslie W	3301 Broderick Street, Apt. 203 San Francisco 23, California
Schneider, Ray A.	Camino, California, Box 53
Buoy, Mr. and Mrs. Leonard M.	2445-150th S.W., Seattle 66, Wash.

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GEM AND MINERAL SHOW

It was the consensus that the Gem and Mineral Show held in the public auditorium over the Labor Day weekend was the best ever held in the Northwest. The many displays were varied and of excellent quality. Several GSOC members exhibited material and received awards. Lon Hancock's miomastodon skull attracted a great deal of attention and received a special award. Mrs. Dale Harnisch, of Albany, entered excellent displays of crystals and was awarded two firsts and two seconds in addition to a cup for the best display of crystals in the show. Mrs. Ted Gordon, of Salem, displayed a wonderful collection of zeolites, probably the finest in existence, which was greatly admired, and certainly deserved the special award it received. Leo Simon received a first award on his copper minerals, and Al Keen a second in the polished wood section. Some 4600 people enjoyed the show over the 3-day holiday.

S.K.

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ROMANCE DEPARTMENT

Supplementing the announcement of her daughter's marriage in the September News Letter, Mrs. May R. Bushby extends an invitation to her GSOC friends to attend the reception to be held at Norse Hall, 111 N.E. 11th Avenue, from 2:30 P.M. to 4:30 P.M., October 24, 1953.

M.B.

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LUNCHEON NOTES - September 10, 1953

Sixteen members, including several ladies, showed up for today's luncheon. Rudolph Erickson displayed a sample of asbestos found by Gail DeWitt near his home in Bates. Clarence Phillips brought several copies of the card displayed in Portland Traction Company Busses honoring Lon Hancock as "Citizen of the Week." Mrs. Jones passed around the following: The Columbia River Gorge, by Ira Williams; The Mountain that was God, by John Williams; Prehistoric Men, and Aleutian Islander, these last two picked up by Dr. Jones on his recent trip to Chicago. Mr. Libbey brought an unusual specimen from Nickel Mountain containing garnierite, peridotite, and fine grains of chromium.

A.K.

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ANNIVERSARY OF INTERNATIONAL GEOLOGISTS' TOUR OF OREGON

By

W. Claude Adams

Just twenty years ago, in August 1933, a tour of Oregon was made, particularly to localities of geological interest, by a party of fifty or more distinguished scientists from seventeen different countries, all attendants at the International Congress of Geologists which had just previously completed its sixteenth annual session at Washington, D.C. For the majority of the men and women in the company, the tour provided the first opportunity of seeing and studying at first hand the wonders of the fossil beds and other attractions of Oregon.

The visit of these eminent scientists did much to publicize to the far corners of the earth the Oregon Country, more particularly the John Day fossil beds, and at the same time brought to the attention of the people of Oregon the fact that the unique geology of this state holds a lure for serious investigators and provides a wealth of interesting material for study. For geologists, Oregon furnishes ample evidences of volcanic action, of former inland seas, and offers an endless diversity of geological formations, rocks, and minerals for study. For the paleobotanist and the paleontologist, there is the marvellous record of the flora and fauna of the ages as preserved in the formations of certain sections of the state.

The pilgrimage of the visiting geologists was a tribute to the achievement in pioneering research and the lasting contribution to science of Dr. Thomas Condon, pioneer minister, geologist, and University of Oregon professor, who first brought to the attention of the scientific world the John Day region and its wealth of animal and plant fossils.

The tour was arranged and personally conducted by Dr. Ralph W. Chaney, paleobotanist of the University of California, assisted by Dr. John C. Merriam, then president of Carnegie Institution at Washington, D.C., Dr. John C. Buwalda of the California School of Technology, Dr. Warren D. Smith of the University of Oregon, and Dr. E. L. Packard and Dr. E. T. Hodge of Oregon State College.

After the Washington, D.C., convention, the delegates divided into two groups, one group visiting Kansas, Oklahoma, and Texas, and the other unit coming to the west coast and touring California and the Northwest under the leadership of Dr. Chaney. The transcontinental excursion was led by Dr. Richard M. Field assisted by Prof. Erling Dorf of Princeton University and Mr. E. K. Dremer of the Union Pacific Railway. The party came north from California by motor bus, stopping at Crater Lake, then came on to Eugene to visit the Condon Museum at the University of Oregon and to pick up Drs. Smith, Packard, and Hodge. Dr. D. S. Libbey, a geologist and government employee at Crater Lake, had joined the party at the lake.

The writer and two other Portland men, Ira A. Williams, consulting geologist, and City Commissioner Ormond R. Bean, grandson of Dr. Condon, were privileged to accompany the party of geologists on their trip through Oregon, going by way of auto. On arriving in Eugene, we failed to make connection with the caravan, so we drove on up the McKenzie highway and met Mr. Phil Brogan of Bend halfway up to the summit, also looking for the party. Here we waited for the group which had been delayed on account of the bus breaking down out of Eugene. On the arrival of the caravan, we joined them and all proceeded to the summit of McKenzie Pass and

the lava beds. Here Dr. E. L. Packard addressed the group, pointing out the interesting features, indicating the proximity of the lava beds to the volcanic peaks of the Cascades, and offering speculative theories as to the origin and age of the lava flow. The visitors were busily engaged in photographing the area and in inspecting the glacial scratches on the exposed rock surfaces as pointed out by Dr. E. T. Hodge. While Dr. Packard was talking, a chuck wagon from Bend arrived and as it circled around to find a suitable stopping place, Mr. Robert W. Sawyer, editor of the Bend Bulletin, announced that lunches and beer were in the truck for all. The crowd immediately lost interest in Dr.Packard's lecture and rushed after the grub wagon when Mr. Sawyer said beer. The scientists were struck with wonder and awe by the spectacle of the vast expanse of lava of the McKenzie Pass beds and the awful desolation spread for miles around.

The next stop was at the Crooked River Bridge where Dr. Hodge talked about the deep gorge and the formations visible from the bridge. He told of the Opal Springs in the gorge where quantities of opals of gem quality had been found.

The caravan turned south to Bend where dinner was served at the Pilot Butte Inn in the evening, while the twelve snow-capped peaks of the Cascades visible through the view window were pointed out to the visitors. Picture postcards showing the peaks were distributed to the guests. Prof. E. B. Bailey of the University of Glasgow addressed the company and expressed the delight of the group in the sights thus far seen. He paid tribute to the hospitality of the California and Oregon hosts. Editor Sawyer and Phil Brogan had much to do with the arrangements and entertainment of the guests while at the Pass and at Bend.

The group was then driven north to Prineville for over night and breakfast at the commodious hotel there. During breakfast, Dr. Chaney outlined for the guests the schedule for the day and the points of interest they were to visit. Leaving Prineville, the route led past the Ochoco Dam, through the Ochoco National Forest and over the summit. At a view point lectures were given and formations pointed out by Drs. Chaney, Merriam, and Buwalda.

Near Mitchell the remnants of a semitropical rainbelt forest were viewed and further east the geologists skirted an ancient seashore of the Cretaceous period. The Cretaceous deposits have yielded a few marine fossils.

At Bridge Creek near Mitchell, formations of the Oligocene, though Dr. Condon called them Eocene, containing fossil leaves were indicated. It was stated that it was in this same locality that Dr. Condon and later paleontologists found many fine mammalian fossils, such as the oreodon and the elotherium.

Currant Creek, twenty miles west of Bridge Creek, was the locality of the fossil ferns, equisetas, and fan palms found by Dr. Condon. The John Day River was next reached and, as we went through Picture Gorge, Dr. Smith told of twenty-three distinct lava flows forming the walls of the canyon, basaltic rock of the Miocene age belonging to the Columbia River lava series. A little farther east, we came to Maschall's ranch where a chuck-wagon lunch was served in the yard of Mr. Maschall's farm home. As was explained by Drs. Buwalda, Merriam, and Packard, the geology of this locality is of especial consequence and the stop was made here for the reason that the terrain is a typical example and shows the exposure of all the succession of the Mesozoic and Cenozoic formations to be found in the John Day Valley. Formations which have been identified from Maschall's are, beginning at the bottom of the stratigraphic column: the Chico formation of the Cretaceous period (Marine); the Clarno of the Eocene; the John Day of the Oligocene; the Columbia Lava of the Miocene; the Maschall, formerly called the Cottonwood,

Loup Fork, Ticholeptus, Amyzon, and Protolabis, of the upper Miocene; the Rattlesnake of the Pliocene; and the Rimrock (part of the Rattlesnake) of the Pliocene. The lecturers outlined and discussed briefly the flora and fauna fossil remains which have been found in the various formations, in order to indicate to the visitors something of the scope of scientific achievement that has been attained.

Drs. Merriam and Buwalda lectured at the John Day mammal beds, a region extending thirty-five or forty miles from Dayville to Spray. These beds have yielded the important Tertiary mammalian fossil specimens which have made this region famous. The guests heard from the lips of the lecturers the story of the three-toed horse and the now extinct oreodon and were able to envision how the ages were looking down upon them from the layered hills, for in their strata is preserved a record of the time when these prehistoric animals lived. It was explained that Dr. Condon numbered five distinct records contained in the John Day Valley, each series of plant or animal life having been destroyed and buried by a deposition of volcanic ash and cinders. The lowest record is one of plant life of the Eocene period, later thought to be Oligocene; this is overlaid by the period of the oreodon, entelodon, and rhinoceros, likely later Eocene; the next above is that of the horse in four or five species including the Anchitherium and a small camel; the fourth record is of the mastodon; the last and uppermost strata contain the remains of the horse in more highly developed forms, the Hipparion and the Protohippus, the mastodon, mammoth, camel, ox, elk, etc., of the Pliocene. The last of the animals were destroyed by the frost of the oncoming Pleistocene period, but the earlier forms of life were entombed under successive deposits of ash, sedimentary in character, which in time became consolidated into rock.

The company inspected Turtle Cove named by Dr. Condon from a fine fossil turtle he found in the deposits. Dr. Smith quoted Dr. Condon's description of the Cove thus: "The fossiliferous rocks were arranged into galleries each painted in the brightest hues of red, green, white, and endlessly mixed into neutral shades between." Fossils of the rhinoceros, an Anchitherium, and the oreodon have also been found in these shales which are analogous to those of Bridge Creek, and therefore are of the same geological era, Middle John Day of the Oligocene period.

Mention was made of the research carried on in the John Day area, begun by Dr. Condon and participated in by Prof. O. C. Marsh of Yale and Peabody Museum, Dr. John C. Merriam heading groups from the University of California on many trips, Prof. Von Zittel of Munich University, W. B. Scott, Princeton's great paleontologist, who, together with representatives from other prominent institutions of this country and Europe have worked over the beds and have discovered many valuable specimens. Eminent authorities were called on by Dr. Condon to help identify and name the early specimens and to classify them as to geological age - Joseph Leidy, M. D., of Smithsonian, authority on vertebrate fossils, Dr. J. S. Newberry, paleobotanist of Columbia University, and Prof. E. D. Cope of the Philadelphia Academy of Sciences. Great shipments of the fossil material were sent to these centers for examination, some of it as gifts and some loaned. Most of the great wealth of the John Day fossils found has been carried out of Oregon and placed in eastern and foreign museums where it is now to be found.

Unfortunately, the time schedule would not permit the touring geologists to search for specimens, although many of the party were equipped with geology picks, and it was with reluctance that they left this field so full of fascination for them. All the party carried notebooks and made copious notes and sketches on the points of interest and the information given in the lectures.

The painted hills stretching along the highway from Picture Gorge to Spray, and some even as far north as Fossil, offered a rare treat in beautiful and distinctive scenery. The fantastic shapes and stratifications of the hills and the soft colors of green, red, mauve, buff, and brown brought forth exclamations of admiration from the viewers.

From Fossil the route led west to the Clarno region, the formations of which represent the Eocene period. At one point where a stop was made, Dr. Chaney spoke of the rich flora of the Clarno section and distributed leaf-fossil specimens which his assistants had gathered for the visitors. On leaving the Clarno country, before ascending the grade to Antelope, the party paused to take a backward look over the entrancingly beautiful panorama of the castellated Clarno hills in their varied colors rendered soft and hazy by the distance, a scene more like a picture than a thing of reality. The visitors were all impressed with the beauty of this central section of Oregon and some eminent members of the party declared the Oregon Country to be of greater scientific interest than any region of like area that they had seen.

In the afternoon our car left the party and returned to Portland, but the main caravan continued, driving north to the Columbia River, over the highway to the Bonneville Dam, then under construction, back to Maryhill, and on to Grand Coulee.

(The second part of this article will appear in the November issue of the News Letter -- Editor.)

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DIATOMS AS DETECTIVES

Food inspectors have a new, easy way of catching certain types of violators of the pure food laws. It involves simply the use of a little earth-containing microscopic algae called diatoms. The use of the diatom as a tracer to detect unsanitary practices in food processing was announced at the annual meeting of the American Institute of Biological Sciences today by Paul S. Conger of the Smithsonian Institution's department of botany.

Mr. Conger explained the new technique by citing a recent case where the tiny organisms exposed a frozen egg processor who was using filthy waste from supposedly discarded shells and adding it to the good material. Violations of this type are hard to prove and usually a person must be caught in the act before he can be prosecuted. But this is where the diatom came in.

As every housewife knows when breaking and draining eggshells, a little of the white clings to the shell. A food inspector suspected the frozen egg processor was trying to recover this waste material so he threw a little diatomaceous earth into the garbage pails where the eggshells were being dropped. Later, a sample of the finished frozen egg material was examined under a microscope and was found to contain diatoms of the same species as those in the earth previously placed in the garbage pails.

A few days before the impending trial the processor admitted crushing the eggshell discards in the garbage pails and drawing off the surplus egg white at night in an abandoned building. The egg-white residue from the discard was placed in cans in a cool room, but not frozen, and the next day it was added to partially filled cans of good whole egg material.

Mr. Conger said the diatom method could be useful in many cases of contamination or unlawful substitution of materials and that the use of this earth containing diatoms is harmless, simple, and conclusive. The great advantage of the diatoms as a tracer material for this purpose lies in the fact that while completely inconspicuous as an additive, they are at the same time positively recognizable when brought under the microscope.

(From the Smithsonian Institution, September 8, 1953.)

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A LETTER FROM MR. STANLEY

Lopez Velarde 39 B, Mexico, D.F.
August 12, 1953

Dear friend Baldwin:

When I mailed the dollar bill that had grown old with me as a contribution to the Society's gift to Mrs. Vance, I thought that I would follow it right up with a letter, and then I had to spend several days in bed, and lost a whole week of school, and had to work like the dickens to try to catch up with the classes, so the letter didn't follow.

I was invited last evening to the home of one of my teachers of Spanish, and had a preview of some of the slides that I have taken since leaving Portland, and even though I do not understand the Mexicans very well when they talk, I could gather from such words as "precioso" that they know a good picture when they see it.

Being the only person in the group of about eighteen who could not speak Spanish fluently, I felt rather lonesome some of the time. But during the showing of the pictures and the eating of the refreshments, I think that I did about as well as any of them.

I was shocked to learn that Jack Stevens was in the hospital. I hope that he has recovered before now, though a stroke can be very serious many times.

My present plans are to go north through El Paso and Socorro, New Mexico, and then head west and follow the "Mission Trail" through California, but I may have taken so many pictures by that time that I will want to leave the missions for a later excursion.

One of the local papers sent its star reporter out to the house this morning to interview me on my method of letting the years pass without getting old, and what changes I notice in Mexico since I was here in 1899-00. Being the oldest student in the summer school of the National University of Mexico seems to have brought me into a little local prominence, but that will be short-lived, as the registrar told me that an 83-year-old man from New York was in to see about attending the winter term.

I have made a note of Bates' address and shall plan on seeing them if they have not gone to Baltimore by the time I head north. The name, "Cloud View Road" reminds me of a trip we made two weeks ago to see Popocateptl and Ixtacchuatl. What we got was a cloud view. But we saw some very pretty country anyhow.

Miss Henley sent me a clipping about Hancock's latest diggings. He is getting to be well and widely known. And I think that I have you to thank for a copy of the News Letter with a photograph of Hancock's mastodon bone.

And that will have to do for this time.

Sincerely yours,

Orrin E. Stanley

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COLUMBIA RIVER TRIP, AUGUST 23, 1953

Clouds and intermittent rain failed to dampen the spirits of those on the Columbia River trip Sunday. Forty-three GSOC members and friends filled two boats, which left the Washougal dock shortly after 9:00 a.m. Dr. Ewart Baldwin, of the University of Oregon, a special guest to enlighten us on the various geologic features seen along both shores of the river, was stationed on one boat on the up-river trip and on the other boat returning. There being no facilities for loud speakers on either boat and due to engine noise, only those who could get close enough were able to hear what he had to say on the trip. The party landed on Pierce Island for lunch. From this point the Bonneville installation could be seen.

As we went up the river, Dr. Baldwin pointed out Chamberlain Hill, capped by andesite flows overlying the Troutdale formation; Prune Hill, of Boring andesite; Mt. Zion, a Boring flow overlying the Troutdale, the Troutdale in turn resting on Columbia River basalt. Mt. Zion quartzite pebbles are spread over the fields. At Corbett the Coriba - brickbat type - begins to appear, and at Crown Point the Troutdale is still on top of the Coriba. The canyon up Bridal Veil, as far as the old Palmer mill, is very quartzitic. Silt and fine sand characterize the road to Larch Mountain. This silt covers the Portland hills quite deep, as much as 100 feet in places. In some localities homes are sliding on this silt on the Portland hills.

At Nesmith Point, the Troutdale is at an elevation of 2200 feet. The silts are Plio-Pleistocene. At Cape Horn the Palisades are a fine exposure of brick-bat Coriba beneath the Troutdale, with Boring probably on top. Phoca Rock, protruding prominently from the water, is the remains of a landslide. The Columbia River in Pleistocene time was considerably lower than at present. Beacon Rock, an excellent example of a monolith, was a vent feeder during the Cascade vulcanism. On the Washington side was seen the Prindle channel, going through the Troutdale. Other features noted were a brickbat Coriba cliff and a large sand bar covered with greenery which gave it the appearance of an island.

The party returned to Washougal at 2:30, after a very enjoyable trip.

EMB

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LUNCHEON NOTES - SEPTEMBER 3, 1953

Nineteen members and guests were present at today's luncheon. We were happy to have Mrs. Stanley Shirk with us for the first time, but we hope not the last. Miss Hughes brought as her guest her niece, Margaret Hughes. Stanley Shirk passed around copies of a brochure, published by the Museum of Science and Industry, depicting some of their activities. Mr. Erickson had a copy of Life Magazine containing an article entitled "Two Billion Years of Evolution," the fifth in a series published by Life and is a very fine article, well illustrated.

THE CRATER OF THE FIRST ATOMIC BOMB - AFTER 8 YEARS

By

Ford and Alice Wilson

Two of your New Mexico reporters had the unusual experience of visiting, on September 6, 1953, the site of the first atomic bomb explosion. This opportunity came through the courtesy of an invitation from the Alamogordo Chamber of Commerce, which arranged a caravan to the site. It was the first public inspection to be permitted.

We left Gallup at 4 o'clock in the morning, driving under a clear starry sky. After a breakfast stop in Belen, we reached Socorro, mile 192.0, at 8:30. We found the John Allen family at home and stopped for a brief visit. It was, of course, just another impromptu meeting of the New Mexico branch of the GSOC.

South to San Antonio, mile 201.3, and east to Bingham, mile 229.4, brought us to the caravan assembly point. We were early and so had plenty of time for lunch.

The caravan, under military escort, started at 12:20 from Bingham, going westward toward San Antonio. We were near the middle of the line of cars, which extended for more than two miles. At mile 247.5, we turned south on the Bruton Ranch road. The military reservation restricted area was reached at mile 252.3.

Traveling approximately south along a flat valley floor to mile 266.4, and then east to mile 270.2, brought us at 2:15 to the high fence which encloses the explosion area. This lies at the base of the Oscura Mountains. The gate was opened and caravan cars were parked inside. The crowd of several hundred persons had then to walk only a short distance to the center of the shallow crater. Major C. L. Jackson of Holloman Air Force Base, Alamogordo, standing on a low mound there, discussed briefly the features of the area. Cameras were much in evidence, including our own. For reference, some excellent photographs of the site were published in Life Magazine, issue of September 24, 1945.

Heat from the blast fused the desert soil to form a greenish vesicular glass. Many GSOC members are familiar with it, thanks to the courtesy of Dr. Allen. The glass crust originally occupied a circular area some 2400 feet in diameter. All of it, with the exception of a few small fragments, has now been removed by the government, and the area is seeded to grass.

At the crater center, we saw four shattered concrete pillars and some twisted steel, all that remains of the 100-foot steel tower which supported the bomb on that fateful morning of July 16, 1945.

Most persons of the caravan walked around the crater silently, as if in awe at being in the birthplace of the Atomic Age. Slowly, group by group, they returned to their cars and departed.

We returned to Socorro for the night, then on the next day drove to Gallup by way of Magdalena, Quemada, Springerville, and the Zuni Indian reservation.

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FIELD TRIP - SUNDAY, SEPTEMBER 13
(Hood River to Celilo Falls)

Thirteen cars of GSOC members and friends assembled at a point some 2 miles west of Hood River. Here our trip leader, Mr. Sam Sargent, geologist with the Corps of Engineers, U.S. Army, pointed several interesting features. Across the river on the Washington side could be seen the Underwood lavas, of Pliocene or Pleistocene age, with outcroppings of Columbia River basalts (Miocene) visible at several points along the river. Near at hand a road cut had exposed a dipping flow of lava, which had originated nearby, probably from the Defiance Volcano. Overlying this flow was a fine example of pillow lava, caused by lava flowing into a lake formed by the damming of a stream by the previous flow. This is now mainly palagonite and clay with chunks of basalt.

The second stop was made just east of Hood River, where The Dalles syncline and the Bingen anticline across the Columbia River were observed. Here also were good examples of Underwood and Coriba lavas and Hood River gravels. We next stopped on the bank of the Columbia River just west of Mosier. Here pieces of granite erratics were found tightly wedged in the roots of stumps found along the shore, carried by the river from far up in Washington or British Columbia. The east limb of the Bingen anticline, The Dalles formation, and the Mosier syncline were pointed out by Mr. Sargent. The scouring action of the Spokane flood was plainly visible across the river on the Washington side, up to an elevation of some 900 to 1000 feet.

At Rowena Point a fine view was obtained of several flows of Columbia River basalt, overlain by The Dalles formation. Mr. Sargent discussed the possibility of the Columbia River having flowed at some time through the Satus Creek and Klickitat area. Directly across the river he pointed out Klickitat Mountain, formed of twisted and faulted flows of lava. Farther up river a section of thin lava flows had been tilted a full 90 degrees and were lying vertically, with their edges exposed.

The next stop was made a couple of miles west of The Dalles. At this point slickenside rocks were observed, indication of faulting, probably mostly of limited area. Across the river flow (in the sequence assigned the flows of lava by geologists working on The Dalles dam) was pointed out. Also terrace lines and the scab lands left by the Spokane flood. Near this point was the beginning of a huge fault extending eastward many miles, which had raised the Washington block some 2000 feet.

A very welcome stop was made at the beautiful little city park at The Dalles for lunch. The day had turned into a really warm one, and we thoroughly enjoyed lying around on the grass or sitting at the tables in the shade. Here Mr. Sargent pointed out flows, right alongside the park and told us that about 6 feet under the park there was an area of pillow lava. The Dalles formation, mostly agglomerate, caps the flows to the south. Dr. Jones gave some of the early history of Dr. Condon. After lunch we drove around Pulpit Rock, where Dr. Condon had preached many years before.

We next stopped at Fifteen-mile Creek, where the Spokane flood had cut through this gap and left huge deposits of gravel, boulders, etc. A few miles further on a whole hillside of this material was exposed. Granite erratics were found in it, indicating it had been carried in by the flood.

The last stop, and the most beautiful, was made at a point high above Celilo Falls. Here Mr. Sargent pointed out the Wishram bench and called attention to cleanly faceted lava flows, the talus material having been carried away by the

Spokane flood. Here we had a good view of Maryhill Volcano, of Pleistocene age, composed of dark olivine basalt. The falls and cascades of the river, with the Indians fishing from the rocks and platforms and a bird's eye view of the Indian village, formed a never to be forgotten picture.

The caravan broke up at this point. We are all grateful to Mr. Sam Sargent for his very capable leadership, and to Rudolph Erickson and Leo Simon for their part in scouting the trip and arranging with the weatherman for such a perfect day.

S.K.

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A LETTER FROM THE TREASHERS

Dear Leo,

Ray Mackenzie has just sent me a batch of literature about various things, including a copy of Pres. Ray Baldwin's letter about the gift for Mrs. Vance. I know that this offering is sadly late, but we couldn't let such a deal go by without wanting to add our mite. And sometime when convenient, we would like to have Mrs. Vance's address in Los Angeles.

Things go pretty well with us. The usual work-a-day with occasional trips to our "cracker box" on the lower Russian River. I've had two very nice work trips this summer to the City of San Francisco's dam site on Cherry Creek, just outside the west border of Yosemite Park - part of the general Hetch Hetchy development. A 350-foot earth-fill dam for flood control and power. The foundation has been stripped to good granite that is severely jointed with numerous flat-lying sheet joints. The problem was to pump cement grout into the foundation to cut down possible percolation of water through the foundation. I went up there as an "expert" on grouting foundations. I had a wonderful time; whatever good I did the Project is something else. Lots of evidence of glaciation and some of the most weird changes in mineral texture and composition in granite I've ever seen.

Jessie and I just got back from a week's trip to Chicago where we went on the occasion of the death of my brother. We flew United DC-6 planes both ways. The middle west is a big and beautiful country, but so help me, the prettiest part of the trip was over the Sacramento Valley. Maybe we are just prejudiced in favor of the west. We had a chance to visit the Chicago Museum of Natural History, truly a wonderful experience. Thought I knew quite a bit about earth's history, but discovered that I was just an amateur.

Best wishes from both of us to you and yours and also best regards to all who remember us in what we've come to think of as the Best Society in the country.

Sincerely,

Jessie and Ray Treasher

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MONDAY NIGHT MEETING - SEPTEMBER 14, 1953

Geological Society members were guests of the Portland Astronomical Society tonight at Library Hall. Those who failed to attend missed one of the finest lectures it has been our privilege to hear.

Mr. James H. Karle, of the Department of Physics of Lewis and Clark College, spoke on "Measurement of Distance and Velocity in Astronomy." This might sound like a dry subject to some, but Mr. Karle, through his excellent presentation of his subject, well illustrated by blackboard drawings and later by slides, held his audience spellbound for nearly two hours.

He started with the parallax system (a triangulation method) used in measuring the distance of the moon and other members of our own solar system. Radar has since been used to check the distance to the moon and has proved the accuracy of the parallax method. Since this system is accurate only for nearby objects, other methods are used in measuring more distant stars. Through spectroscopic study of the composition of many stars of medium distance a law of spectro-classification was developed. By assigning stars definite positions on this scale, determined by their temperature and composition, starting with the red stars with a temperature of 1100 degrees absolute and grading up to the white and blue-white stars with 50,000 degrees absolute temperature, distances can be determined with 90 percent accuracy. In the far distant nebulae, measurement is made through application of a law developed from the study of the light given off by some of the variable stars through their various stages of luminosity.

Since the 200-inch Hale telescope at Palomar has come into use, it has been determined that distances outside our own galaxy are twice the distance heretofore assigned. The Mt. Wilson 100-inch telescope reaches out 100,000,000 light years into space and the 200-inch Hale telescope 200,000,000 light years. (A light year is 6-followed-by-12-ciphers miles.)

I am sure all GSOC members present thoroughly enjoyed Mr. Karle's lecture and thank the Portland Astronomical Society for their hospitality.

A.K.

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LUNCHEON NOTES

August 20, 1953

Today's attendance proves that GSOC members turn out best in rainy weather. A few sprinkles and clouds brought 19 members, including four ladies, Eleanor Gordon, Miss Hughes and her guest, Miss Willis, and Mrs. Ray Baldwin. Eleanor Gordon passed aroung a box of very fine leaf fossils, including ginkgo, which had recently been collected from new locations. One of these locations was on Thomas Creek at an elevation of 2200 feet and the other in the Cascades at an elevation of 4100 feet. She even gave approximate locations but they are very difficult of access. Rudolph Erickson brought a sample of weathered material from an area near West Linn, which Mr. Dole identified as bentonite. Tom Matthews passes around samples of bricks made from clays found in various parts of the State. A pink and two light-colored specimens would be of commercial value, Tom explained, but some of the others would be valuable only for filling holes. Lloyd Ruff, who is seldom able to get to our luncheons, brought along a sack of dumortierite collected on his recent trip to the San Diego Gem and Mineral Show. These were passed around with instructions for everyone to help themselves to a sample. Dr. Adams brought a book entitled Thomas Condon written by Condon's daughter, Ellen Condon McCornack. This is a very fine book. Dr. Adams has several copies which may be purchased for $2.50. The money taken in for them will go to help finance the Condon marker, which the Society is planning on placing later.

A.K.

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GEOLOGICAL NEWS LETTER

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Society Objectives

To provide facilities for members of the Society to study geology, particularly the geology of the Oregon Country. The establishment and maintenance of a library and museum of geological works, maps, and specimens. The encouragement of geological study among amateurs. The support and promotion of geologic investigation in the Oregon Country. The designation, preservation, and interpretation of important geological features of the Oregon Country. The development of the mental capacities of its members in the study of geology and the promotion of better acquaintance and closer association between those engaged in the above objectives.

Persons desiring to become members should contact the Membership Chairman, Mr. William Clark, 5237 N.E. Wisteria, Phone GA 3242. Annual dues are $3.50 for residents of Multnomah and adjacent counties; $2.50 for others; and $1.50 for Junior members. Remittance should be made payable to the Society.

Society Activities

EVENING MEETINGS: Formal lectures or informal round-table discussions on geological subjects, on the second and fourth Fridays of each month, at Public Library Hall, S.W. Tenth Avenue and Yamhill Street. 8:00 P.M.

FIELD TRIPS: Usually one field trip is scheduled for each month.

LUNCHEONS: Informal luncheons, with geological motif, each Thursday noon in Room 305, YMCA Building, S.W. 6th Avenue and Taylor Street. $1.00 per plate.

PUBLICATION: The Geological News Letter, issued once each month, is official publication.

CALENDAR FOR NOVEMBER 1953

Tuesday Nov. 3 — Library Browse Night - 1202 S.W. Cardinell Drive.

Thursday Nov. 5 — Luncheon Meeting - Room 305 - YMCA

Thursday Nov. 12 — Luncheon Meeting - Room 305 - YMCA

Friday Nov.13 — Friday Night Meeting - Library Hall - 8:00 P.M.
Mr. Bruce Schminky will finish showing his pictures taken on his recent trip to Mississippi and return.

Display - Mr. Lon Hancock will furnish the display for this evening. He has promised to bring some of his Clarno specimens, many of them very important scientifically.

This promises to be a very fine program and will be the only one in November.

Sunday Nov.15 — Trip to visit the Richard Rice collection at their home on Sunset Highway. Assemble just past the stop light at the top of the hill at Sylvan. Time - 2:00 P.M.

Thursday Nov. 19 — Luncheon Meeting - Room 305 - YMCA

Tuesday Nov. 24 — Library Browse Night - 1202 S.W. Cardinell Drive.
"Let's make this a <u>first</u> for some of you who have never attended <u>Library Browse</u>."

Friday Nov.27 — Friday Night Meeting at Library Hall has been canceled, due to proximity of Thanksgiving Holiday.

Tuesday Dec. 8 — Library Browse Night - 1202 S.W. Cardinell Drive.
This is your last chance to browse in the library until 1954.

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A LETTER FROM MRS. FLORENCE VANCE

Sherman Oaks, California

Dear Friends of the Geological Society,

I was overwhelmed to receive your generous gift and want to thank you all for it and for the friendship which prompted it. It is heart warming especially at a time like this to know how many friends Albert and I have. I am to move into my new home this weekend and will buy something nice for it with your check.

I hope if any of you are in the vicinity of Sherman Oaks you will stop and see me.

Thanking you again,

Sincerely,

/S/ Florence Vance

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LITTLE CRATER LAKE TRIP - October 11, 1953

Due to the previous days' bad weather, only five cars of Geesockers were on hand at the assembling point. Though lacking in numbers, these hardy souls greeted each other in fine spirits and, after waiting 15 minutes for late comers, got under way under the leadership of Leo Simon. Almost as a reward for courage the fog lifted as we were entering the town of Sandy, and a bright sun took over for the rest of the day. A stop was made at the eastern end of town, where Leo told us of the damming of the Sandy River and its break through and cutting of the present channel. Directions were given for observing the lower end of the glacial moraine near Sleepy Hollow.

The next stop was made at Laurel Hill, site of a former rock quarry of hypersthene andesite, originally a green color but now weathered to a plain gray. Here also we saw granitic dolomite, composing a bed part way up the hill. From Laurel Hill to Timberline Lodge the trip was amid the gorgeous riot of color of the vine maples and huckleberry bushes now in their autumn dress. After a brief rest the party climbed up the trail a short distance, where Mr. Simon pointed out some of the geology of the mountain. The absence of snow offered an excellent opportunity to study the lava flows, structures and weathering processes. With the aid of Ray Golden's telescope even some of the ice crevasses were brought into view and examined.

Reluctantly leaving this area we proceeded to the Salmon River forest camp, where we enjoyed lunch in the bright sunshine. Once again on our way east on U.S.26 to Olallie Lake Junction where we left the pavement behind us. We traveled three miles along this road to Abbot Road Junction and another three miles to Crater Meadows, our final destination. The recent rains had settled the dust, making this part of the trip more enjoyable. At the Meadows Campground a sign pointed the way to the crater. Guided by a line of white-topped stakes we made our way to the crater.

The sudden appearance of the lake, with its beautiful coloring and submerged trees, is almost startling. The colors range from indigo to light blue and green when viewed from different positions around the lake. The group seemed spellbound for a time. Although small in size, its color rivals that of Crater Lake in southern Oregon. A lovely sunset and a new moon provided a perfect ending to a perfect day.

Ray Golden

ANNIVERSARY OF INTERNATIONAL GEOLOGISTS' TOUR OF OREGON
(conclusion)

By
W. Claude Adams

Echoes of the Trip

The ladies of the party were good sports and climbed through the wire fences and did the stunts along with the rest of the crowd. When all those of different nationalities began talking at once, it was a veritable babel of tongues and posed a problem of conversation. It was a case of East meeting West, and North meeting South, for there were representatives on the tour from Asia and Europe, and from points in North America to the southern tip of Africa and the Argentine in South America. These people from foreign climes interested us greatly, all with differing backgrounds from ours, yet all having the common interest with us in geological science. Among them several personalities were particularly individualistic and their ideas and performances are therefore memorable.

A Jesuit priest, Pierre de Chardin Teilhard, a Frenchman residing in Shanghai, China, was a member of the National Research Institute and appeared to be extremely well informed in matters geological as well as anthropological. He had accompanied Roy Chapman Andrews on the Gobi Desert Expedition, as had also Dr. Ralph W. Chaney.

Sir and Lady Arthur Smith Woodward of Sussex, England, were typical English persons of the nobility class, dignified and rather unbending, but we found they could climb over or crawl under wire and rail fences like the rest of us. Back in 1911, Dr. Woodward of the Natural History Museum of South Kensington worked on the assembling of the fragments and restoration of the Piltdown skull, collaborating with Sir Arthur Keith, Hunterian Lecturer at the Royal College of Surgeons, and Dr. J. Leon Williams, a prominent American dentist then practicing in London. Mary S. Johnston, an employee at Kew Botanical Gardens in Surrey, England, had stories to tell of her work and her kindred interest in paleobotany.

There were four Japanese scientists with the group, and a few years later the Japs were fighting us. One of these Orientals was Count Muneyyori Terashima of Tokio, but at that time a junior at Princeton. He spoke English and French fluently and conversed with some of the other foreigners in their own language. He seemed to be quite enthusiastic about geology, as was his fellow-country man, Hirakawa-Cho, a teacher of geology in Tokio University. The count was tall and of very light complexion, while the other was short, stocky, dark, and very alert. The latter was everywhere, snapping pictures on the trip, exploring all the locations, climbing on top of every eminence, crawling under overhanging rocks and collecting specimens. The other two Japanese, Roku-Chome and Kojimachi-Ku, were more retiring and quiet, talked little, and were evidently out to learn.

The characteristics of the young Count came to the fore at the breakfast table at Prineville when S. K. Fox, a junior student at Princeton, was discussing with those at our table the color of Crater Lake and its probable cause. The Count said it was refraction of light and the other said it was due to reflection of light and shadow on the water. The Count got mad and said, "You're crazy. I won't talk with you any more," soon left our table and joined another group. His classmate, Mr. Fox, then told Mr. Ira Williams and myself what a time the members of the class had had with the young nobleman at first, in trying to accustom him to the democratic practices of the students in an American university. In order to break down his overbearing attitude, they had hazed him

unmercifully and he finally developed into a much better classman. We wonder where those men we met are today after the world-wide conflicts. Possibly they are engaged in searching for oil and strategic minerals. Would they be our friends or enemies now?

Since the personnel of the 1933 tour were internationally known scientists, publication of their names and places of residence may be of interest and also a matter of record. The names are as follows:

Members of the C-2 Transcontinental Excursion
Of the International Geological Congress

Ames, Lewis, Rochester, N.Y.

Bailey, Prof. E. B., University of Glasgow, Scotland.

Barbour, Dr. George B., University of Cincinnati, Cincinnati, Ohio.

Bertrand, Prof. Paul, Lille (Nord) France.

Cambier, Rene F. J., Brussels, Belgium.

Collins, Dr. W. H., Geological Survey of Canada, Ottawa, Canada.

Cueto y Rui- Diaz, Mr. E., Spain.

Foerste, Dr. A. F., U.S. National Museum, Washington, D.C.

Fox, S. K., Jr., Princeton, N.J., Junior student at Princeton U.

Goldring, Winnifred, New York State Museum, Albany, N.Y.

Grabham, G. Walter, Anglo-Egyptian Sudan, Africa.

Haggin, Louis Lee, Jr., Lexington, Ky.

Hall, Arthur L., Pretoria, S. Africa.

Howell, F. H., Hackensack, N. J.

Johnston, Mary S., Kew, Surrey, England.

Kettner, Prof. Dr. Radim, Geological Institute, Charles University, Prague, Czechoslovakia.

Leriche, Prof. Maurice, Uccle-Brussels, Belgium.

Lutaud, Prof. L., Paris, France.

Macar, Prof. F. J., New York City, N.Y.

Marelli, Dr. Carlos A., Buenos Aires, Argentina, S. America.

Marble, Mr. John Putnam and Mrs. Adelaide N., Chevy Chase, Md.

Pruvost, Prof. Pierre Eugene, Lille (Nord) France.

Renier, Prof. A., Brussels, Belgium.

Richter, Dr. Rudolf, Germany.

Smiser, Dr. Jerome S., Princeton University, Princeton, N.J.

Stefanini, Prof. G., Instituto Geologico R. Universita, Pisa, Italy.

Teilhard, de Chardin, Pierre, National Research Institute, Shanghai, China.

Terashima, Count Muneyyori, Tokio, Japan.

Roku-Chome, Tokio, Japan.

Hirakawa-Cho, Tokio, Japan.

du Toit, Dr. A.L. and Mrs. Evelyn Russel, Johannesburg, Transvaal, Union of S. Africa.

Van Straelen, Victor, Brussels, Belgium.

Winterman, David, Eagle Lake, Texas.

Woodward, Sir and Lady Arthur Smith, Sussex, England.

Zaruba-Pfeffermann, Prague, Czechoslovakia.

Others on the tour through Oregon:

Merriam, Dr. John C., Carnegie Institution of Washington, Washington, D.C.

Buwalda, Dr. John P. and Mrs., California Institute of Technology, Los Angeles, California.

Chaney, Dr. Ralph W., University of California, Berkeley, California.

Libbey, Dr. D. S., Government geologist at Crater Lake, Oregon.

Williams, Ira A., Consulting geologist and former Oregon State Geologist, Portland, Oregon.

Smith, Dr. Warren D., University of Oregon, Eugene, Oregon.

Packard, Dr. E. L., Oregon State College, Corvallis, Oregon.

Hodge, Dr. E. T., Oregon State College, Corvallis, Oregon.

Brogan, Phil F., Editorial Staff of Bend Bulletin and geological correspondent for The Oregonian, Bend, Oregon.

Sawyer, Robert W., Editor and publisher of Bend Bulletin, Bend, Oregon.

Bean, Ormond R., City Commissioner, Portland, Oregon.

Adams, W. Claude, Portland, Oregon.

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YOUR LIBRARY AND MINE

Vacations and preparation for the Gem and Mineral Show which proved to be such a successful event September 5, 6, and 7, were real competition for library browse nights. Only six members met August 25 but they kept busy looking for reference material on special subjects. Research included looking through "American Museum Novitates," pamphlets published by the American Museum of Natural History, which are bound in volume, separately indexed. They are technical treatises of geological and paleontological subjects. Taking my cue from one of the members attending that evening, I would like to suggest that you stop in at the library and familiarize yourself with their wealth of information. The Ed Bushby's later displayed a group of native copper specimens and two quite fine thunder eggs which they dug out of the Lawson's Ochoco red agate bed. Over "coffee and Ed Bushby's birthday cake," discussion centered around the possibility of setting up a sawing, grinding, and polishing outfit with a comparatively low financial outlay. It was proved that it could be done! (In words, that is.) Besides the education and sociability these library nights offer, they might even save you money!

Our September 22 browse night resembled a get-back-to-school meeting. One of the 17 members attending had driven up from Salem. Several members brought crinoid specimens from the Keasey formation near Mist, Oregon, and from locations outside of Oregon. A thank you to Leo Simon who led the discussion on "Crinoids," opening with a few minutes of very informative information regarding these fossils. Our "Jane" Erickson was the friendly and gracious co-hostess for our refreshment period. Mrs. Hancock ably accompanied the group which sang several GSOC songs. Come and join us in becoming acquainted with these verses, the words of which have been composed by our own members, then set to familiar tunes.

On October 6, after reading hour, Leo Simon set up his projector and showed slides taken on the recent trip by launches up the Columbia River. Considering the foggy, rainy day, the slides were excellent. Slides had been taken by Leo Simon, Eleanor Gordon, Ed Bushby, and Murray Miller.

One recent Saturday Mrs. Wilma Berg and Bob Wilbur assisted in the many duties that contribute towards the upkeep of the library. Many of the back issues of the Ore.-Bin, Mineralogist, Desert Magazine, and The Geode were bundled up preparatory to being bound into compact volumes. This process releases temporary binders for re-use and the bound volumes consume a minimum of bookshelf space. I wish to express my appreciation and thanks to these members for their help. Are there any more volunteers? Please call CA 2123.

Perhaps each member who has been attending these browsing sessions could bring one member who has never visited the library. Let's have good turnouts November 24 and December 8. Then no more library nights until 1954.

Yours in the interest of YOUR LIBRARY AND MINE,

May R. Bushby, Librarian.

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THOMAS CONDON

This year being the 100th anniversary of the arrival of Dr. Thomas Condon in Oregon, it was thought the following would be of interest to members of the Geological Society. This information has been compiled by Rev. Ernest R. Bellingham, of the Plymouth Congregational Church at St. Helens, Oregon. (Editor)

Condon Bancroft's Works. Volume XXX

History of Oregon. Volume II (1848-1888)

Congregational missions, (P 3&4) page 680

In January 1852 the Oregon Association held its third annual meeting, five ministers being present. It was resolved that George H. Atkinson should visit the eastern states to solicit funds for the educational work of the church, particularly of the Tualatin
* Academy and Pacific University, and also that other parts of Oregon should be pointed out to the home missionary society as fields for
* missionaries. The result in addition to the money raised, was the
* appointment of Thomas J. Condon and Obed Dickinson missionaries to Oregon, the former to St. Helen,1/ and the latter to Salem, where a church of four members had been organized. They arrived in March 1853, by the bark Trade Wind, from New York. Their advent led to the organization of two or more of what may properly be styled pioneer churches.

* . . .Condon went first to St. Helen, where the town proprietor had erected a school house and church in one, surmounted by a belfry with a good bell, and a small spire. This building, which is still standing, was not consecrated to the use of any denomination, but was free to all, and so remained. In 1854 Condon was appointed to Forest Grove. . . .In 1859 Condon organized a church at The Dalles, building in 1862. He remained at The Dalles for many years, leaving there finally to go to Forest Grove where his attainments in natural sciences were much in demand. On the opening of the state university he accepted a professor-ship in the institution.

* Home Missionary June 1853 page 45

. . .In view of these changes the Executive Committee have deemed it important to send additional laborers to this field. Accordingly commissions have been granted to Rev. Obed Dickinson & Rev. Thomas Condon who sailed from N.Y. in the Trade Wind on 13th of Nov. last and arrived in Oregon the end of March. . . .and the latter at St. Helens. . . .

The Home Missionary June 1853 page 49

* . . .It is now proposed to have Brother Condon locate at St. Helens. Brother Lyman will go down with him, and if things are as favorable as we have reason to suppose he will take Mrs. C. down soon. It is on the Columbia, and the depot of the Pacific Mail Company's ships. Ships of large draught can get there, and not higher very easily. It has increased one half since May 1st.

1/ Obed.
St. Helen - (no s); Condon went first to St. Helen - (s was added and crossed out).

The Home Missionary September 1853 page 116

From Rev. Thomas Condon, St. Helens.

St. Helens is built on a bluff of porus volcanic rock, on the left
* bank of the Columbia, 80 mile from its mouth, and 20 below that of the Willamette. It has no other natural advantages than its position. The difficulty which ocean steamers find in navigating the Willamette led the Pacific Mail Co. to desire a stopping place for their ships on the Columbia; and St. Helens was found to be the nearest secure point to the Willamette. . . .The Company are now erecting wharves & warehouses to accomodate their commerce. These circumstances, it is expected, will make the place a center for trade and influence for an extensive region. It was on this account desirable as a mission post.

We came here, found a hearty welcome which has not grown cold, and trusting that in it God was giving us a promise of future usefulness, we have worked on in our humble way cheerfully.

We found a village of some 20 families with no other public building than a nine pin alley and a bar room; there was no schoolhouse & no school.

On our arrival, the proprietor of the claim on which the village is built immediately set about preparing materials for a schoolhouse, and soon erected, at his own expense, a pleasant and comfortable building, large enough to accommodate our congregation. In this building we meet for worship on the Sabbath and in it we have a school for 20 scholars through the week. Our Sabbath congregation has steadily increased and thus far has been composed of attentive hearers. . . .

Our Methodist friends have preaching here once in 3 weeks. On that day I leave St. Helens to them and preach at Scappoose settlement, eight miles S. West; on the afternoon of the Sabbath which I spend here,
* I preach at another settlement less than 2 mile distant.

- - - - - - -
* mile.

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FRIDAY NIGHT MEETING - September 25, 1953
Schminky Vacation Trip

Members and guests had a treat this evening. Bruce Schminky showed colored pictures taken on a recent vacation trip to Mississippi and return this last summer. The pictures revealing the scenic, historic, and geologic features of the western and southwestern parts of our country were excellent. Bruce was unable to finish showing his pictures, as the time alloted to the evening's entertainment was cut short by a United Fund program.

The display of the evening was put on by the entire family: Mrs. Schminky, Alice May, and Bruce. It consisted of interesting rock and mineral specimens collected from various areas, as well as pictures, folders, maps, and other descriptive matter concerning the localities visited on their trip.

Both the pictures and display were thoroughly enjoyed. We are looking forward to seeing the balance of Bruce's pictures in the near future.

S.K.

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EXCERPTS FROM LETTERS WRITTEN BY MR. ORRIN E. STANLEY

Mexico City

My landlady is a teacher of Spanish at the summer school and her daughter is the registrar. I should have a good chance to practice my Spanish in that household.

The streets here are named for historical characters, I believe, or for people in power at the time, and they only run for a few blocks before they change their names to something else. Confusing, and not amusing. But it is one of"them things."

The beautiful building shown on the card (Palacio de Bellas Artes) is still sinking, they say. The tops of autos parked around it are below the sidewalk level. It seems to have the local engineers stumped. Maybe I can get a job raising it, or at least stopping its sinking. Not that I know a thing about what should be done, but even so, I might get the job and make a try. I guess that the big mistake was made in starting the city in an old lake bed instead of on some of the nice solid places that one must pass to get here from Oregon. The geology here is pretty badly mixed up, and I shall not try to untangle it this summer. I will have my hands busy struggling with the Spanish verbs and idioms.

A week ago our "whole family" went for an excursion to Cuernavaca. The other roomer, who is in the summer school brushing up her Spanish, offered to buy the gasoline for the trip, and the women thought they had more confidence in Rosa's (my landlady's daughter) driving in Mexican traffic than in mine, and I enjoyed sitting back and looking at the scenery, of which there was a great plenty.

We crossed the continental divide at an elevation of 9869 feet. I was particularly interested in the old "Camino Real" (King's Highway) which the automobile road crosses several times. The old road was paved with large boulders, but they were laid with such care that the pavement is fairly even, though of course rough according to modern standards. It took a more direct route, since the oxen could climb the hills at about the same rate that they traveled on more level roads, and the new road has tried to keep within the limits of the modern automobile engine. There is a still newer highway between the two cities, but it is a high-speed toll road, and we were out to see the country. I shall doubtless try it later.

On Thursday the entire school is invited out to "University City" to inspect the new and very wonderful buildings that are being built as a home for the University (of Mexico) which is now scattered throughout the city so that I doubt if any one person knows where all of the buildings are. We passed University City on our way to Cuernavaca a week ago. The buildings are of the extremely modern type, of which there are many throughout the City of Mexico. The library is a mosaic of variously colored stones.

The weather here has been on the chilly side since the rains began, which was about the time I arrived. This is the "rainy season," though, as our history professor remarked: "The rainy season is dry, and the dry season is wet, but Mexico is an arid country on the whole." I do not entirely agree with him, for some of the showers we have had have been very wet indeed.

Market days are usually only on one day of the week for each town, and I find them very interesting to visit. In Toluca the day is Friday, and many people drive out from Mexico City to shop there for farm products. It is about

40 miles west of here, over a summit 10,000 feet above sea level. There are some lovely pine trees in the high country, and some steep and crooked roads, but the pavement is good, and the curves and steep places are adequately signed.

Toluca is a clean town with straight and well-paved streets, even if some of them are quite narrow. The market occupies a cobble-stone paved square in front of a church and extends for blocks down several streets which have four rows of "booths," one on each walk and two down on the pavement; there are walkways between the rows. As it was raining, canvas awnings had been stretched over most of the displays of everything one could think of. The pottery displays were in the open, as were the sheep and pigs. I exposed a lot of film and am hoping that I got a fair representation of the market.

Turkeys and chickens were tied by their legs and carried home in bundles of two or more, dangling from the purchaser's hands or swung over his or her shoulder. Pigs were usually driven or towed; the most usual method was to have a rope tied to one of the hind legs, and the beasts were prodded along the street. One woman had swung her purchase over her shoulder in her rebozo, with its head sticking out at the top like most women carry their babies. I am sorry that I missed that shot.

There were displays of soap of various colors, stacked as high as one's head. The **rebozos** and **serapes** were hung to show them off to the best advantage. I stuck closely to photography until I was about ready to leave, when I broke down and bought a couple of cheap, plain baskets. That seemed to be a sign that I was a buyer and I was besieged by women, men, and girls to buy what they had, whether baskets, boxes, chess men, or lottery tickets. On the way into town I had refused the services of boys who wanted to guide me to the market, telling me that the prices there were too high and insinuating that they could help me buy cheaper. But I told them that I was just taking pictures.

Ordinarily I do not like to haggle over prices. I pay what is asked or go without. But this time I broke down and haggled with the best of them. A set of chess men made of cows' horns attracted my attention. The price was 22½ pesos, and I said I would pay ten. The man was not interested, and neither was I, so I started away. He then came down to twenty, and I started away. He asked a woman who appeared to be the owner and she said eighteen, and I kept on going. We finally compromised on fifteen-fifty, and I don't know yet, whether I got stung or not. Not very badly, at any rate, for it only amounts to $1.80.

About four o'clock I began to feel that I had neglected something, and realized that the something was lunch, so I hunted up a restaurant and sat down at a table. A waiter in a dirty white jacket looked at me and grunted. Soon he brought a dish with two hard rolls, and didn't even grunt. Then he brought a plate of hot soup that was very good. When I had finished the soup he brought a little plate of rice and another of salad consisting of one black pepper on a bed of shredded lettuce. I ate the rice and waited again. The main course was beefsteak, well done and fairly tender, with potatoes that appeared to have been fried several times but were still edible. When I had eaten of the potatoes and meat I waited again. This time he asked me if I wanted a "dulce," and when I said I did, he brought a little slice of what tasted like jellied apple jam. After a long consultation with the boss who sat behind a high counter so just the top of his head was visible, he brought the check for 3.45 pesos (40 cents). He looked more like a brigand than any other man I have met in Mexico.

Acapulco may be all right for a person who flies in and stays at one of the swell hotels, and taxis to the beach for a swim, but it was too hot for me. I

drove out into the cocoanut groves and corn fields, but that was not very interesting compared with some of the mountain scenery between here and there. Taxco, particularly, was literally "lousy" with "platerias" as they call the silver shops, but Taxco is noted for its silver work. I spent four nights there, and about three days, on my way to Acapulco and back, and like the place very much.

In one village where I stopped for lunch I observed the "city water works" in operation. A man had a small tank on a two-wheeled cart with one horse. He drove into the river and dipped water into his tank with a 5-gallon oil can, and delivered it by letting the water out of a spout in the bottom of the tank into his cans. He used a wooden plug wrapped with a rag instead of a faucet on the outlet pipe. But the place where he dipped up the water was down stream about a hundred feet from where a bunch of boys were swimming, and they were swimming down stream about 50 feet from where a lot of women were doing their laundry work in the edge of the river, and all this was down stream a little way from the ferry crossing and where people on foot and horseback were fording the stream. It didn't appeal to me as sanitary!! I really prefer the Portland system.

Monday, August 17, I started to Vera Cruz, getting as far as Puebla. Of course I made many stops for pictures, and when taking one of "Popo" I looked down at my feet and saw a small "bird's head" made of burnt clay. It is an inch long, and half an inch broad at the widest part. The bill is half the length, and the top of the head is made up of fifteen little rounded knobs which I suppose represent feathers. There is no neck. I would very much have liked to find other parts of the critter. That started me to looking for other relics of the ancient life in Mexico, and I found several pieces of pottery. A sheep herder was interested in what I was doing, and a little later he brought me several additional specimens.

The second night I was at Fortin de los Flores, where the hotel swimming pool is partly covered with gardenias for the guests to swim among. This is a small town near Orizaba. While wandering in the hotel owner's private estate, a dog took a nip at my calf, but no evil results followed except to the dog which was stoned by one of the gardeners.

Vera Cruz, where I spent the nights of the 19th and 20th, is where Cortez landed when he began his conquest of Mexico. The Gulf of Mexico was prettier than I had hoped for. The water was a nice blue and it lapped the sand much as the Pacific does the Oregon beaches. The weather was too hot to be enjoyable. Most of the folks appear to eat in the sidewalk restaurants around the plaza. I ate myself half way around without getting a very satisfactory meal. Maybe I started around in the wrong direction.

The highway between Puebla and Vera Cruz is very spectacular in places. It wiggles down the mountainside into a very deep valley in a comparatively short distance. I was glad that I had good brakes. My photographs of the road do not give nearly the whole story.

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LUNCHEON NOTES - August 27, 1953

Fifteen members were present at today's luncheon. Letters from Orrin Stanley, the Treashers, and the Bartows were passed around. Lon Hancock brought parts of tusks and three teeth found 3 miles east of Mosier by T. E. Morganson of Hood River. These were identified by Dr. Shotwell as Pleistocene mastodon, one of the teeth coming from a young elephant and the others from a full grown one. Mrs. Jones passed around the following books: Earth Song, by Charles E. Camp, published by the University of California Press; Meaning of Evolution, by George Gaylord Simpson; and Evolution of the California Landscape, published by the California Bureau of Mines

A.K.

FRIDAY NIGHT MEETING - October 9, 1953
Lava Beds National Monument

Dr. Ruth E. Hopson showed colored slides and spoke on the interesting features of the Lava Beds National Monument in northern California. She had spent the last summer there as naturalist for the Park Bureau. She described many geologic and geographic features of this area. The lava formations are thought to be very new geologically, most of them being of Recent and none older than Pleistocene in age. Many and varied caves were described, some containing ice crystals and interesting lava formations. Her experiences of the summer proved to be very interesting. I beleive most of those in the audience privately determined to visit the caves in the near future.

Her display of lava and pumice was very interesting. These specimens will be on display at the Portland State College.

The use of a public address system for the first time enabled the large audience to more thoroughly enjoy the fine program.

S.K.

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LUNCHEON NOTES

September 17, 1953

Our attendance today was fourteen. We were glad to welcome back Dr. Ruth Hopson, who had spent the summer as naturalist at the lava-bed area near Tulelake, California. She reported the caves and formations were very interesting, but her duties permitted only a limited time for exploration. She is going to tell us about some of her experiences, and show slides, at our meeting of October 9. Mr. Libbey brought a piece of pumice filled with small particles of iridescent material. Ada Henley passed around a piece of carnelian agate. Stanley Shirk announced the annual business meeting and dinner of the Oregon Museum of Science and Industry would be held November 17. The location has not yet been decided. A.K.

* * * * *

September 24, 1953

A small group of ten made up the personnel of the luncheon today. They were Messrs. Kelham, Erickson, Keen, Hancock, Elder, Simon, Schminky, President Baldwin, Dr. Ruth Hopson, and Mrs. Barr. . .The matter of finding a suitable granite erratic on which to place a plaque honoring Dr. Thomas Condon in Eugene, was discussed by Mr. Baldwin. He had some small samples of granite from sites visited. . .Mr. Hancock passed around several bulletins published by the Smithsonian Institution and presented to him by Dr. Roland Brown, their author, a recent luncheon guest. These bulletins described Tertiary flora in the states of Washington, Oregon, and Idaho, and some other localities. Mr. Hancock stated that he observed a great similarity in the fossil flora in all of this area. He also had a publication, sent to him by Dr. Brown, titled Algal Pillars, Miscalled Geyser Cones; and a small booklet which elicited a lot of interest: Materials for Word Study, a history and manual of roots and derivatives in the English language. He showed a small specimen, hard to describe and so far unidentified, from Toppenish Ridge, Toppenish, Washington. . .Mr. Erickson had a fine specimen of leaves and metasequoia cones found in the Thomas Creek area, east of Scio, by Mr. John P. Walsted, of Lebanon, one of our new members. . .A recent letter from Orrin E. Stanley, now in Mexico, was passed around by President Baldwin. . .Leo Simon displayed a piece of obsidian containing small rhyolite spherulites which came from Mexico.

E.M.B.

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	Dr. Ruth E. Hopson	4709 N. Willamette Blvd.		TW	3441
	Miss Margaret L. Steere	2064 S.E. 72 Avenue	16	VE	0917
	Mrs. William Clark	5237 N.E. Wisteria	13	GA	3242
Library Editor:	Mrs. Edward Bushby	1202 S.W. Cardinell Drive	1	GA	2123
Business Manager:	Mr. Edward Kelham	14018 S.E. Linden Lane	22	EV	1-2196

Committee Chairmen

Programs:	Mr. F. W. Libbey	Service:	Miss Margaret Steere
Field Trips:	Mr. Leo F. Simon	Museum:	Dr. J. C. Stevens
Membership:	Mr. William F. Clark	Public Relations:	Mr. C. D. Phillips
Publicity:	Mr. H. Bruce Schminky	Librarian:	Mrs. Edward Bushby
Social:	Mrs. William F. Clark	Historian:	Miss Ada Henley
Research:	Mr. Rudolph Erickson	Display:	Mr. Albert Keen

Society Objectives

To provide facilities for members of the Society to study geology, particularly the geology of the Oregon Country. The establishment and maintenance of a library and museum of geological works, maps, and specimens. The encouragement of geological study among amateurs. The support and promotion of geologic investigation in the Oregon Country. The designation, preservation, and interpretation of important geological features of the Oregon Country. The development of the mental capacities of its members in the study of geology and the promotion of better acquaintance and closer association between those engaged in the above objectives.

Persons desiring to become members should contact the Membership Chairman, Mr. William Clark, 5237 N.E. Wisteria, Phone GA 3242. Annual dues are $3.50 for residents of Multnomah and adjacent counties; $2.50 for others; and $1.50 for Junior members. Remittance should be made payable to the Society.

Society Activities

EVENING MEETINGS: Formal lectures or informal round-table discussions on geological subjects, on the second and fourth Fridays of each month, at Public Library Hall, S.W. Tenth Avenue and Yamhill Street. 8:00 P.M.

FIELD TRIPS: Usually one field trip is scheduled for each month.

LUNCHEONS: Informal luncheons, with geological motif, each Thursday noon in Room 305, YMCA Building, S.W. 6th Avenue and Taylor Street. $1.00 per plate.

PUBLICATION: The Geological News Letter, issued once each month, is official publication.

CALENDAR FOR DECEMBER 1953

Thursday Dec. 3	Luncheon Meeting Room 305 YMCA
Tuesday Dec. 8	Library Browse - 1202 S.W. Cardinell Drive
Thursday Dec. 10	Luncheon Meeting Room 305 YMCA
Friday Dec.11	Night Meeting - Library Hall - 8:00 P.M. Dr. Stauffer of Lewis and Clark College will speak on the Wallowa region.
Thursday Dec. 17	Luncheon Meeting Room 305 YMCA
Thursday Dec. 24	Luncheon Meeting Room 305 YMCA
Thursday Dec. 31	Luncheon Meeting Room 305 YMCA

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NEW MEMBERS

		Phone
Baker, Mrs. Lois I. (Law Librarian, School of Law, University of Oregon)	541 W. 16th Street, Eugene, Oregon	5-5870
Douglas, Gaines P.	9732 S.W. 35th Drive, Zone 19,	CH 9960
Ransom, Maud Barroll	3317 S.W. 10th Ave. Apt. 4 " 1,	AT 1738
Sargent, Samuel C. (U.S. Army Engineers)	The Dalles, Oregon	

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MINERALOGIST MAGAZINES WANTED

We have in our Library files of Mineralogist Magazines from 1933 to and including 1947, with the following missing: first 11 copies of 1933, February 1936, April 1945, and October 1946.

If any members wish to donate to our library any of these missing numbers we would be glad to receive them. To any members who wish back numbers of the Mineralogist to complete their files, we have duplicates for some issues of 1936, 1937, and 1938 we would be glad to give them.

Ray Baldwin

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HOLIDAY GREETINGS

Let us be thankful for the good things we have all enjoyed throughout the past year, and look forward with confidence to the coming New Year. I wish to each and every member of the Geological Society of the Oregon Country a Merry Christmas and a Happy and successful New Year.

Your President
/s/ Raymond L. Baldwin

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MRS. JOHN C. STEVENS

We regret to announce the passing of Nancy Canning Stevens, wife of John C. Stevens. Mrs. Stevens died at her home, 434 N.E. Royal Court, Thursday morning, November 5, 1953. She was born September 8, 1877, in Monmouth, Illinois, and came to Portland in 1906. Besides the widower, she leaves a son, Robert J. Stevens, Portland, and three daughters: Mrs. Jane C. Hackman, Mrs. Audiss E. Smith, both of Portland, and Mrs. Donald B. Hay, San Francisco. Funeral services were held Saturday, November 7, in Finley's Morninglight Chapel, with private commitment at Portland Memorial.

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NOMINATING COMMITTEE APPOINTED

At a meeting of the Executive Committee of the Geological Society of the Oregon Country held November 7th the following members were appointed to the Nominating Committee for officers of our Society for the year beginning March 1, 1954:

Chairman - C. D. Phillips
Mrs. Rudolph Erickson
Miss Myrtice Fowler
Lloyd Ruff
H. F. Travis

Officers to be elected are:

President
Vice President
Secretary
Treasurer
One Board Member
Editor of News Letter

The Committee is to file with the Secretary not later than December 15 one nominee for each of these offices.

Raymond L. Baldwin
President

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LAVA FLOOD PLANTS MARK

By
Phil F. Brogan

Awesome "rim" mountains of south-central Oregon hold the story of one of earth's greatest lava floods. These mountains are the great scarp structures typified by the 5000-foot Steens and the lofty, lichen-painted rims that mirrored in Abert Lake. They are the mountains that were formed long ago when a lava plateau buckled under the terrific pressure, then broke into a strange mosaic of fault blocks, some of which reach across counties. In the scarps of these mountains, towering rims of which are occasionally hidden in drifting clouds, is the spectacular volcanic story of south-central Oregon. It is a story, geologists say, that goes back to the "dawn age" of the Oregon Country - that period when Clarno volcanoes blazed to the north. But in these "book cliffs" of southeastern Oregon, the story of the Clarno, John Day, and Mascall volcanoes can be traced only faintly. It is hidden by the colossal volcanism of that period of time known as the Pliocene.

It was in the Pliocene that outpourings of lava occurred in the "lake province" of south-central Oregon on a vast scale. The fluid lava buried old volcanoes, obliterated valleys and river gorges. The entire region became a hummocky plateau. "Among the first Pliocene volcanoes in this part of Oregon were those whose products are now revealed along the foot of the great scarp of Steens mountain," Dr. Howel Williams, University of California geologist, noted in his Ancient Volcanoes of Oregon. Those old volcanoes were often explosive. They dumped ash and pumice into old lake beds. Lava from the cones was very fluid and spread as thin sheets over surrounding country. "It was during middle Pliocene time that the vast voluminous eruptions took place," Dr. Williams said. "These were fissure eruptions like those that had produced the Columbia River lavas in Miocene time, and they were on a scale almost equally grand." Because the Pliocene lavas are now so grandly exposed in the Steens mountain scarp, south of Burns, they are known as the Steens basalts. (From The Oregonian, November 1, 1953.)

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HELP WANTED IN LOCATING FOSSIL LEAF LOCALITIES

Fossil leaf localities in the Cascade Range are wanted. Precise locations of all known fossil leaf outcrops in the western Cascade Range and its foothills are needed if the State geologic map is to show this geologic province in more than the most general terms. Therefore a plea is made to all to send accurate detailed instructions on how to reach any leaf locality which you know. If sufficient localities are reported it is planned to have each visited this summer by Dr. Rowland Brown, paleobotanist with the U.S. Geological Survey. Be a contributor to the construction of the State geologic map by sending your location information to H. M. Dole, Oregon Department of Geology and Mineral Industries, 1069 State Office Building, Portland 1, Oregon.

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PAPERS BY DR. ROLAND W. BROWN
Donated to Library of Geological Society
Of the Oregon Country

Reprinted articles

1. An Oligocene evergreen cherry from Oregon
2. Fox Hills and Hill Creek strata in the Bear Paw Mountains, Montana
3. A Pleistocene pearl from southern Maryland
4. Salt ribbons and ice ribbons
5. Further additions to some fossils flora of the western United States
6. Cretaceous fish egg capsule from Kansas
7. The Genus Glyptostrobus in America
8. Pliocene planets from Cache Valley, Utah
9. Some American fossil plants belonging to the Isoetales
10. Temperate species in the Eocene flora in the southeastern United States
11. Triassic plants in South Brazil (Portugese)
12. Ecology of nonalgal marine plants
13. Field identification of the the fossil fern called Tempskya
14. Edward Wilber Berry - An Eulogy

Professional Papers

1.	American Cretaceous ferns of the genus Tempskya	186-F
2.	The recognizable species of the Green River flora	185-C
3.	Cretaceous plants from southwestern Colorado	221-D
4.	Fossil plants from the Colgate member of the Fox Hills sandstone and adjacent strata	189-1
5.	Additions to some fossil floras of the western United States	186-j

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DR. CHANEY TO DONATE PAPERS

November 5, 1953

Dear Mr. Erickson:

I shall send you this afternoon several of my old publications which are no longer available for distribution except in limited numbers. Throughout my life I have set aside three copies of most of my papers. It seems to me that the Library of the Geological Society of the Oregon Country is as good a place as I shall ever find for depositing a fairly complete set of my papers. Others can perhaps be secured from the Carnegie Institute of Washington. I think both Andrews' Ancient Plants and Arnold's Introduction to Paleobotany are desirable additions to your library. There are two small books by Janssen published by the Illinois Geological Survey, which will be useful for reference to Carboniferous plants. Then there is Noe's Ferns, Fossil and Fuel, a small book published by Rockwell which is also of popular interest.

I am glad to know that the Society is building up its library and hope the publications I am sending will be of interest.

Sincerely yours,

/s/ Ralph W. Chaney
University of California

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WHAT'S NEW IN READING

Quicksilver deposits of Steens Mountain and Pueblo Mountains, southeast Oregon, by Howel Williams and Robert R. Compton. U.S. Geological Survey Bulletin 995-B, 1953. May be obtained from Superintendent of Documents, Government Printing Office, Washington 25, D.C., for 65 cents.

The report is a continuation of the preliminary investigations made in this area by C. P. Ross in 1942 (published as U.S. Geological Survey Bulletin 931-J), and presents a more detailed study of the geology and mineral deposits. There are 76 pages, a geologic map, and various sketch maps. A brief resume of the report is as follows:

The Steens and Pueblo mountains form a spectacular topographic feature on the plateau of southeastern Oregon. The two ranges trend north-south in a continuous line for nearly 90 miles and are part of a large tilted fault block which rises gradually from Catlow Valley on the west to a maximum height of 9,354 feet above sea level and then drops precipitously as much as 5000 feet to the floor of Alvord Valley. The mountains are composed chiefly of Tertiary volcanics, but at the far southern end they are made up of metamorphic and igneous rocks, some of which are presumed to be of Paleozoic age.

The most abundant primary ore minerals are schwatzite and cinnabar (both mercury minerals) and chalcopyrite. Many of the secondary minerals are copper minerals such as chalcocite, covellite, malachite, azurite, and chrysocolla. The cinnabar occurs in two forms: as a bright red secondary earthy material associated with schwatzite, and as minute particles in veinlets of pink opalite. Total production of quicksilver has been only about 55 flasks. The authors believe that future production is not likely to be greater as low-grade ores are of small tonnage and high-grade ores are too dispersed.

M.L.S.

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FIELD TRIP - NOVEMBER 15, 1953
Visit to the Richard Rice Home

Some sixty members of the Geological Society enjoyed a delightful caravan trip Sunday afternoon. Assembling at Sylvan, the caravan was led by Leo Simon along the Sunset Highway to the new home. Here we were guests of Mr. and Mrs. Richard Rice, who opened their beautiful home for inspection. The large display room in the basement was filled with one of the finest collections of minerals, crystals, and cut and polished specimens we have ever had the pleasure of seeing in a private home. The large and well-lighted display cases were of special construction designed to show the specimens to their best advantage. Richard's collection represents many years of collecting and many hours of cutting and polishing.

The rest of their beautiful home was probably enjoyed nearly as much as the display room, possibly even more by the ladies. They myrtlewood woodwork was especially noteworthy.

In addition to all the above, "coffee and" was served in the snack bar. The gracious hospitality of Mr. and Mrs. Rice will long be remembered.

S.K.

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FRIDAY NIGHT MEETING - October 22, 1953
Northern California and Southern Oregon Coast

Dr. Gilchrist of Lewis and Clark College took us on a vacation trip along the southern Oregon and northern California coast as far south as the San Francisco area. His lecture was illustrated with colored slides and covered many of the geological features of this part of the country. Dr. Gilchrist, through his familiarity with the bay area, was able to point out faults and other geologic points of interest which would be missed by a casual observer. His comments on the flora of the area visited was an added feature. Our thanks to Dr. Gilchrist for an interesting and instructive evening.

The display of fossil material from the Beverly Beach-Spencer Creek area was furnished almost entirely by Leo Simon, although two or three other members did bring material. Leo gave a very interesting description of the specimens on display. Thanks to those members who brought material. It is hoped others will participate in future displays.

A.K.

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FRIDAY NIGHT MEETING - November 13, 1953
Schminky Vacation Trip (conclusion)

A good-sized audience was on hand to see the completion of the Bruce Schminky vacation trip. Starting with Carlsbad caverns, pictures were shown through Texas and on into Mississippi. A different route was taken on the return trip. Many state capitol buildings and other places of historical interest were shown. The pictures of the early settlement at Fort Laramie, Wyoming, were especially interesting. I am sure we all enjoyed Bruce's fine pictures and comments on them.

Lon Hancock displayed specimens from the nut bed at Clarno. Few of us realized the diversity of material obtainable at this location. Lon supplemented his fine display with a most interesting description of the various specimens.

S.K.

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OCTOBER LUNCHEON NOTES

October 1, 1953

Fourteen members were present at today's luncheon. Stanley Shirk announced that the annual dinner and business meeting of the Oregon Museum of Science and Industry would be held at Norse Hall, 111 N.E. 11th Avenue, November 17. The principal speaker will be Mr. S. Eugene Allen, who will speak on the"Cultural Situation in the State of Oregon." Mr. Allen is state senator and a member of the Board of Education in Portland. Miss Hughes passed around a clipping describing an interesting artifact. Letters from Phil Brogan, Ray Treasher, and Sam Sargent were circulated, also copies of the Geological Society of America Bulletin and the Scientific Monthly. Tom Matthews talked briefly on the newer uses of lithium and passed around a bulletin on lithium published by the California Bureau of Mines, Ferry Building, San Francisco, and crystal specimens of spodumene, lepidolite, and amblygonite. He brought also a small specimen of crystal platinum, which Hollis Dole had obtained while at Salt Lake City. Platinum wire had vaporized in a high-temperature furnace experiment and had cooled in the form of crystals. This was a beautiful and very interesting specimen.

A.K.

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October 8, 1953

Fourteen members were present today. Tom Matthews brought a piece of heavy slag taken from a furnace at the Electric Steel Foundry. It was an unusual specimen,

being very high in nickel and low in iron and silica. Leo Simon had a couple specimens of basalt, picked up around the 4500-foot level in the Cascades. These showed very large crystals, indicating slow cooling. Mr. Dole passed around several fossil trilobites, from near Provo, Utah, collected on his recent stay in Salt Lake City. Dr. Ruth Hopson announced she had a supply of both 85 cents and $3.50 ten-power glasses - anyone interested should contact her. Mrs. Arthur Jones brought an article on the activities of three geologists in Alaska and a copy of Prehistoric India. She also announced that the Arthur Jones were leaving on a vacation trip to Hawaii October 10.

A.K.

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October 15, 1953

Fourteen members were present today, all men. What happened to all the lady members? Mr. Erickson reported a very successful hunting trip - he got back alive. He told of a new leaf location in the John Day country, thought to be part of the Mascall formation. Leaves and matrix material resemble that found in the leaf beds at Fossil. Mr. Kelham passed around two samples of building stones, one a red and the other green. They were Arizona sandstone, widely used as one of the better building stones. Lon Hancock brought part of a skull with two rows of well-preserved teeth, found in the Clarno nut bed. Although closely resembling that of an eohippus, Dr. Shotwell believes it to be the skull of an oreodon. Only two have been found previously in Eocene formations. If this specimen proves to be one, it will be a most important find scientifically, as none have been found in Oregon in the Eocene. All of the oreodons discovered in Oregon have been in Oligocene or Miocene formations.

A.K.

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October 22, 1953

Thirteen members were present today. Tom Matthews spoke briefly on beryllium and its uses. He passed around a beryl crystal from a pegmatite dike in the mica mine near Troy, Idaho; also aquamarine in schist from Custer, South Dakota. Dr. Ruth E. Hopson had a water-worn piece of fossil wood found along the coast. The question was raised as to whether it was water worn before or after petrification. It was decided that it had been petrified first, then water worn. Mr. Elder passed around a letter from Orrin Stanley. Ed Kelham gave a very interesting history of the mica mine near Troy. Apparently the promoters made most of the profits, although the mica was of good quality.

A.K.

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October 29, 1953

Thirteen members were present, though Dr. Claude Adams didn't arrive until the lunch was over. Mr. Ray Golden attended for the first time and was dubbed a "guest." He said he is now retired and hopes to attend the luncheons regularly. Only two specimens were shown. One was a piece of lava from the Craters of the Moon, brought by Mr. Kelham, and the other a specimen from Steens Mountains, shown by Mr. Elder. Dr. Ruth Hopson had a clipping from the Sunday Oregonian of October 25, an article written by her on the chrysanthemum experiments at Moro, under the sponsorship of the Sherman Branch Experimental station. Mr. Erickson had several bulletins on paleobotany written by Dr. Roland Brown of the National Museum at Washington, D.C. He secured these from Dr. Brown for our library. Dr. Brown spent the summer investigating fossil flora in Washington and Oregon and was a guest at one of the luncheons. The bulletins were a gift from Dr. Brown. Pursuant to a new policy originated by President Baldwin, Mr. Libbey gave a short but most interesting talk about his first experience in the mining field after his graduation from college. His first job was as assayer at a silver mine at Cobalt, Ontario, one of the great such mines in the world, mining high-grade silver. Present were Messrs. Simon, Erickson, Kelham, Stone, Keen, Schminky, Elder, Libbey, Golden, and Adams, and Dr. Ruth Hopson and Mrs. Barr; also the President, Mr. Baldwin.

E.M.B.

LETTER FROM DR. SHOTWELL

October 28, 1953

Mr. Wayne Stewart
Dayville, Oregon

Dear Mr. Stewart:

Mr. Erickson delivered to us a skeleton which you had collected some time ago. At that time I gave him a brief report on what it was. Since then Drs. L.S. Cressman and W.S. Laughlin have examined the skeleton and a more complete report below is from their findings:

> "The skeleton is that of a large, adult male. An estimate of stature based on the length of the right femur of thigh bone would be somewhat less than 5 feet 8 inches or close to that. Both the tibia (shin bone) and the femur show flattening from front to back. This is a characteristic often found and is not significant of any diseased or developmental condition.
>
> "The right side of the brain case (right parietal region) shows a curious deformation as though there had been a break in the skull at an early age, which subsequently healed. This characteristic may, however, be due to some other cause.
>
> "Several of the lumbar vertebrae show lipping (small growths out from the edges), a condition which is probably indicative of an arthritic condition.
>
> "The brow ridges of the skull are large, a condition found in some specimens of Oregon Indian skeletons. The lower jaw is very shallow.
>
> "There is nothing about the skeleton which indicates any unusual type."

The skeleton is of interest to us as a representative to our skeleton collection from that part of Oregon. If you have no use for the specimen we would be very glad to add it to our collections. Please use the enclosed envelope for your answer.

This summer I expect to stay on the Mascall Ranch for about a week. I hope at that time I might meet you.

If you desire any more information on the specimen please let us know. If you wish it returned we will pack it and send it to you.

Sincerely yours,
/s/ Dr. Shotwell
University of Oregon.

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LUNCHEON NOTES

November 5, 1953

Sixteen members showed up for today's luncheon. Tom Matthews passed around a specimen brought in to the State Department of Geology and Mineral Industries for analysis, containing quartz and calcite and showing radioactivity. Mr. Hollis Dole

brought a quite rare specimen containing ilvaite with quartz crystals from South Mountain, Idaho. Mr. Libbey had an alloy of aluminum and silica, formed by burning wood waste with clay. The alloy is not yet of commercial value. Mrs. Arthur Jones, just back from a visit to the Hawaiian Islands, gave an interesting description of their trip and of the islands. She had several folders of pictures, books, maps, specimens, etc., which were passed around for inspection. Howard Rose, who has been absent for many months, told of areas visited along the Steens Mountains and eastern Oregon. A letter from the Shell Oil Company asking for a 1943 issue of the News Letter proves it to be of value to others besides our own members. Rudolph Erickson had a letter from Dr. Shotwell with information on an Indian skull sent to him some time ago.

A.K.

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November 12, 1953

Fifteen members and one guest were present at today's luncheon. In accordance with the president's new policy of featuring 5-minute talks, Mr. Hancock described three specimens from Medford which he saw at Coos Bay recently and which were new to him. One was a geode with quartz crystals fanning out like zeolites. Another was a geode having quartz crystals in one end and opal in the other end formed into crystals, like quartz. The third unusual specimen was a piece of fossil wood, cut lengthwise, which had white plumes standing upright. Mr. Erickson read a letter from Dr. Ralph Chaney stating he was sending, from his own collection of bulletins, several for our library. Mr. Erickson also reported the finding of gingko leaf fragments by Mr. Murray Miller in the upper part of the Troutdale formation at a location about one mile east of Gladstone, where apparently there is a leaf deposit. . .Mr. Hancock showed a piece of hard rock having imprints closely resembling a Cretaceous Trigonia specimen he also displayed. This was from the Antone area. . .Mr. Matthews had a tube from a Geiger counter and explained its functioning. . .Mr. Simon passed around some specimens of mushrooms he collected along the Clackamas River. . .The guest introduced was Mrs. Walter Gustafson, daughter of Mrs. Barr. Members present were Messrs. Golden, Baldwin, Wilbur, Hancock, Erickson, Keen, Libbey, Simon, Matthews, Elder, Schminky, and Dr. Adams (a late comer); also Mrs. Arthur Jones, Miss Ada Henley, and Mrs. Barr.

E.M.B.

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OUR OLDEST FOSSILS

Nearly half a billion years ago the dominant creatures on earth were curious, shelled, crablike animals that may have been distantly related to present-day spiders. These were the trilobites. They appear at the very dawn of life on earth, insofar as it can be traced by fossils. Impressions of their hard shells were preserved in the sea-bottom muds which later became rock, while all traces of their soft-bodied contemporaries of the ancient seas were lost.

Paleontologists now are able to construct some ideas of the ways of life of these strange little creatures of the dawn, says Dr. Christina Lochman of Chicago in a Smithsonian Institution publication on the Cambrian stratigraphy of Mexico, recently issued.

The animals now are believed, she says, to have been sea-bottom scavengers. "During the Cambrian (the geological era starting about half a billion years ago), the various genera fully occupied the benthos (the sea bottom), crawling actively over the surface, lying partially buried in the bottom sediments, or burrowing slowly through soft mud and sand," Dr. Lochman states.

"The trilobite probably crawled forward over the surface bending from side to side in a more or less sinuous manner. This body motion, inherited from a pre-Cambrian wormlike ancestor. . .must have been gradually lost. . . .With its antennae and its legs, the trilobite explored the sea floor for dead or dying organisms. When found, these fragments were moved toward the mouth either mechanically by the legs or by water currents. They were caught and held at the mouth while they were torn or crushed into small enough particles to be swallowed. The primitive mouth parts sharply limited the trilobite's food supply to small, soft, and inactive animals. Although the majority of Cambrian animals were apparently without hard parts, the mouth parts of the trilobite were probably not capable of holding an actively struggling animal."

The hard shell covered only the back of the animal. Says Dr. Lockman: "The relatively short legs of the trilobite did not lift the animal far off the sea bottom but served only to push it along over the surface. Thus in normal position the ventral surface was naturally protected, and it mattered little that the group was not able to develop a hard ventral covering. But if the trilobite were rolled over by a strong wave or some larger animal, the ventral surface was exposed and the animal was defenseless. By the Middle Cambrian the trilobites had acquired the habit of rolling up into a tight ball when disturbed. . . .The value of this feature is revealed by the fact that all trilobites living after the Cambrian possessed the ability to roll up." (From the Smithsonian Institution, April 20, 1953.)

* * * * * *

BALANCE OF NATURE

Snails "lime" the soil. Thus these mollusks of the land and shallow water have an important part in maintaining the balance of nature, according to the late Dr. Harley J. Van Cleave, of the University of Illinois, in the latest annual report of the Smithsonian Institution.

Lime, which reduces the acidity, or "sourness," of the soil has been called the "backbone of agriculture." Snails, Dr. Van Cleave points out, accumulate lime in their shells and, at the end of their short lives, distribute it over wide areas.

These mollusks exist in much larger numbers than ordinarily is supposed. For example, as many as 2,630 individuals of one species of land snail to the acre were found on the Illinois flood plain along the Sangamon River, accounting for about 29 pounds of lime per acre. This does not represent the entire annual accumulation but rather the amount present at one time in the shells of living snails as determined by sampling methods. Since the animals wander about rather freely, they are good distributors.

Many snail species, however, are rather closely restricted in the type of environment in which they can live. One, for example, is invariably associated with woodlands in which beech and maple trees are found. It does not feed on either of these trees or any of their products, but the conditions of soil and climate favorable to them are at the same time the set of conditions demanded by the animal.

Another species is found in greatest abundance where wood nettles grow. Because of these preferences, Dr. Van Cleave points out, deposits of snail shells sometimes give important clues to the past history of the regions where they are found. The shells often resist destruction for long periods and accumulate in extensive deposits. (From the Smithsonian Institution, October 23, 1953.)

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SUBJECT INDEX

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AUTHOR INDEX
