

GEOLOGICAL SOCIETY OF THE OREGON COUNTRY

THE GEOLOGICAL NEWS LETTER

1963

Volume 29

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GEOLOGICAL NEWS LETTER

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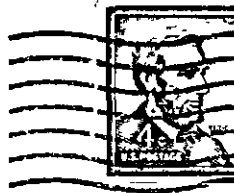
GEOLOGICAL NEWS-LETTER

Official Publication of the

Geological Society of the Oregon Country

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STATE OFFICE BLDG., PORTLAND, OREG.

State of Oregon
Dept. of Geology & Mineral Industries
1069 State Office Bldg.
Portland 1, Oregon

CALENDAR FOR JANUARY 1963

- Every Thursday LUNCHEON - YMCA, 831 S. W. 6th Avenue (Use Taylor Street entrance) 12:00 Noon - Cafeteria style, approximate cost of one dollar. Eat and meet in private room (Mountain Room) adjacent to the cafeteria. Examine and discuss publications, specimens, and other items of interest. Listen to occasional short talks on geology and related subjects. For further information call Mr. Leo Simon, Luncheon Chairman, at BE 6-0549 (residence) or CA 3-0300 (business).
- January 11 Friday LECTURE - Public Library (Room A), 801 S. W. 10th Avenue. 7:30 P. M. - "Palm Trees at the South Pole" is the title of the talk to be given by Mr. Leverett Richards, Staff Writer, The Oregonian. His talk, illustrated with slides, will be a review of his recent trip to the Antarctic.
- January 15 Tuesday LIBRARY NIGHT - Peebles Hall, Lewis and Clark College. 7:30 P. M. - Browsing in the GSOC Library to be followed by a workshop in Diatoms. Mr. Murray Miller will present an illustrated slide program which will precede practice in the use of microscopes in examining diatomaceous earth under the direction of Dr. James Stauffer.
- January 20 Sunday FIELD TRIP - University of Oregon at Eugene, Oregon. 7:45 A. M. - Meet at Portland State College, Mill Street entrance at Park Avenue. Bus will leave promptly at 8:00 A. M. with Mr. Al Kenney as navigator enroute. 10:30 A. M. - Estimated time of arrival at parking lot east of Friendly Hill on U of O campus. Tour of Geology Building led by Dr. Ewart Baldwin, Professor of Geology at the University. Lunch - Eat with the group, or go to restaurant nearby. Afternoon - Tour of Museum with its archeological and fossil exhibits led by Dr. J. Arnold Shotwell, Professor of Paleontology. 3:30 P. M. - Leave Eugene for return trip to Portland.
- Cost: Approximately \$3.50 per person for transportation. Bring lunch.
- January 25 Friday LECTURE - Public Library (Room A), 801 S. W. 10th Avenue. 7:30 P. M. - Two short lectures scheduled. Mr. Don Birch, Engineer with the Bonneville Power Administration, will present the first talk on the Ladd Creek Mud Slide. "The Highest Mine in the World" (18,500 feet in Chile) is the title of the second talk to be given by Mr. Marcio Carrascio. Both lectures to be illustrated.

ADVANCE CALENDAR FOR FEBRUARY 1963

- February 8 Friday LECTURE - To be announced.
- February 19 Tuesday LIBRARY NIGHT - A symposium on identifying and dating of fossil leaves, originally scheduled for the Library Night in January, will be presented by Dr. John Hammond.
- February 22 Friday LECTURE - By Dr. J. Arnold Shotwell, Professor of Paleontology, University of Oregon at Eugene, Oregon.
- February 23 Saturday Oregon Academy of Science at Oregon State College, Corvallis, Oregon. All interested GSOC'ers are invited to attend and hear technical as well as non-technical papers presented.

NEWS OF MEMBERS

NEW EDUCATION EDITOR

Jim Running is now the Education Editor of the Oregon Journal.

POEM PUBLISHED

Emily Moltzner's poem, "Symphony", was published in the November 1st issue of the Oregon Farmer.

TIMBERLINE LODGE

At a Reed College sponsored conference held on December 9-10 at Timberline Lodge on the occasion of its 25th anniversary on "The Use and Management of the High Mountain Areas of Washington and Oregon" three out of twenty panelists were members of GSOC. On the first panel, discussing "The High Mountain Areas -- The Characteristics of a Unique Resource", Dr. John Allen spoke on "Land Forms (Basic Physical Characteristics)", and Dr. Ruth Hopson spoke on "Characteristics". On the third panel, "Resource Values and Their Coordination in the High Mountain Areas", Hollis Dole spoke on "Mining". We are feeling smug!

DODSONS' IN HAWAII

Mr. and Mrs. Guy R. Dodson send GSOC'ers their regards from Honolulu, Hawaii where they are spending the winter months. Guy and May plan to return to Oregon in April of 1963.

MRS. JONES IN HOSPITAL

Mrs. Arthur C. Jones underwent major surgery at Good Samaritan Hospital on the day after Christmas. Dr. Jones reports that Doris is recovering satisfactorily, but will be convalescing for many weeks.

SIMON RECEIVES HONOR

Mr. Leo Simon, a past president and charter member of the Geological Society, has recently been elected President of the Oregon Audubon Society.

WE WANT YOU TO KNOW --

MRS. ELIZABETH A. GILLIAM, who is one of our newest members. She is a secretary in the Chief Attorney's Office of the Veteran's Administration, but don't be misled by this, for Elizabeth has had a very checkered career. Born in Alameda, California, she has lived on a timber claim in Central Oregon, worked for a large mining operation in the Mojave Desert, in the oil industry in Seattle, and in the shipping business with her late husband here in Portland. Her interests are as varied as her career has been. She is a past president of the Live Wire Toastmistress Club, is an excellent cook, sings a nice mezzo, is interested in the ballet, likes to play chess -- and Hilda and Clara, we think she likes to fish! There is no telling what may happen now that Elizabeth is with us . .

MR. BATES DIES

It was reported that Mr. F. Newton Bates, a past president of the Society, died on the 27th of December, 1962 in Sausalito, California.

CHANGES OF ADDRESS:

| | | |
|--------------------------------|--------------------------------|--------------------|
| Mr. and Mrs. Ford E. Wilson, | 865 East 2nd Street, | Prineville, Oregon |
| Mr. Roger A. Newell (student), | 1834 Potter Street, | Eugene, Oregon |
| Mrs. Gladys L. Bryan, | P. O. Box 133, | Monument, Oregon |
| Mrs. Loyd Brice, | 3501 N. E. Portland Blvd. (11) | Tel. 284-8266 |

THE COLUMBIA RIVER BASALT:

Another Hypothesis

By Dr. Paul W. Howell

Whenever that famous formation, the Columbia River Basalt, is discussed, sooner or later its origin and mechanics of emission becomes the point of conversation. For many of our northwest geologists it is a topic of intense interest. One of the unusual aspects of the formation is the lack of eruptive or explosive deposits accompanying the great flows of lava. How to account for this abnormal condition is the problem, for we at least might expect some shield type volcanoes to form. Normally lava is forced to the surface by gas pressures, but here there appears to have been little or no gas pressure. And if there had been gas pressure, what a lot of gas it would have taken to shove out a hundred thousand or so cubic miles of lava. Eruptions like Kilauea would have been commonplace. Evidence about the Columbia River Basalt is fairly plentiful, and, if we examine it carefully, we should come up with some interesting ideas and a possible hypothesis concerning why and how the formation acquired its unusual characteristics.

To begin with, the weight of solid Columbia River Basalt is roughly 180 pounds per cubic foot. That of granites and silicic lavas is about 168 pounds per cubic foot, and that of sediments and pyroclastic rocks averages only about 150 pounds per cubic foot. The basalt in its molten state beneath the crust would be a little less dense, but not much, for remember there was little or no gas dissolved in it. When these relationships are realized, any talk about the crust sinking into the basaltic magma beneath, thus forcing the molten basalt up through the fissures, becomes pure pipe dreams. The light-weight crust might partially sink into the basaltic magma, just as wood sinks part way into water, but it would not submerge into the magma and permit the heavy lava to flow up through the cracks and cover it. This is asking for a reversal of the law of buoyancy.

If the crust did not sink, how did it get depressed as much as ten thousand feet, with an equivalent amount of basalt poured over it? Very simple! It was pushed down! Let us consider the evidence, - mostly circumstantial it is true, but nevertheless quite impressive. Prior to the outpouring of the basalt there must have been a large pool of basaltic magma beneath the crust of the Columbia Basin. This is obvious. The magma constituted a large, slightly-compressible mass, which would give a little under pressure. Forces pushing in from the Pacific Ocean or out from the continent put lateral pressure, or thrust, on the area. Normally these forces would have folded the crustal rocks into anticlines and synclines (this came later), but the pliable magma beneath the crust permitted, and gravity helped the crust to bow downward. This put still more pressure on the magma pool. Why didn't the crust bow upward instead of downward? After all, pressure on the magma should have been translated into upward push on the crust. Well, undoubtedly the crust got bowed downward a little before the pressure on the magma pool could take effect, and once bowed downward the magma did not have enough force to spring it back up. It might have sprung the crust back up eventually if it were not for another event taking place at about the same time. Relief came in the form of cracks. As the crust arched downward under the lateral thrust, tension cracks opened up. Those normal to the direction of thrust only opened at the bottom of the crust. They were kept tightly closed at the top by those same thrusting forces. Those cracks oblique and parallel to the direction of thrust, however, opened up. And how the basalt did gush out! In the beginning it must have spurted high in the air, but, as immediate pressure was relieved, it probably subsided to a condition of strong gushing. Great torrents of red hot basalt poured forth, flooding the land for miles around. As succeeding convulsions and downbowing of the crust occurred, more cracks opened up and more basaltic lava flooded the land. Finally the crust was bent downward as much as ten thousand feet, - nearly two miles.

Either a long period of quiescence followed the last of the great lava floods, or the magma pool became exhausted. In any case, folding of the crust along the western margin of the pool next took place in preference to more downbowing. This created the well-known anticlines and synclines of the Columbia River Gorge area, the ancestors of our present Cascade Range. Others within the Columbia Basin followed, now here now there.

Columbia River Basalt - cont'd.

Later the outpourings of lava occurred to the west, southwest, and southeast, but these lavas were different, especially those on the west which form the High Cascades shield. The great lava floods caused by the early downbowing of the crust form a special group of basalt flows, generally quite distinct and similar in their characteristics, - brickbat structure above and normal columns below.

The hypothesis briefly developed above accounts for many of the unusual aspects of the Columbia River Basalt formation. I won't defend it as the only reasonable explanation for the origin of the Columbia River Basalt, but I certainly think the hypothesis has merit and deserves serious consideration.

One more thing needs to be said. If any geologist, unbeknownst to me, already has championed this idea, I beg his pardon. I have no intention of trying to claim an idea that is not rightfully mine.

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THE PLEISTOCENE EPOCH

"The Pleistocene Epoch", the last lecture in the series on historical geology, was reviewed for us at the Friday evening, December 14th meeting by Dr. James Stauffer, Professor of Geology at Lewis and Clark College. As might be surmised, Dr. Stauffer had his subject well in hand. Adequately documented with excellent slides to illustrate his every point, he gave us an evening so full that there was no time for questions at the end. He further nailed things down by distributing a conveniently arranged three-page leaflet for future reference. Because of its proximity in time, with so much evidence of it all around us, the Pleistocene is undoubtedly the most interesting -- to the layman, at least -- of all the geologic epochs. We thank Dr. Stauffer for his excellent presentation.

W. M. F.

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BOB BROWN MAPPING IN ANTARCTICA

Parke Snavelly reports that Bob Brown, geologist with the U. S. Geological Survey at Menlo Park, California, was selected to be a member of the special team to map the Pensacola Range in Antarctica. Bob received his AB degree in 1949 and MS in 1950 at the University of Oregon. His thesis on the McMinnville quadrangle, published as part of USGS Map OM 155, is well known to persons interested in the geology of northwestern Oregon.

The Pensacola Range is as yet unmapped and charted. It is sometimes known as the Trans-Antarctic Mountains and is located southeast of the Weddell Sea. The geologists and their equipment were air-dropped into this region and the men will be isolated there for three months. Mr. Brown left California early in November and is scheduled to return in March 1963.

M. L. Steere

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THE SOCIAL WHIRL-

HOPSCOTCH

On Sunday, December 2nd, a bunch of the boys -- Dr. Paul Howell, Bob Wilbur and Yours Truly -- true Scotsmen all, with the exception of Yours Truly, who is somewhat watered down, being half Scotch and half Ginger Ale and flattered to be included, were whooping it up in Jim Galt's dig. Ostensibly there to resolve geologic problems, everyone knew that the real reason was to get in shape for the Highland Games. Although the Highland Games are not held until July, you are not going to find four such canny Scotsmen as we are getting caught flat-footed. In the swirl of kilts and the skirl of pipes we tossed the caber between aperitifs and hors d'oeuvres, and got in some good licks at the sword dance in the Highland fling. Eventually we descended to the Ione Bohemian to boil the haggis, and concluded a lively evening at Paul Howell's home looking at his slides of the Camp Hancock area.

W. M. F.

DOES OREGON NEED AN ANTIQUITIES ACT?

By Albert R. Kenney

Many of you will ask what is an antiquities act and what does it do for me?

An antiquities act is a law passed to protect such items as relics, graves, fossils, artifacts, archeological sites, unusual mineral formations and similar items from wanton destruction, spoilage, unordered collection, and commercialization.

Oregon has a priceless heritage of such material. Some of this material is now rather plentiful but much of it is becoming increasingly rare and in need of protection. The purpose of this article is to present some features of current acts in effect in other states and a Federal act to protect federally-controlled lands.

A movement is under way to press for a legislative act in Oregon. This movement is spearheaded by schools and others who are in a position to be aware of the need of such action. Any expression of opinion by the membership of the Geological Society, either for or against such legislation, would be appreciated. If you have any such opinion please inform any of the officers or a member of the Board of Directors.

Major provisions of the Antiquities Act of the State of Arizona:

Section I. ARCHEOLOGICAL DISCOVERIES: Restrictions as to who may explore.

No person except when acting as a duly authorized agent of an institution or corporation referred to in section - - - shall excavate in or upon any historic or prehistoric ruin, burial ground, archaeological or vertebrate paleontological site, or sites including fossilized foot prints, inscriptions made by human agency, or any other archaeological, paleontological, or historical feature situated on lands owned or controlled by the State of - - - or any agency thereof.

Section II. PERMITS TO EXPLORE:

An educational institution, public museum or non-profit corporation organized for scientific and research purposes may pursue any activity prescribed in Section I after first securing from the Director of the State Museum a permit therefore, which permit shall be granted by the Director to such institution or corporation for such periods of time and under such regulations as he may from time to time determine. Such permits shall be granted only to such institutions or corporations as the director may deem properly qualified to conduct such activities for the benefit of museums, universities, colleges, or other recognized scientific or educational institutions or for the purpose of propagating the knowledge to be gained and which shall undertake to preserve permanently all objects, photographs and records in public repositories under their own supervision or control, or the supervision or control of other similar institutions or corporations.

Section III. PROHIBITING UNNECESSARY DEFACTING OF SITE OR OBJECT:

No person, institution, or corporation shall deface or otherwise alter any site or object embraced within the terms of the previous sections except in the course of activities pursued under the authority of a permit granted by the Director of the State Museum.

DUTY TO REPORT DISCOVERIES:

A person in charge of any survey, excavation or construction on any lands owned or controlled by this State, by any public agency or institution of the State or by any county or municipal corporation within the state or municipal corporation within the state shall report promptly to the Director of the State Museum the existence of any archeological, paleontological or historical site or object discovered in the course of such survey, excavation or construction and shall take all reasonable steps to secure its preservation.

UNLAWFUL REPRODUCTION OF ORIGINAL ARCHEOLOGICAL SPECIMENS:

No person shall reproduce, retouch, rework or forge any archeological, paleontological or historical object, deriving its principal value from its antiquity or make any object, whether copies or not, or falsely label, describe, identify or offer

ANTIQUITIES ACT - cont'd.

for sale or exchange any object, with intent to represent the same to be an original and genuine archaeological, paleontological, or historical specimen, nor shall any person offer for sale or exchange any object with knowledge that it has been collected or excavated in violation of any of the terms of this article.

Penalties for violation not listed or particularized here.

The federal act follows along the same general trend with provision for the exchange of public for private land to perpetuate some notable discoveries.

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WE WELCOME --

MISS DIANTHA DORFMAN, whose new membership is the most refreshing thing that has happened in a long time. Diantha -- "Dede" to her friends -- is blonde, petite, dainty, a junior at Woodrow Wilson High School and full of girlish dreams. As delightful a situation as this is, we do not consider it particularly noteworthy in itself, since we have been blonde, petite, dainty, juniors in various high schools, full of girlish dreams, etc., ourselves . . . uh . . . well, some of us have, anyway.

What really charms us is that she has a serious, superior mind mature beyond her years, and that the girlish dreams are not just idle ones, but concrete plans for a substantial career in paleontology. She credits our Mr. Hollis Dole, Director of the State Department of Geology and Mineral Industries, for stimulating her interest in geology and Mr. Herman Meierjurgan, of the State Fish Commission, for fascinating her with paleogeography. She has behind her four sessions at Camp Hancock, where, last summer, she helped Bob Hart dig his big specimen out of the Mammal Beds. The course of her education is neatly charted at Portland State -- a bachelor's degree in geology and a master's in paleontology.

Besides Messrs. Dole and Meierjurgan Diantha is fond of horses -- her father, a retired cavalry colonel, now an investment counselor at Walston's, used to play polo -- and of the outdoors generally. She likes camping and hiking, and she has climbed the South Sister. Though she is entering what is usually thought of as a man's world, she doesn't intend to forget that she is a woman, with all the responsibility of asserting her prerogative as such. In the meantime, she is grist for our mill. Or more realistically, perhaps, we are for hers.

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SOIREE AT THE DUNN'S

Enthusiastic over Dr. Stauffer's Friday evening lecture, a part of the audience who didn't want to go home converged on the Paul Dunn's at their home on N. E. Mallory Street. The Dunn's, obviously tipped off, met the incursion nobly with a punchbowl and a superb buffet. After gay small talk and singing selected numbers from the GSOC hymnal to the accompaniment of May on her chord organ, we went down to the basement to look at her small but exceedingly interesting collection. Then, since it was only a little past one, we went back upstairs and sang Christmas carols with May and the organ until two. A delightful episode was Leo and Johanna singing Silent Night in German. If your guests' being reluctant to go home is any criterion of the success of your party, the Dunns' have had it.

W. M. F.

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WHAT'S YOUR NAME?

Of course you know, but do your fellow GSOC'ers, especially the new ones? Jack Pollard has printed some fine cards for us with large G.S.O.C. on them. Emily Moltzner, Chairman of the Social Committee, has announced that Gwen Helm is handling sales of the cards for ten cents each. Cards are also available from any member of the Social Committee.

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LET'S GET STONED!

By Greg Hanson

A dimetrodon stalks out of a crystal hollow; a seal peers out of his great ice cave; many bright eyes wink back at those who venture into their domain. . . we speak not of fancy or a film, but of the display room of Mr. and Mrs. A. J. (Tony) Schneider. The G. S. O. C. field trip on December 16th took us to the basements of several prominent Portland collectors. Mr. Schneider is an accomplished lapidarist who devotes much time and energy to his work. His machine shop, to the tyro, has the appearance of a Buck Rogers laboratory, but that each instrument has a purpose and serves it well is evidenced by the quality of the display. The bright eyes mentioned in the first sentence are the fiery reflections of the products of the host's artistry. He has many crystalline jewels, all finely faceted, superbly cut masterpieces. A perfectionist is our friend, and it is reflected in his fine stone spheres that are all of the greatest quality and accuracy. Plume agates glow with beautiful colors and fantastic designs and peculiar galena crystals remind one of the plumed, intertwining flowers of the sea. The dimetrodon's hollow and the seal's cave are both huge geodes with fine, clear quartz crystals replacing stalactites and stalagmites. Another fine piece was a large water agate that showed its captive water. Nor was the collection limited only to geology. The Schneiders' have a superlative collection of sun-colored glass. It was originally clear, we were told, but due to the presence of manganese in the glass, it will color when exposed to the sunlight. Only antique glass (pre 1910) will behave this way, however. This discourse could go on forever, so fine was the display, but due to limited time we shall move on to Al Keen's.

Upon arriving at Mr. Keen's we found ourselves up to the clavicles in milk (milk glass, that is). Mrs. Keen has a good collection of old milk-glass figures, each of which fits into some story, such as Black Beauty. We descended into the basement and were impressed by the quality of the display. This collection spanned the geological and geographical world. One of the main attractions was a piece of Japanese stibnite, which had the streamlined appearance of a bit of space-age art. Another art piece was an impressionistic horse and hay figure made of natural native copper crystals. We kept Mrs. Keen, Mrs. Simon, and Mr. Sanford Errett busy with our questions. To Mr. Errett, prospector, we are indebted for explanations of minerals, familiar only to an accomplished person such as he. He pointed out several types of malachite, and vanadium crystals of several kinds. Prominent also were many superb nodules, and a text-book example of gem quality orthoclase. Nor was paleontology left out. Many fine fossils were in evidence. Polished petrified wood added much color to the pine-paneled room, and on the shelves were trilobites, cephalopods, nautiloids, ammonites, nuts, leaves, etc. The real prize of the collection was a perfectly preserved dragonfly with a wing span of between four and five inches. As we stared at it, we could not escape the feeling that it was merely resting from its exertions before launching itself once more into the free air. Thanking Mrs. Keen for her coffee and delicious cookies, we departed for our third and last stop.

Martie and Henry Heikolla greeted us as we came up their drive, and Mr. Heikolla took us directly into the back of his garage to show his saw-room. A methodical man, he, and his various materials were all boxed and binned according to location and material, ready for use. Next was the basement buffing room wherein he explained the process by which he obtained his customary highgrade finish. We then progressed into his display room. Mr. Heikolla is a lapidary genius, and his jewel display is a king's ransom. He had doublets of sapphire, ruby, and emerald, gems of opal, aventurine, topaz, yellow sapphire, garnet, and blue aventurine. The unusual blue was due, he said, to the presence of cobalt. His collection was well protected: at either end was a long plaque of spear and arrow heads. Fossils peeked out from odd places, too. Present were fossilized elephant's eardrum, a fish, a polished dinosaur bone, and another dragonfly preserved in sand.

For international interest we noticed tiger eye from Madagascar, cinnebar and stibnite from Alaska, black aztec lace from Mexico, ruby amber from China, aventurine from India, and of course, those fabulous doublets from Czechoslovakia. None of us doubted that we were in the presence of an artist, but we decided to add icing to an already rich cake. Mr. and Mrs. Heikolla took us into the living room and there finished the tour in grand style. First was a superbly made stone table, then a tall lamp crafted of beautiful rock shaped into delicate designs. Last, but no means least, was a six-foot tall grandfather clock

LET'S GET STONED!

made entirely of crushed stone. Its shape was similar to that of a mummy case and it had delicate designs of white roses, inlaid on surface. His designs had been laid out in copper, then the mold filled, piece by piece, with colorful stone. It speaks well of our host's artistry and industry to say that he finished the monumental project in six months. Bidding the Heikkolas goodnight we went our separate ways, carrying with us images that will remain as long as there is room in our hearts for beauty. To each and every one who contributed that day to those images we give our sincerest praise and thanks.

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ANNUAL BANQUET

The Annual Banquet of the Geological Society will be held on Friday, March 8, 1963 at the Mayflower Building auditorium at 2720 S. E. 6th Avenue (just north of Powell Boulevard and east of Union Avenue. President Leonard Delano announced that the change was made to provide more room and parking space.

Guest speaker for this year's banquet will be Dr. John Byrne, Geologist with the Department of Oceanography at Oregon State University. The title of Dr. Byrne's illustrated talk will be "Geology of the Pacific Ocean Basin".

Miss Marjorie Fessenden, Chairman of the annual banquet, reports that tickets will be available from Mr. Leo Simon

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OREGON ACADEMY OF SCIENCE

The annual meeting of the Oregon Academy of Science will be held on Saturday, February 23, at Oregon State University at Corvallis, Oregon. Andy Corcoran of the State Dept. of Geology has announced that a varied program will provide papers on Geology, Geophysics, and Oceanography.

All GSOC'ers are invited to attend.

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ELECTION OF OFFICERS

Mr. Albert J. Keen, Chairman of the Nominating Committee, announces the following slate of candidates for election to office for the Geological Society:

| | |
|--------------------|-------------------------|
| President: | Mr. Albert R. Kenney |
| Vice-President: | Mr. Emory Strong |
| Secretary: | Miss Shirley Odell |
| Treasurer: | Miss Marjorie Fessenden |
| Newsletter Editor: | Irving G. Ewen |
| Director: | Mr. Fred E. Miller |

Members of Nominating Committee as appointed by President Leonard Delano:

Dr. Francis Gilchrist
 Dr. James Stauffer
 Dr. Arthur C. Jones
 Mr. William F. Clark

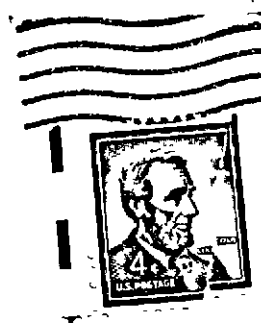
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CALENDAR FOR FEBRUARY 1963

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12:00 Noon - YMCA Cafeteria (approximate cost of one dollar).
Eat and meet in the Mountain Room (adjacent to the cafeteria).
Examine and discuss publications, specimens, and other items of interest.
Listen to occasional short talks on geology and related subjects.
For further information call Mr. Leo Simon, Luncheon Chairman, at BE 6-0549 (residence) or CA 3-0300 (business).
- February 8 Friday LECTURE - Public Library (Room A), 801 S. W. 10th Avenue.
7:30 P. M. - Mr. Leonard Delano, President of the Geological Society, will present an illustrated program on the "Coastlines of Oregon and Washington" with some historical and geological generalizations.
- February 19 Tuesday LIBRARY NIGHT - Peebles Hall, Lewis and Clark College.
7:30 P. M. - Dr. John Hammond will present a symposium on the identifying and dating of fossil leaves. Refreshments will be served following the program. For additional information call Dr. Francis G. Gilchrist, GSOC Library Night Chairman, NE 6-5942.
- February 22 Friday LECTURE - Public Library (Room A), 801 S. W. 10th Avenue.
7:30 P. M. - Dr. J. Arnold Shotwell, Associate Professor of Biology and Curator of the Museum of Natural History at the University of Oregon, will speak to the Society. Title of talk to be announced.
- February 23 Saturday SPECIAL - Oregon Academy of Science at O S U, Corvallis, Oregon
10:15 A. M. - Morning session (Building and room to be announced)
2:30 P. M. - Afternoon session (Building and room to be announced)
All GSOC'ers interested in listening to the presentation of a variety of technical and non-technical papers are invited to attend the sessions. (See special news item in this issue). For additional information call Mr. Raymond E. Corcoran, chairman of the Geology-Geography Section, at 226-2161, ext 488.
- February 24 Sunday FIELD TRIP - Calapooya River and Corvallis Area
9:30 A. M. - Meet at gravel stockpile at the junction of Oregon State Highway 228 and the Interstate Freeway 5 (about 20 miles south of Albany, Oregon). Trip leader Mr. Albert R. Kenney will guide the car caravan to Brownsville, Crawfordsville, and other points of interest.
12:00 noon - (Approximate time only) Lunch stop at DeArmond Park.
Afternoon - Halsey, Corvallis, and points of interest.
Bring LUNCH, Cameras, Hammers, Chisels, Rough Clothes, etc.
For detailed information see special trip-log in this issue.

ADVANCE CALENDAR FOR MARCH 1963

- March 8 Friday ANNUAL BANQUET - Mayflower Dairy Company Auditorium
Details to be announced.
- March 19 Tuesday LIBRARY NIGHT - Program to be announced.
- March 22 Friday LECTURE - To be announced.
- March 24 Sunday FIELD TRIP - Boring Hills and Clackamas River area led by Dr. Paul W. Howell.

NEWS OF MEMBERSOBITUARY

Lloyd L. Ruff was born on August 6, 1905 at Ness City, Kansas, and died at his home in Portland on January 25, 1963.

He was the Chief of the Geology Section of the Portland District of the U. S. Army Corps of Engineers at the time of his death. He was a Fellow and Past President of the Geological Society of the Oregon Country, and member of the Oregon Agate and Mineral Society, the Oregon Numismatical Society, and was on the Board of Directors of the Oregon Museum of Science and Industry for several years. He was a graduate of the University of Oregon.

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ROAD TO RECOVERY

We are happy to report that Mrs. Arthur Jones is back at home from the Good Samaritan and is recovering nicely from her recent surgery; that Rudolph Erickson is also at home again and making a good recovery. We are hoping to see Doris, Rudy, and Dwight Henderson all at the banquet.

URGENT JOURNEY

Word has come to us that Mrs. Loyd (Elaine) Brice, who has been vacationing in Bangor, Maine, is hurrying home so as to be sure to be here for the annual banquet on Friday, March 8th.

NEW MEMBERS -

| | | |
|---------------------------|---|-----------|
| Mrs. Lillian R. White | 1830 N. E. 25th Ave., Portland 12, Oregon | AT 7-7838 |
| Mr. & Mrs. Lee T. Gavigan | 215 North Sumner, Apt, 4, Portland 17, Ore. | AT 8-4870 |

CHANGES OF ADDRESS-

| | | |
|---------------------------|---|-----------|
| Mr. & Mrs. Bert Michel | 200 N. W. Wait, Rte. 3, Box 336 F, Canby, Ore. | |
| Mr. Robert Hart | 13023 S. E. 21st Ave., Portland 22, Ore. | OL 4-7865 |
| Dr. Elizabeth H. Schirmer | (mailing address only) 540 Medical Arts Bldg. Portland 5, Ore. | |

DOWN TO EARTH

What is the most crucial test possible to ascertain a true geologist? Emily Moltzner (better known as "Aurt Emily") met it and passed with flying colors. On viewing a print of DaVinci's Mona Lisa appearing recently in the newspaper, did she muse on the world's most famous face? No! Her eyes darted to the background and she commented on the geology pictured there.

LK

DR. ALLEN TOURS

It was reported that Dr. John Eliot Allen of the Earth Science Department of Portland State College is one of the several leading geo-scientists involved in a study to further improvement of geological studies.

Dr. Allen was scheduled to visit departments of geology at colleges and universities in the eastern states during the latter part of January. The Daily Journal of Commerce in an article on the 17th of January 1963 also reported that Dr. Allen is team captain for the GEO-Study project of the American Geological Institute.

IE

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DIATOMS AT OREGON CITY IN MID-WINTER

By Murray R. Miller

At a time of year when many of the higher plants have "closed up shop" so to speak, and life processes in others are slowed, the botanist may find the diatoms to be a ready source of material for study. Western Oregon is indeed fortunate, for, I am informed (personal communication) that in other parts collectors must break thick ice on ponds, lakes and pools to obtain specimens of these tiny one-celled plants.

But here in the Willamette Valley soon after the ponds fill up in the autumn these little plants are seen brightly colored actively growing and dividing as if their life depended on it, which in fact it does. Perhaps bottom-living forms have been buried in the mud waiting for the fall rains. Pondweeds, grasses and lily pads growing in the water can be stripped for epiphytic species to provide rich samples. In permanent ponds and lakes the plankton floating near the surface layers may contain a "gold mine" for a little wading with hip boots. In late winter the increasing light intensity brings renewed activity.

While tunnels, mines and deep woods are poor places to look for diatoms, almost any aquatic situation open to the sky is found to have one or more species of the following genera of diatoms:

Genera of the Order Pennales in fresh water may include:

Tabellaria
Meridion
Synedra
Cocconeis
Navicula
Pinnularia

Diploneis
Cymbella
Amphora
Rhopelodia
Nitzschia
Licmophora

Collectors of the Order Centrales in marine habitats may find:

Isthmia
Melosira
Coscinodiscus
Actinoptychus
Stephanodiscus

Arachnoidiscus
Eupodiscus
Chaetoceros
Bidulphia

This list is far from being inclusive but may indicate what to expect in your microscope. Pennate diatoms were collected from rivers, ponds, runoff from hills and bluffs, soil along rivers, log rafts, marshy places, waterfalls, park fountains and reservoirs. Oregon City drinking water contained diatoms on occasions when it was particularly muddy.

I am continually amazed at the "constancy of nature" especially when considered along with its great capacity for change. No change could be seen in the aspect of our diatoms when compared with those of fossil frustules found in re-worked volcanic ash of Troutdale time at Park Place on the Clackamas River, or in samples of diatomaceous earth from Terrebonne, Oregon and Lompoc, California. Specimens of the epiphytic marine diatom Isthmia found on marine algae collections of 1870 in Clackamas County Historical Society from California and Oregon looked identical to those now living on the brown alga Heterochordaria and on the red alga Plocamium, both at Boiler Bay.

The sight of these little organisms in my microscope always brings a feeling of humility when I realize that they can carry on all of the fundamental life processes that we can and in addition can do some things that we cannot do, that is, they can synthesize their own food.

FIELD TRIP TO UNIVERSITY OF OREGON

The sun glinted redly off the high buildings of the City as the bus load of G. S. O. C. members took the highroad toward Eugene on the 20th of January. Mr. Albert Kenney, trip leader, pointed out various points of interest enroute. He showed where the road crossed the ancient path of the Willamette, and told how the fine, fertile, level land about us had been the goal of the Oregon Trail pioneers.

As we passed through the Salem hills, our leader pointed out rocks resembling cobblestones imbedded in the Miocene Basalt deposits revealed by the road cuts. The stones were Bauxites made up of Gibbsite plus Boultonite and Diaspore. This area represents one of the major deposits of such ore in the country. The deep red laterite, leached from the original basalt contains large amounts of bauxite, and in the sandstone beneath it Oligocene crustacea and gastropods are to be found.

As we left Albany the leader continued to orient us geologically. To the west were the siliceous volcanics of the Eocene days; to the north were the Nestucca, Cowlitz, and Keasey formations; and to the east were limestones and basalt, the Rhododendron formation, Cascadian andesites and the Boring lavas. As we rolled past the turnoff to O. S. U. we sighted a volcanic cone looming out of the morning mist. Moments later we could see, off to our left, a range of tertiary period volcanic hills that had helped change a river's course. This is lovely, level land save where the cones and parasitic volcanoes rear their heads skyward. Dr. Howell mentioned that Willamette flooding had once covered great expanses of land each winter but we now have controlling dams. Some land is submerged even now, but not the expanses formerly drowned. The land about was Fisher formation capped by lava.

We moved into the Eugene formation and by way of Goshen, came to the University of Oregon where we had a warm greeting from our guide, Dr. Ewart Baldwin. We stopped to admire several fine specimens brought out by our host. The display ranged from a huge ammonite to a garnet schist from Alaska.

Dr. Baldwin's office had many fine specimens. His display included garnet schist, tourmaline in quartz, skulls, leaf prints, and an armadillo. He pointed out the window to some huge fossilized tree trunks from Cascade Locks that were to become part of the Geology building's decoration.

As we proceeded through the building, Dr. Baldwin explained that it was striated, so to speak, the upper floor dealing with "soft rock" geology, the lower concerning itself with the "hard rock" geology. We moved into the mineralogy room and admired the thoroughness with which the room was equipped, having places for gas jets and electric microscopes, among other less familiar instruments.

We passed on to the new addition to the building, which consisted of a futuristic auditorium with a Rube Goldberg control panel by the speaker's desk. The panel controlled two huge blackboards which could be raised to reveal a projection screen. The lights' brightness could be controlled from the stand, giving students enough illumination to take notes.

During lunch Dr. Baldwin brought in a number of unusually fine specimens, a few being Colorado gneiss, shark's teeth, a pyritized brachiopod, part of an opalized ammonite, and a beautiful, perfectly preserved trilobite.

After lunch we toured the Museum of Natural History with Dr. J. Arnold Shotwell, curator, as guide. The first sight that met our eyes was the skull of an Eocene crocodilian.

The museum had materials ranging from ancient man to primitive modern man, and from eohippus to equus. The method by which pottery was made was explained by one display, and another showed the levels of culture of a community at Five Mile Rapids (east of The Dalles) that was in constant occupation from over 10,000 years ago until 1820.

Another showcase had our early horse from little eohippus to our sturdy friend equus. Eohippus' relatives were present in the form of hipparion, plio-hippus, and merychippus, as were their contemporaries. The latter ranged from paleocastor, the beaver, to a rhino, diceratherium, and pliomastodon, procamelus (a great cat of some sort), and our old friend the oreodont. One chart showed how various kinds of stone were formed under heat, and yet another revealed examples of meteorites. (It was alloys like this that man first used for metal weapons.) Last, but not least, were the fabulous Fort Rock sandals.

Field Trip

Next on the tour was the preparation lab where the fossils are released from their stone gaols. The process was interesting and varied. Some specimens were slammed out by brute force with chisels and such on shock-absorbing sand tables. Other, more delicate, fossils are removed by filtering, soaking in kerosene, and drying; thus dissolving the sediment and freeing the fossil. Another instrument was a sandblaster originally used by dentists for cutting out fillings and enamel, but it worked too swiftly for safety, and wound up as a geologists tool. Usually, explained Dr. Shotwell, the lab is 3 years behind the collectors.

Enroute to Portland Mr. Kenney reviewed points covered earlier in the day. Our thoughtful president and his wife, Mr. and Mrs. Delano, surprised us with a large box of chocolates. It was just getting dark as we stopped in front of Portland State College, and thanking those who contributed so much to a very pleasant day enjoyed by all, proceeded happily home.

Greg Hanson

PENGUINS IN THE PALM TREES

At the Friday evening Library lecture of January 11th it was our pleasure to hear Mr. Leverett Richards, Aviation Editor of the Oregonian, review his adventures on his recent trip to the Antarctic with Jack Marks to augment the penguin community at the zoo. In the nature of his work, Mr. Richards, who holds a Lt. Colonel's commission in the Air Force Reserve, does get around, and he has the distinction of being one of the very few persons who have visited both of the poles. He has, in fact, a wide acquaintance with the Antarctic from previous assignments there.

Modestly disclaiming any knowledge of geology, Mr. Richards pointed out to us that the depression around the North Pole corresponds roughly in volume and general conformation to the elevated land mass surrounding the South Pole; intimated that sometime the earth had probably been dropped on something, with the resulting moments of force giving it this squashed look; that this could easily tie in with the theory of the drifting of continents (South America -- Africa), etc.

After terrifying us with this beginning Mr. Richards went on to give us a most informative evening describing the precarious way of life as it must be lived in the Antarctic, the love-life and domestic habits of the penguins, white-outs, and various other interesting phenomena of this cold, bleak land. He showed us views of some of the vast barrier ice shelves, the base encampment at MacMurdo Sound, and Captain Scott's headquarters building. He spoke of that most tragic of all polar expeditions, and paid tribute to Sir Hubert Wilkins, an explorer's explorer. He showed us the Antarctic's only active volcano -- we didn't know it had one -- and of the South Pole itself, encircled by a ring of oil drums. He told us of a strange lake where under thick ice the temperature layered water is warm, and of seams of coal holding fossilized palm trees.

It is reasonably safe to surmise that the penguins did not nest in the palm trees; that when the palm trees grew at the South Pole, the penguins were probably living somewhere else . . . There was a lively question and answer period, but our innocent, uncomplicated mind was still so bemused by the preposterous hypothesis that Mr. Fly-boy Richards had taken off for parts unknown before we thought to ask three cogent questions: From Where was the earth dropped; what was it dropped on; and who did it ---

W. M. F.

LIBRARY NIGHT PROGRAM

The January Library Night program featured an address and demonstration by Mr. Murray Miller, member of the Society. His subject was the diatom, the microscopic plant that inhabits both fresh and sea water and is closely allied to the algae. Mr. Miller has made a comprehensive study of these forms which he illustrated with micro-photo slides, by ready telescopic observation and by visual display of the actual specimens. Among the 2,000 slides of his collection he numbers 200 of diatoms alone.

Mr. Miller captures his specimens by plankton net in the sea at Depot Bay and in fresh water lakes, then mounts and photographs them through the microscope in his laboratory. (See p. 11)

THE LADD CREEK MUD SLIDE

The first talk in a double header at the Library on Friday evening, January 25th, was given us by Mr. Don Birch, Geologist for the Bonneville Power Administration. It concerned a geologic incident such as probably takes place daily in some part of the world. This one, the Ladd Creek Mud Slide, is of particular interest to us because it occurred recently -- on August 31st, 1961 -- and it is near enough at hand to be conveniently studied in detail.

On the above mentioned date, after a series of warm and heavy rains, a heavily saturated portion of Mt. Hood at the foot of Ladd Glacier lost cohesion with its surroundings and debouched, as Mr. Birch puts it, down Ladd Creek in the form of a spectacular avalanche.

Sweeping everything before it, virgin timber and the Ladd Creek bridge over which the Lolo Pass road crossed, it traveled five and a half miles, laterally in a five-fingered pattern, before it lost enough momentum to find repose. It raised the bed of Ladd Creek enough to divert the flow into another channel, that of Red Hill Creek, which now drains the area. The impetus of this debouchment was great enough to transport many rocks and boulders weighing up to one hundred and thirty tons for a distance of five miles and deposit them neatly on one of the Bonneville Power Administration's power line right-of-ways.

Adequately illustrated with maps and aerial photos -- flown by the Delanos -- Mr. Birch gave us a polished presentation of an interesting subject.

W. M. F.

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THE HIGHEST MINE IN THE WORLD

The second talk of the evening was provided by Mr. Marcio Carrascio, until recently manager of the operations of the Aucanquilcha Sulphur Mining Company who operate the highest mine in the world on Aucanquilcha (Mountain of the Devil), a 20,800 foot peak in the Chilean Andes.

Mr. Carrascio's illustrated exposition gave us a picturesque view of high adventure on a high level. The mine is at about elevation 18,500 feet, and the camp at which the operating personnel live is at elevation 17,000 feet. A ten mile long German designed cableway transports the sulphur down from the mine to a railroad, and output is about one hundred tons daily. Llamas used to bear the burden and didn't like the job. But now that they have been displaced by the cableway they stand around looking at it reproachfully. The mine was established in 1913, and is this year celebrating its golden anniversary.

It wasn't until Mr. Carrascio had finished his interesting talk that Leonard Delano put the cherry in our grapefruit; the olive in our martini. It turned out that Mr. Carrascio is Emory Strong's son-in-law!

W. M. F.

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THURSDAY LUNCHEON

Recent interesting talks at the Thursday Luncheon have been on coal deposits by Fay Libbey, drilling for oil by Maurice Albertson, and the foundation of the Space Needle by Tom Mathews. Remember; every Thursday in the Mountain Room at the YMCA --

* * * * *

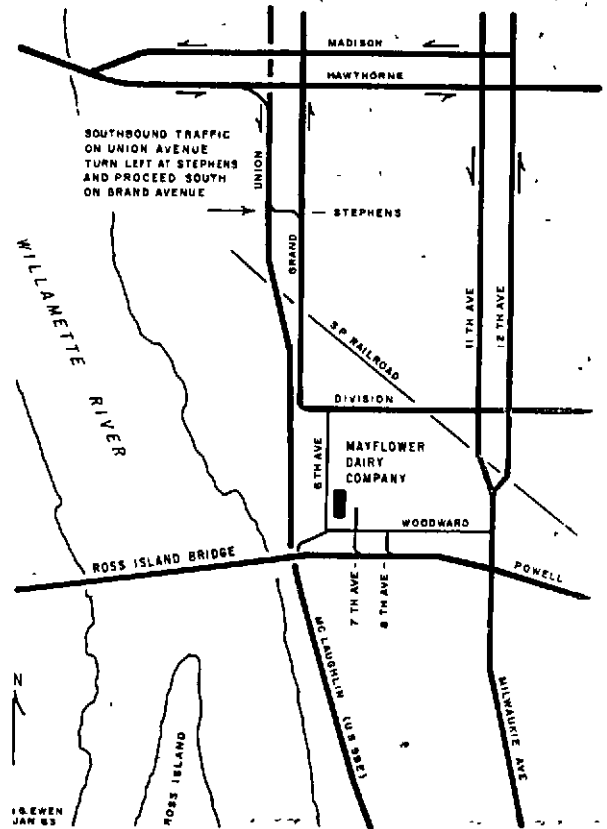
ANNUAL BANQUET

Signs for all GSOC'ers March 8th will point to S. E. 6th Avenue and Woodward Street (one block north of Powell Boulevard) at the Mayflower Dairy Company Auditorium (see map). The Annual Banquet of the Society will be held there this year, with Dr. John V. Byrne, Professor of Geology in the Oregon State University Oceanography Department as speaker.

With a reenactment of an important occasion in GSOC annals as one of the hush hush features of the program, the committee chairman Marjorie Fessenden and her colleagues, including Al and Laurette Kenney, Paul Howell and others have been meeting clandestinely to make this a feature. Shirley O'Dell is in charge of decorations. Arrangements have been made for catering by Obie's Restaurant.

An exhibit of geologic specimens is planned in space available. Contact Dennis Carmody at PR 1-4904 for information.

Secret information has leaked out via President Leonard Delano that you had better not miss this one. See Leo Simon for tickets.



MAYFLOWER DAIRY COMPANY LOCALITY MAP

OREGON ACADEMY OF SCIENCE TO MEET
IN CORVALLIS

The 21st annual meeting of the Oregon Academy of Science will be held in Corvallis at Oregon State University on Saturday, February 23, 1963. The Geology-Geography Section, with Raymond E. Corcoran as Chairman, will hold morning and afternoon sessions at 10:15 a. m. and 2:30 p. m. , respectively. Twenty papers covering a broad range of subjects concerning onshore and offshore geology of Oregon as well as progress reports on geophysical investigations in the State will be presented. Saturday evening Dr. V. C. McMath, Associate Professor of Geology at the University of Oregon, will give an illustrated talk on the geology of the Alps. Dr. McMath was a member of the A. G. I. International Field Institute excursion to the Alps during the summer of 1962.

Those interested in obtaining a copy of the titles and abstracts of papers to be presented at the meeting may do so by writing to Dr. F. A. Gilfillan, Oregon Academy of Science, Oregon State University, Corvallis, Oregon.

CONDON KIN PASSES

Oregon agriculture lost a leader in the sudden death of Elwin A. McCornack who succumbed to a heart attack in Eugene November 14. Mr. McCornack had been master of the Grange, president of the Eugene Fruit Growers Association and president of the Pacific Wool Growers Association. He had been a member of the State Board of Agriculture and served Lane County as legislator for several terms.

Elwin McCornack was a grandson of Dr. Thomas Condon, father of Oregon geologic studies, his mother being Ellen Condon McCornack who passed away in 1929. Mr. McCornack's wife was a sister of the late Dr. Claude Adams, a charter member of GSOC. Mr. McCornack was also a cousin of Mrs. Delano's father.

C. T. L. M.

FIELD TRIP - February 24, 1963
CALAPOOYA RIVER AND CORVALLIS AREA

TRIP LEADER: A. R. Kenney

Bring LUNCH, Cameras, Hammers, Chisels, Rough Clothes, etc.

Leave Portland via U. S. #5 Freeway South to the junction with Highway #228 about twenty miles south of Albany. Approximate driving time 1-1/2 to 2 hours.

Assembly point on Highway 228 at junction of 228 and U. S. #5 at State Highway gravel stockpile. Leave assembly point at 9:30 A. M.

TOTAL BETWEEN APPROX.
MILES POINTS MILES TIME

| | | | |
|---|------|--------|---|
| 00.0 | 00.0 | 0.00 | Assembly point. Junction 228 & U. S. 5 East on Hiway 228 to |
| 04.0 | 04.0 | 10 min | Brownsville - Rest and gasoline stop. Site of early wool industry in Oregon. Main part of town to north off Highway. |
| 10.7 | 06.7 | 10 min | Crawfordsville. Notice Calapooya River here is a graded and braided stream, and part of the Willamette Yazoo topography and drainage system. Also notice numerous tertiary intrusives, mapped as Eocene to Pliocene. Diabase & basalts, eroded to cones, plugs, dikes, etc. Continue east to |
| 14.6 | 03.9 | 5 min | Holly - turn right off Highway 228 to upper Calapooya River Rd. Turn just before bridge. The area along Hiway 228 between Holly & Sweet Home is noted for petrified woods, leaf fossils, etc. Mostly Eagle Creek equivalent of Oligocene age, locally called the Calapooya formation. It is made up of tuffs, welded tuffs, breccias, conglomerates, dacite, andecite, and basalt flows. Proceeding east along Calapooya River notice Western Cascades closing in, river terraces & resistant Oligocene formations. Area to the right is location of famous Holly blue agates. Continue to |
| 18.2 | 03.6 | 5 min | Bridge stop. Long bridge over Calapooya. Park cars on south side before crossing bridge and walk along old railroad grade for petrified woods, tuffs, breccias, etc. Resume trip east to |
| 26.1 | 07.9 | 15 min | Quarry stop. Notice extensive diking enroute. Quarry rock is felsitic andesites, basalts, etc. Intensive faulting. Some secondary mineralization along fault zone. Continue to |
| 26.8 | 00.7 | 5 min | De Armond Park - Lunch stop. Typical Western Cascade scene. |
| Return to assembly point at Junction of 228 and U. S. 5, after lunch. Those not wishing to continue can either return to Portland via freeway or turn right on 228 at Holly and return via Sweet Home, Lebanon, Albany freeway. Hardy souls can continue from assembly point to | | | |
| 2.3 | 2.3 | 5 min | Halsey on old Hiway 99E, turn right at signal light north on 99E. Notice fine examples of early farm house types, to |
| 7.3 | 5.0 | 10 min | Junction highway 34 and turn west on 34 to |
| 22.3 | 15.0 | 20 min | Corvallis. Take Ore Hiway 20 from Corvallis via Philomath to |
| 32.5 | 10.2 | 20 min | Quarry road entrance on right side of Hiway 20. Road material being quarried from Eocene pillow basalts of Siletz formation. Heavy secondary mineralization, exceptional crystal location for zeolites such as natrolite, analcite, etc. Also calcite crystals, pyrites, etc. Unlimited possibilities. Watch overburden for headaches and respect quarry equipment We might want to come back some day. When time, daylight or ambition is exhausted, return to Portland individually via Corvallis or continue 2-3 miles west on Hiway 20 to Wren and take Kings Valley Hiway Oregon 223 Dallas and Rickreall. |

REFERENCES - Geology of Oregon - Ewart Baldwin 1959, PP 37-65

Geologic map of Oregon West of the 121st Meridian

State Department of Geology

U. S. Department of Interior - Peck and Wells

GEOLOGICAL NEWS LETTER

OFFICIAL PUBLICATION OF THE



PORTLAND, OREGON

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Geological Society of the Oregon Country

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1069 State Office Bldg.
Portland 1, Oregon

CALENDAR FOR MARCH 1963

- Every Thursday LUNCHEON - YMCA, 831 S. W. 6th Avenue (Use Taylor Street entrance.)
12:00 Noon - YMCA Cafeteria (approximate cost of one dollar.)
Eat and meet in the Mountain Room (adjacent to the cafeteria.)
A good opportunity to examine and discuss publications, specimens, and related items of interest. Also, to listen to short talks on geology and similar subjects.
For further information call Mr. Leo Simon, Luncheon Chairman, at BE 6-0549 (residence) or CA 3-0300 (business.)
- March 8 Friday ANNUAL BANQUET - Mayflower Dairy Company Auditorium,
2720 S. E. 6th Avenue (near Woodward)
6:30 p. m. - Dr. John V. Byrne, Professor of Geology at Oregon State University, will be guest speaker. Installation of Officers, singing, and entertainment are also included in the evening's program.
For further information call Miss Marjorie Fessenden, General Chairman of the Annual Banquet, at CH 6-2987.
- March 19 Tuesday LIBRARY NIGHT - Peebles Hall, Lewis and Clark College.
7:30 p. m. - Mr. Albert R. Kenney, President of the Society, will conduct a workshop on the identification of fossil shells.
Refreshments will be served following the workshop. For more information call Dr. Francis G. Gilchrist, GSOC Library Night chairman, at NE 6-5942.
- March 22 Friday LECTURE - Public Library (Room A), 801 S. W. 10th Avenue.
7:30 p. m. - "Rivers of Ice" is the title of talk to be given by Mr. John Mihelcic, former High School teacher at Detroit. The program will be enhanced with slides of glaciers and their trails in the North American continent.
- March 24 Sunday FIELD TRIP - Bus tour to Sandy and Estacada area.
8:15 a. m. - Depart from Portland State College at S. W. Park and Mill Streets. Itinerary will include Sandy, Estacada, and Highland Butte with a possible lunch stop at Eagle Fern Park.
Trip leader, Dr. Paul W. Howell, encourages the participation of Junior GSOC'ers on this trip.
Transportation fee of \$2.00 for adult members and special rate of \$1.50 for Junior GSOC'ers. Reservations are required for the bus tour. For more information and tickets call Mr. C. T. L. Murphy, Field Trips Chairman, at 282-2027.

ADVANCE CALENDAR FOR APRIL 1963

- April 12 Friday LECTURE - To be announced.
- April 16 Tuesday LIBRARY NIGHT - Program to be announced.
- April 26 Friday LECTURE - To be announced.
- April 28 Sunday FIELD TRIP - Bus tour of the Willamette and Tualatin watersheds. The tour, led by Dr. James Stauffer, will also view evidences of the Missoula flood.

NEWS OF MEMBERS

We envy the Misses Ruby and Hazel Zimmer, currently vacationing in the Islands. Whether they are surf-boarding in sarongs, or dancing the hula in grass skirts with hibiscus blossoms in their hair, we would like to be with them.

OBITUARY

Arthur W. Boylston, Sr., died on Monday, February 11th. Mr. Boylston, former president of the Portland Lawn Bowling Association, has been a member of GSOC for the last two years. He lived at the Ione Plaza, and is survived by a son, a daughter, and seven grandchildren.

INFORMATION FOR COMING FIELD TRIP TO SANDY AND ESTACADA AREA - -

Transportation: Chartered bus.

Cost: \$2.00 for adult members, \$1.50 for junior members.

Date and Time: 24 March 1963 at 8:15 a. m.

Departure point: S. W. Park Avenue at Mill Street (P. S. C.)

Equipment needed: Lunch, camera, field glasses, hand lens, geology pick, etc.

General Route:

Portland State College to town of Clackamas and onto State Highway 212. Follow Hwy 212 to town of Boring. Thence south and east to Deep Creek Road. Southeast on Deep Creek Road to State Highway 211. Follow Hwy 211 to town of Sandy.

From Sandy, Oregon follow Mt. Hood Loop Highway (U. S. 26) to Firwood. Turn right on road to Dover. Thence south on road to Dover and west on Kitzmiller Road to Eagle Fern Park on Eagle Creek.

From Eagle Fern Park go up Eagle Creek to George Road, right on George Road across Eagle Creek, and up out of canyon to Folsom Road to State Highway 211 and left back to town of Estacada.

From Estacada on Hwy 211 to Highland Butte Road, thence west to Highland Butte.

From Highland Butte go west and northwest to Ten O'Clock Church and Beaver Creek. Thence on Beaver Creek Road northwest to Thayer Road. Go east on Thayer Road to Echo Dell (Abernathy Creek crossing) and north to Redland Road. Right approximately 3/4ths of a mile and then turn left on County Road to Holcomb School and on past Holcomb Butte to Outlook. From Outlook west to Forsythe Road to Park Place.

From Park Place return to Portland.

Approximate Distance: 90 miles.

Other:

The trip will deal with the Pliocene to Recent events in this area and the evidence to back it up.

Arrangements will be made for the group to lunch at Eagle Fern Park or some other scenic spot.

Dr. Paul W. Howell
Trip Leader

INVENTORY

By William M. Freer*

We have just finished a year of our history, and are beginning a new one, and at this time, the end of the fiscal year, it is customary for firms, businesses, corporations -- any organization -- to take an inventory of their corporate holdings. We do this, too, of course, and you just heard this inventory in the reports at the Annual Meeting at the Central Library on the evening of Friday, February 22nd. However, these reports are mostly concerned with the material, and the Newsletter thought that it might be both profitable and enlightening to have an inventory of the performance of the Society; a review and discussion; a critique of activities of the past year. It might be interesting -- and it might help us to improve this year.

The Newsletter feels that under the dynamic leadership of Leonard Delano the Society has made distinct and notable gains; that it has grown in both numbers and stature; that our structural organization is tighter and has more muscle tone, that we have attained an impressive forward momentum.

The Friday night lectures at the Central Library have been excellent. First Leonard and later Emory Strong have provided us with both quality and variety in these popular offerings, which, beside the trips back into the geologic epochs in the historical series, have ranged from a mastodon find in the Tualatin Valley to Angola in Africa; from Mayan ruins in Yucatan to a mine high in the Andean chill of the Chilean Andes; from Iceland to the South Pole. It would be difficult to improve on this.

The field trip program for the year was also superb. Smoothly operated and offering a discriminating variety, the well planned, well led trips ranged from short ones here in Portland during the winter to two and three-day trips in the summer, from White Pass, Washington, to Newberry Crater and Fort Rock, and to the Siskiyou in southern Oregon. Popular special added attractions were two railroad excursions; one up the Grand Canyon of the Deschutes to Madras, and one on the old S. P. line down to Tillamook. Al Kenney and Truman Murphy may have had their production problems, but they were never apparent on the trips. After one of Truman's Friday evening trip announcements, a friend of ours who was a guest and not overly given to compliments turned to us and smiled happily as he said, "Your little old Truman Murphy certainly can lay it on the line." It would be difficult to improve on this program.

Jewels that have adorned each month have been Dr. Gilchrist's Third Tuesday Library Nights out at Lewis and Clark. We can only ask that the luminous quality of these evenings be maintained. They are an inspiration to everyone who goes.

Now that Leo Simon has got the Thursday Luncheon re-established at the YMCA, it has become a growing attraction and gets better every week. For GSOCers who must dine down town at noon, it is perfect.

Dr. John Hammond has performed a signal service to the Society in initiating the Junior GSOC program. This group, numbering fourteen members -- nine of whom are new -- has made three field trips during the year. We salute Dr. Hammond for his interest and industry in spearheading this much needed and very important segment of the Society.

Emily Moltzner, Chairman of the Social Committee, has organized and developed this function to a high degree of efficiency. All guests are now graciously met, registered and introduced to the Friday evening meeting by Emily, Gwen Helm, Greg Hanson or Bob Hart. Emily also mails calendars to interested guests. We can't see how there is room for much improvement in this attractive combo.

Publicity under Bill Freer has been mediocre, and could be improved considerably. It is a demanding job requiring know-how, timing, a certain ability in promotion, a wide acquaintance with the press and lots of time. Emily Moltzner, watchfully playing the back-field, was of much greatly appreciated assistance. However, in any violent criticism of Mr. Freer, we would be the first to rush to his defense. He did have other assignments, and other complications. Anyway, he thought he did. Never-the-less, with Emily's help, most of the meeting notices appeared in the local papers, and from time to time columnists Francis Murphy, B. J. Schrik, Dick Fagen and Betty Allen noted our activities. News stories appeared in the Bend Bulletin, the Madras Pioneer, the Redmond Spokesman, the Grants

* Assistant Editor, Geological News Letter, Geological Society of the Oregon Country.

INVENTORY - cont'd.

Pass Daily Courier, the Roseburg News Review and the Beaverton Valley Times. Some of these news stories were timed to greet the trip that they announced. Excellent photos appeared in the Beaverton Valley Times and the Oregonian

Marjorie Fessenden should be very happy with such a successful year in Membership in which forty-four new enrollments were made. A loss of fourteen memberships leaves us with a net gain of thirty, of which fourteen are Juniors. This is an impressive rate of increase, and next year the Newsletter will have to have an additional page for the roster. Here again, Marjorie credits triple-threat Emily Moltzner and her Social Committee with a lot of assistance. And we credit Marjorie -- the girl who bathes with rainbows (September 1962 Newsletter) -- with a lot of courage. She assumed the chairmanship of the annual banquet without a murmur.

With our present facilities being as they are, Dennis Carmody has had little opportunity to do anything about Display. However, he is going all out at the banquet, his first real chance.

Our library, at Lewis and Clark, is staffed by two professionals, Mrs. Murray Miller and Miss Marie Wagner, and couldn't possibly be in better hands.

Whenever called upon, Mrs. Leslie Davis and her Telephone Committee have rendered yeoman service. She is not called upon often, but it is good to know that if we need to we can communicate in a hurry by means of this efficient Committee.

Ralph Mason maintains our liaison with OMSI, and Rudy Erickson in Research, Clarence Phillips in Public Relations, and Mrs. James Running, our Historian, carry out their appointed duties, we are sure, in an effective and commendable fashion.

We have been trying to improve the Newsletter, but too close an association with it distorts our perspective for our own judgment. We want the Newsletter to contain all original material; to sparkle, and be fun to read -- and yet maintain its integrity as a primarily scientific publication. Colleges and libraries receive and file it, and we must not let them down. We could use more scientific articles from the professional community in the Society, more papers like Murray Miller's little gem on diatoms in this year's February issue. We hope, during the coming year, to improve the Newsletter.

There are many persons whose considerable contributions to the Society's year should be acknowledged, and for any we may fail to note, our apologies and sincere thanks and appreciation. Among them, Dr. Paul Howell, as always for many things; Jack Pollard for name cards, Ralph Mason, Bob Wilbur, Emily Delano, Dr. Hodge, Dr. Jack Stevens, Fred Miller, Dr. and Mrs. Arthur Jones, Jesse Rentsch, Laurette Kenney, Dr. Stauffer, Dr. John Allen, Bruce Schminky, Dr. Ruth Hopson, Maurice Albertson and many others. And while we are about it, we should express our appreciation to the retiring officers -- to Leonard Delano for untiring, efficient, dynamic leadership as our President; to Hilda Freed and Clara Bartholomay, our Secretary and Treasurer, our thanks for jobs perfectly done. Al Kenney, we'll see you later.

CHANGES OF ADDRESS

Bert R. Schull, to 6209 E. Hawthorne, Tucson, Arizona

Harold DeYoe, to 4903 N. Maryland, City 17

Rowena Hoven, to 1007 S. E. 21st Avenue, City 14

Mr. and Mrs. Guy R. Dodson, to 243 Liliukalani Ave., Apt. 303, Honolulu 15, Hawaii
(Temporary address to April 1.)

New Members-

Mr. and Mrs. Reuben C. Newcomb, 01631 S. W. Radcliffe Rd. Tel NE 6-4062

Mr. and Mrs. Ejner Olsen, 2466 N. W. Overton St., City 10 Tel. CA 2-2992

Dr. and Mrs. Wallace C. Hodge, 3994 N. E. 39th, City -- Tel. AT 2-3827

Lee Jenkins (Student) Box 151, Canby, Ore. Tel. 266-9545

Dennis Netter (Student) Rt. 3, Box 416, Canby, Ore. - Tel. 266-7747

Ernest Netter (Student) Rt. 3, Box 416, Canby, Ore. - Tel. 266-7747

Resigned-

Mr. and Mrs. John C. Duckwall

Mr. Fred Duckwall (student)

LIBRARY NIGHT -

One of the most interesting and enthusiastic library night meetings in recent months was that February 19 at which time Dr. John Hammond discussed the wide variety of leaves and identification of many of them. His sample book of leaves and specimens of fossil leaves of Oregon brought by him and others in attendance made the evening a "feast" of interesting information. Meeting was arranged by Dr. Francis Gilchrist, chairman of library night.

THE STUDY OF FOSSIL LEAVES

A Few Comments

By Dr. John H. Hammond

A year ago last fall Dr. Francis Gilchrist initiated a study of leaves of the trees and bushes of our area so that we might approach a better understanding of fossil flora found throughout many of the exposed areas in Oregon. With the permission of the superintendent of Hoyt Park Arboretum, a few of us collected leaves there and mounted them on paper for future study. This was the beginning, for me, of a very stimulating pursuit in identification of fossil leaves through knowledge of modern genera.

In this study I collected leaves also from park blocks in Portland and from every locality available so that I might have representative samples of Eastern American hardwoods, native Western flora and examples of the East Asian elements that once flourished in our state.

Dr. Ralph Chaney, in his book on the Miocene Floras of the Columbia Plateau, stated that there is a striking resemblance of the forests of Hupey and adjacent Szechuan in China to the Middle Tertiary floras of Western North America. Dr. Daniel Axelrod recently advised me that if you wish to see the Eastern American hardwood flora you have only to look into the Miocene of Oregon. This grouping would include hornbeam, black walnut, birch, beech, elm, sweet gum and others. Through research into the literature found in the library of the Geological Society, located at Lewis and Clark college, I found that many of these genera were also to be found in the Dalles and Troutdale sediments of the Pliocene period.

The objective of this project was to correlate fossil genera with transplanted or native flora found in this area. A few conclusions might be listed in the pursuance of this most interesting study.

1. It is extremely helpful to study in minute detail the periphery, primary, secondary and tertiary venations, and general form of leaves of trees of today found in our area. Two of the books found most helpful in this respect were Forest Trees of the Pacific Slope by George B. Subsoth and a Field Guide to Trees and Shrubs by George A. Petrides. The latter book describes and illustrates the flora east of the Rocky Mountains.

2. After the above has been completed it will be helpful to study illustrations of extinct genera and others not found in the living state in this area and their accompanying descriptions in paleobotany literature. Publications found helpful include: Pliocene Floras of California and Oregon, by Chaney, Condit and Axelrod; Miocene Floras of the Columbia Plateau, by Chaney and Axelrod; The Dalles Flora, by Chaney and Troutdale Flora, by Chaney.

3. After some time of careful study it has been found that only three aspects of leaf structure need be concentrated on. These include general form of the leaf, peripheral modifications and ramifications of the veins within the leaf. Any good botany book will be helpful in illustrating these variations.

4. Changes in flora through geologic time indicated to us alterations in environment or mutations within the genetic composition of the various plants. Thoughts on these and other related matters certainly stimulates interest and imagination.

Dr. Paul Howell, during the last Library Night meeting, (February 19, 1963) suggested to the group that the "Key to aid in identifying fossil pinnately leaves" be mimeographed and made available to our members and friends. It is hoped that the members will view this "key" as merely an "aid" and not the final word. No doubt time will make several alterations. Any suggestions as to the improvement of this short manuscript will be appreciated.

AN AERIAL RECONNAISSANCE OF GEOMORPHOLOGY OF OREGON AND WASHINGTON COASTS

By Leonard Delano

The unsurpassed scenic attractions of the Oregon and Washington coasts become more fascinating with an insight into their geomorphology and the origin of geographic names along them. Utilization of aerial photography also helps to tie landmarks together in a visual review in a way that other media cannot always do.

We are reminded of some of the ships - one as short as 36 feet - which explored the Pacific Northwest coast, skippered by Heceta, Quadra, Vizcaino, Aguilar, Cook, Vancouver and Gray, the Yankee. In thinking of these explorations, we are inspired that far more extensive explorations are being made in geology of this area.

In our talk of February 8 we attempted to review the geomorphology of the Oregon and Washington coasts with media of aerial photos. Study of the headlands and sand spits, the estuaries and the drainage and erosional actions point out some basic conclusions, ie: The softer Tertiary materials from approximately Coos Bay northward are eroding more rapidly than the pre-Tertiary materials from southwest Oregon, estuaries are filling, and a pattern of dunes and sand spits has been developed by river transport and reworking of ocean and wind action.

In our airplane trip in Oregon we begin at the edge of the Klamath Mountains geomorphic province and work northward along the Coastal Plain and Coast Range province. The former, with its pre-Tertiary and more resistant rock is more rugged with deformed areas and north-east trending structures. According to Parkes Snavely of the U. S. Geological Survey, the pre-Tertiary land mass shows evidence of extending as far north as the present Umpqua river. As we know, the ocean beaches at that time from approximately the Coos Bay or Umpqua shores extended northward along the western toe of the lower Cascades in Oregon. Build-up in Oligocene and Miocene times in the present coast range areas was accompanied by great submarine lava flows and later uplift of all this area above the sea. During Pleistocene and Recent times all estuaries of the Coastal province were filling and erosion of certain areas is extensive in the softer Tertiary sandstones and other rocks formed by marine sediments.

Marine terraces extend along the coast from elevations of a few feet to 1500 feet above sea level, with good examples between Port Orford and Coos Bay and the Coquille river area. The Coastal Plain has unconsolidated sands and gravels of Pleistocene and Recent age deposited on the eroded surfaces of older Coast Range rocks.

The Coast Range has its main north-south axis superimposed on earlier folds trending northeast to east. Northern part is composed of submarine volcanics mainly pillow lavas and palagonitic tuffs and breccias, flanked by Tertiary marine sandstones, tuffaceous shales and mudstones. Total thickness of volcanics is at least 10,000 feet. Most of the sedimentary rocks are of Eocene and Oligocene ages. Thickness varies from a few feet to 7000 feet.

Quoting from both Dr. Edward Baldwin, author of "Geology of Oregon" and many special works on the coast, and from Dr. Samuel Dicken, "Some Recent Physical Changes on the Oregon Coast," we are reminded that, Southern part of the Coast Range is almost entirely marine sandstones and shales of Eocene age. The Calapooya mountains, on an east-west trending ridge and a part of the Coast range, grade into non-marine rocks of the western Cascades. Marys Peak (4097 feet) is highest point in Coast range, which averages about 1500 feet in elevation.

With our slides we show the extensive marine terraces in southern Oregon. The town of Brookings is built upon a lower terrace. More resistant rock underlies many marine terraces in southern Oregon and make them less vulnerable to erosion than the Coastal plain area north of Coos Bay. Sea stacks show offshore evidence of this more resistant rock in the vicinity of Brookings.

Crook Point and Cape Sebastian have well preserved late Cretaceous deposits. Spanish Captain Sebastian Vizcaino gave name to Cape Sebastian in January 1603.

Rogue river mouth has two recently-built jetties. Drowned harbor and serpentine formations at each end of highway bridge are features. I will never forget a "first trip of the season" down the Rogue in a boat and a harseback ride along the edge of the tumbling Rogue between Agness and Mariel. Rocks are extensively folded through here.

Cape Blanco, Spanish for white, from sighting reflections of setting sun on its cliffs, was named by Captain Aguilar in January 1602 and is most westerly point in Oregon.

- - Cont'd.

AN AERIAL RECONNAISSANCE - cont'd.

Report in Ore Bin, Aug. '62 by Dott gives geology details. Exposed Cretaceous pebbly sandstone and other rocks and a fault neck in cape are features.

Cape Arago, well-known to many GSOCers, was named by Captain Cook for the great French physicist-geographer and a friend of Count Von Humboldt, for whom Humboldt Bay, California was named. Its numerous scenic and geologic features adjoin entrance to Coos Bay Harbor. Gregory point, the Coaledo formations and Bastendorf beach show up well on aerials.

Of the Coos Bay harbor, it is pointed out that natural and man-prompted fillings of the inner harbor may some day make it look similar to the Sandlake area. Coal deposits of this area were subject of a booklet by Baldwin and Dr. John Allen.

Sand dunes north of Coos bay extend for many miles and are well-known to most Oregonians. The writer and his associates photographed and mapped some of this dune area for various studies. Some of these were for William S. Cooper and some included materials for fresh water studies for industrial uses.

Dune sands build-ups or pro-grading are influenced most in the summer from Northwest winds and in the winter from the Southwest. Current immediately offshore is strong in winter and Robert Hickson, former engineer in charge of construction and design involving jetties on the coast for the U. S. Corps of Engineers, reminds us of an Oregon news story. This story relates of the body of a man drowned in the Rogue River found in The Tillamook bay area ten days later.

Movement of sand on the beach is complex, however, as others point out. Dicken says the movement is generated initially by waves and the direction inshore is opposite the wave direction.

Other points covered in our flight include wave cut cliffs and sea caves, and scenic headlands. Of the latter, Heceta Head of Eocene basalt named for Captain Bruno Heceta who saw it in 1775, and Cape Perpetua of late Eocene basalt equivalent to the Goble formation, and named by Captain Cook in 1778 are mid-coast points.

Yaquina bay, a drowned valley; Newport, which is built on dunes; Yaquina Head of Columbia river basalt; Depoe bay, Columbia river basalt; Cascade Head of late Eocene basalt; Nestucca river and its previous channel to the north cut off by sand and other sediment - all these and other points tie together with the photographs.

At Tillamook bay we see the underwater evidence of sediment deposits and cutting when the sea was at different levels. Color photographs here and at other points show penetration of water to show turbidity and flow of sediment and fresh water, as well as underwater deposits.

At Tillamook bay the southerly spit change and the break-through of the ocean at Bay-ocean have been subject of much comment of which there seems to be two sides. The jetty to the north of the harbor entrance made some changes in maintenance of the spit. However, Hickson points out that the southerly spit broke through in 1909, five years before jetty was started.

To cover the Oregon coast properly would take much more than one talk, it is obvious, even in geomorphology. And at the mouth of the Columbia which Captain John Gray entered early that morning of May 11, 1792, we view the great river and note the amount of sediment it carries each year. According to Hickson, eighteen and one-half million cubic yards were estimated carried to the sea prior to construction of the dams. Now, it is estimated that this is cut to approximately eleven and one-half million cubic yards, of which a great deal is deposited on bars and spits to north and south of Peacock spit and the south jetty.

Running out of space and time, we can only say of Washington's coast that it is similar in geology to the Coastal province of Oregon, though its northern portion, characterized by many high sea cliffs, is not as accessible as its Oregon counterpart. Dr. Ewart Baldwin wrote his master's thesis on portions of the Washington coast.

In addition to Baldwin and Dicken, our source material includes the Oregon Dept. of Geology and Mineral Industries, recent geologic maps of western Oregon and Washington, "Oregon Geographic Names" and "Northwest Explorations" by Speck.

FIELD TRIP TO CALAPOOYA RIVER AND CORVALLIS AREA - FEBRUARY 24, 1963

The heavy, dense fog and cold grey dawn did not dampen the ardor of the geology-minded, for they assembled fifty-six strong in eighteen cars to participate in the exploration of the Calapooya River area and to seek zeolites and calcites in a quarry just out of Philomath. It was discovered that the group had the pleasure of the company of Lois Baker, a member from Eugene. Mr. and Mrs. William Oester and his father, J. J. Oester of Portland were guests. Thora Baker brought a friend, Marjorie Ryan of Aberdeen.

At 9:30 the group proceeded to Brownsville where they were briefed by Al Kenney, trip leader, on the geology of the area. The fog was lightening and the sun drifted through enough so that the group could study the meanderings of the Calapooya, a graded and braided stream and part of the Willamette Yazoo topography and drainage system. It was interesting to muse on how the topography of this area could be changed should the dike at Oregon City go out. The fog was lifting rapidly now, revealing the tertiary diabase and basalt intrusive cones, plugs and dikes and Oligocene terraces framing the green meadows in which sheep were grazing. One felt spring in the offing -- there were many lambs.

The group stopped at the bridge over the Calapooya beyond Holly and walked along the cut of an old logging railroad. Among the interesting features noted were a cast of a tree trunk and fossil remains of carbonized wood. After visiting a quarry of felsitic basalt with andesitic jointing with interesting faulting revealing some secondary mineralization along the fault zone, the group proceeded to DeArmond Park to enjoy lunch. The dampness of the canyon produced many interesting mosses and lichens which were gathered. Leo Simon, always on the search for the new or unusual, proudly announced that he had found a spring-- a bed spring.

After lunch the group proceeded to the Eocene pillow basalt quarry and spent the balance of their daylight hours collecting some interesting specimens of zeolites and calcites.

-- Laurette Kenney

* * * * *

CHANGES IN THE FAUNA

At the February 22nd Friday evening Library meeting Dr. J. Arnold Shotwell, Associate Professor of Biology and Curator of the Museum of Natural History at the University of Oregon, spoke to us on "Later Tertiary Changes of the Fauna of Oregon." Dr. Shotwell spoke of the multitudinous problems in getting set up to make studies of this kind. He explained the relation of climatic and environmental changes in the evolution of this, or any, fauna, and told us about the potassium-argon method of dating -- something we should like to know more about. Dr. Shotwell's lecture can't really be reported here, but he gave us an interesting and informative evening, and we should like to have him come back and take up where he stopped.

* * * * * W. M. F.

COMBINATION OF STATE DEPARTMENTS QUESTIONABLE IN GEOLOGY FIELD

Those of us who have had contact with Oregon's Dept. of Geology and Mineral Industries believe it is doing a good job. Perhaps there is something to be said for efficiency of consolidation, particularly in some fields. But burying identity of the Geology Department with a department administrator at its over all head seems to bode no good for geology.

Leonard Delano

At a recent meeting of the GSOC, a letter from Dr. John Allen, head of Earth Sciences Department of Portland State, was read concerning support of present State Geology Department identity. Of a proposed bill to establish an Oregon Department of Natural Resources, Dr. Allen asks members to write their legislators against this.

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RULES FOR G. S. O. C. FIELD TRIPS VIA PRIVATE CAR CARAVANS

GENERAL INFORMATION

The following "rules of the caravan" are presented in the interest of making private car caravan type field trips operate more efficiently and safely with a minimum of inconvenience to all participating. Your compliance with these "rules", either as driver of a car or as a passenger, will be appreciated.

Common sense should be a general "rule of thumb" at all times. Don't commit an unsafe act which might endanger yourself or someone else.

Field trips are generally well scouted ahead of time by a qualified person. This extra effort and expense has been made to provide a more enlightening and efficiently-run field trip.

RULES OF THE CARAVAN

1. Everyone:

Each driver and passenger is asked to read and familiarize himself with the "rules". Save each copy by placing it in the glove compartment or other safe place for future reference.

2. All cars:

G. S. O. C. Bumper Cards are required to be placed on the front and rear bumpers of all cars participating in the caravan in such a manner as to be visible to the car ahead and the car following.

Bumper Cards are helpful in keeping the caravan together and in locating and recognizing lost cars when necessary. Bumper cards are available from the Field Trips Chairman for a nominal sum.

3. Assembly Point:

Each private car caravan will depart from a meeting place previously announced at the meetings or published in the GSOC Newsletter. Arrive early so that caravan can be organized and depart on time.

4. Organizing the Caravan:

The Field Trips Chairman or trip leader will drive or ride in the lead car.

The Field Trips Chairman or trip leader will designate a member to drive the end car of the caravan, preferably someone who is familiar with the itinerary to be travelled.

All other cars participating in the caravan should be between the lead and end cars.

Prior to departure, the Field Trips Chairman or trip leader will assemble the group for orientation about the trip.

5. Departure.

Caravans will depart from the assembly point as close as possible to the time announced or published. It is important to maintain a schedule which has been worked out ahead of time.

6. Enroute:

Lead car with Field Trips Chairman or trip leader will set the pace.

Maintain a safe distance between cars at all times while driving, dependent upon good judgement and taking into account all conditions.

All drivers should keep the vehicle ahead and behind in sight at all times. Jotting down the license number of each vehicle is helpful.

When turning onto another road or highway, wait until car behind catches up and is able to see the turn you are making.

If the car behind you is not visible, **STOP**, and wait. If after waiting a reasonable length of time, it does not catch up, drive back and investigate reason. If this procedure is followed, the entire caravan will ultimately stop until the situation is resolved.

7. Lecture Stops:

At each lecture stop, the lead car will park as far forward as necessary so that lead and end cars will be equidistant from the point of subject of the stop.

Park as close together as possible (unless directed otherwise) leaving a little room for passageway between cars. Parking space is usually at a premium.

When on foot, everyone should stay off the road or use caution in crossing.

At the lecture point, the trip leader will wait until all are assembled before starting the talk.

8. Lunch Stops and Rest Stops:

Park as directed depending upon conditions (parking lot, open field, etc.).

Field Trips Chairman or trip leader will assemble the group to make announcements as to the nature of the stop and the intended departure time.

9. Return:

At the last lecture or rest stop, the Field Trips Chairman or trip leader will assemble the group for final announcements.

Usually the caravan is disbanded at this time, permitting each carload to return home individually via one of several suggested routes.

CALENDAR FOR APRIL 1963 - -

Note - Starting April 28th all scheduled events will be on Pacific Daylight Saving Time.

Every Thursday LUNCHEON - YMCA, 831 S. W. 6th Avenue (Use Taylor Street Entrance).
12:00 Noon - YMCA Cafeteria (self-service, approx. cost of \$1.00).
Eat and meet in the Mountain Room (adjacent to the cafeteria).
These informal sessions provide an opportunity to examine and discuss publications, specimens, and to listen to occasional short talks on geology and related subjects.

For more information call Mr. Leo Simon, Luncheons Chairman, at 236-0549 (residence) or 223-0300 (business).

April 12 LECTURE - Public Library (Room A), 801 S. W. 10th Avenue.
Friday 7:30 P. M. - Dr. John Eliot Allen, Head, Department of Geology at Portland State College, will introduce the lecture series on the Geophysical Provinces of Oregon. The opening lecture by Dr. Allen will be primarily devoted to the discussion of the physical boundaries of the areas to be considered and their relationship to one another.

April 16 LIBRARY NIGHT - Peebles Hall, Lewis and Clark College.
Tuesday 7:30 P. M. - Mr Emory Strong, author of the book Stone Age on the Columbia, will present a workshop on the archeology of our area. Refreshments will be served following the program.

For information and directions call Dr. Francis G. Gilchrist, Library Night Chairman, at 636-5942.

April 26 LECTURE - Public Library (Room A), 801 S. W. 10th Avenue.
Friday 7:30 P. M. - Mr Buz Sanderson, District Engineer of the Surface Water Branch of the U. S. Geological Survey, will present a lecture illustrated with slides of a 310 mile trip through the Grand Canyon of the Colorado River.

April 28 FIELD TRIP - Bus tour of Willamette and Tualatin Watersheds.
Sunday 8:00 A. M. (DAYLIGHT SAVING TIME). Depart from Portland State College at S. W. Park Avenue and Mill Street via chartered bus. Itinerary will include stops at Oswego Iron Smelter, Rock Island, Aurora, Lunch at Champoeg State Park, Newberg, and Tigard.

Dr. James Stauffer, Professor of Geology at Lewis and Clark College, will be trip leader. An interesting trip is anticipated. Bring lunches, cameras, geology picks, and proper clothing in the event of inclement weather.

Reservations are required for the bus tour. Transportation fee for adult GSOC members and guests is \$2.00 per person. Junior GSOC'ers are entitled to a special rate of \$1.50. - (No checks please.) For reservations and information call Mr. C. T. L. Murphy, Field Trips Chairman, at 282-2027.

ADVANCE CALENDAR FOR MAY 1963 -

May 10 LECTURE - To be announced.
Friday

May 21 LIBRARY NIGHT - Annual Library Night Spring Picnic Supper at Lewis and
Tuesday Clark College. Evening program will include current movies on geology.

May 24 LECTURE - To be announced.
Friday

May 26 FIELD TRIP - Trip to Saddle Mountain via private car caravan with Dr. John
Sunday Hammond as trip leader.

FIELD TRIP TO WILLAMETTE AND TUALATIN WATERSHEDS

DATE Sunday, April, 28, 1963

TIME..... 8:00 A. M. Daylight Saving Time

PLACE..... Meet at Portland State College, S. W. Park Avenue at Mill Street.

TRANSPORTATION.....Via chartered bus. Reservations required. Contact Field Trips Chairman, Mr. C. T. L. "Truman" Murphy at 282-2027 for tickets and reservations.

COST..... Adult GSOC members and guests - \$2.00 per person
GSOC Junior members - \$1.50 (special reduced rate)
Cash only, no checks please.

EQUIPMENT.....Lunches plus usual items - geology pick, camera, clothing for inclement weather if needed.

BRIEF TRIP LOG

| mile | place |
|------|--|
| 00.0 | Depart Portland State College, 8:00 A. M. <u>Daylight Saving Time.</u> |
| 07.5 | Terwilliger Boulevard Extension to Lake Oswego, Oregon. |
| 08.5 | Iron Smelter at Lake Oswego. |
| 13.0 | West Linn High School. Pillow lavas, plant fossils, Missoula Flood scabbed area. |
| 18.0 | Eocene lavas near Rock Island. Also zeolites. |
| 26.5 | Town of Aurora. |
| 38.5 | Champoeg State Park. <u>Lunch stop.</u> |
| 45.0 | Town of Newberg. |
| 54.5 | Cross-bedded sands in sand pit near town of Tigard. |
| 60.0 | Durham Gravel pit. |
| 72.0 | Arrive at Portland State College. |

Note: Trip log shown above is brief and incomplete. As bus tour progresses, there will be many additional stops at places where observations of geologic points of interest will be made. Time and weather permitting, additional localities may be visited.

LADD CREEK MUDFLOW

BY: Donald C. Birch
Geologist
Bonneville Power Adminis.

On September 1, 1961, a mud flow from the toe of Ladd Glacier on Mt. Hood swept down the course of Ladd Creek a distance of more than four miles before spreading out over an existing alluvial fan, then flowed several thousand feet further in a sheet or in separate streams. The path down Ladd Creek was torn out 50 to 100 feet wide and 25 feet deep. Where it left the channel it spread out 750 to 1500 feet wide, uprooting trees along the former course of Ladd Creek, and depositing rocks weighing over a hundred tons.

Trees that were two or three feet in diameter were torn out in a swath 150 to 250 feet wide. In transit they were completely stripped of bark and limbs, leaving them piled like jackstraws along the route, blocking roads and damaging some steel transmission line towers.

The flow is thought to have been caused by an avalanche that temporarily blocked a V-shaped Canyon. Subsequent heavy rains, coupled with melting ice and snow, soon engendered a mudflow with a consistency of sloppy concrete. Speed of the flow was estimated to be three to 10 miles per hour, with a steep front possibly 25 feet high.

An interesting feature is that the biggest boulders moved by the mudflow were carried further downstream than the smaller boulders and were left in the old channel of Ladd Creek. Some of them were 10 x 15 feet and weighed an estimated 130 tons.

Boulders within a stream move by a process known as "saltation" and not by suspension in the fluid. Saltation involves sliding, rolling and jumping but with very large boulders it would seem the process would be limited to the first two modes. The ability to jump and height of jump would, however, vary with the density of the fluid. The quicksand of this mudflow probably had an effective liquid density of 1.8-2.00 instead of 1.0 as with water. The boulders moved have a specific gravity of about 2.8. Hence the floatation effect as compared to water was near double. The principle of using mud mixtures of different densities to affect concentration of commercial minerals is known as "floatation". Thus to keep the boulders moving in such a viscous mudflow would not require a high velocity or steep gradient. The large boulders offered the greatest resistance to the flow and were therefore kept moving whereas the smaller rocks could drop to bottom, a point where velocities are least. Of course rounded or equi-dimensional boulders move farther than flat rocks which can lodge on the bottom in a position of less resistance to flow. The mudflow finally spread out until the main front was reduced to only 7-8 feet, or inadequate to move these boulders any further.

At the mouth of the Ladd Creek Canyon the depth of boulders and mud deposited may be 15-20 feet but where it spread left and right amid the standing timber, depth may be only 5-8 feet. Boulders in the canyon mouth area average 2 to 3 feet in diameter in contrast to those lower down with diameters of 10-15 feet. A size gradation exists between these areas.

While it is true a large volume of loose rock came from the 4 mile section of "guttled" canyon, nowhere embedded in old banks have such huge boulders been seen. The writer is forced to believe they came all the way down the 4 mile canyon after originating in the Ladd Glacier. Of course diagenetically the type of rock belongs to the andesite-porphry stock-root of Mt. Hood.

Logs carried by the mudflow were dominantly the de-barked trunks of trees uprooted upstream and not from any logged off area. They were carried on the crest of the flow and are stranded at its edges or highest points reached. The vast majority passed through the area to create log jams for miles down the West Fork of the Hood River.

In the declining stages water replaced mudflow down certain of the channels and gullied through much of the quicksand leaving only boulders and edge stranded logs. Much of the post-mudflow water originated below the mound as "drain-out water" from the rock and quicksand mass above. Remaining areas of quicksand were unsafe to cross for several days. Much of this material has since been drained out and set to the consistency of hardpan. The Ladd Creek Washout was probably one of the worst mudflows on this fan to occur in historic times.

NEWS OF MEMBERS**CAMP HANCOCK ASSISTANT SELECTED**

Mr. Robert Hart, a student member of GSO C, has been selected as one of two camp-ground assistants for all the sessions at Camp Hancock this coming season.

FIELD TRIPPING

Mr. and Mrs. Hayward Peirce are reported to be automobiling around arid Arizona for a spring outing.

PAST PRESIDENT RECEIVES HONOR

Mr. Leonard Delano has been named the new president of the Columbia River Section of the American Society of Photogrammetry. Also, Mr. Delano represented the Section at the annual meeting of the National Society in Washington D. C. March 25 to 29.

FRENCHMAN OR SCOT?

Paul Howell is a geology man.

Fine field trips that man can plan.

He affects a beret,

But to our dismay,

Last Sunday he showed up with a tam.

BEANS FOR THE PRESIDENT

Radio Station KXL on March 27th proclaimed Mr. Albert R. Kenney, President of the Geological Society of the Oregon Country, as "First Citizen of the Day".

As a reward for having achieved this position, after hard work and diligent academic pursuit, President Kenney was presented with a case of meat and bean items from Haley's Foods, Inc.

NEW MEMBERS

| | | | |
|-----------------------------|-------------------------|---------------------|----------|
| Mrs. Ava B. Crowe | 528 - 2nd Street | Lake Oswego, Oregon | 636-1788 |
| Mr. & Mrs. George V. Elder* | 6922 S. E. Brooklyn St. | Portland 6, Oregon | |
| Mr. & Mrs. George T. Hall | 4155 E. Center Street | Salem, Oregon | 363-2684 |
| Mr. & Mrs. Ejner W. Olsen | 2466 N. W. Overton St. | Portland 10, Oregon | 222-2992 |
| Irma Sullivan | Rt. 1, Box 329 | Oregon City, Oregon | 656-7165 |
| Mr. Ken W. Sakai** | 600 N. W. 107th Avenue | Portland 10, Oregon | 644-7188 |

NEW ADDRESSES

| | | |
|--------------------------|-------------------------|---------------------|
| Mr. Harold L. Deyoe | 4125 N. E. 78th Ave. | Portland 18, Oregon |
| Mr. & Mrs. Guy R. Dodson | 1400 N. W. Electric Ave | Beaverton, Oregon |

* Reinstated

** Student Member

THE TWENTY-EIGHTH ANNUAL BANQUET

By William M. Freer*

Like a child that has outgrown its clothes, the Twenty-eighth Annual Banquet found itself in surroundings refreshingly new, smartly attractive, and with plenty of room to grow in the spacious auditorium of the Mayflower Dairy Company at Southeast Sixth Avenue and Woodward Streets.

It was not without regret that we said good-bye to the Women of St. David's, who have taken such good care of us for the last three years, just as we had to say good-bye to the ladies of the Dorcas Society at the Mt. Tabor Presbyterian Church before that. But heart-wrenching as these partings are, it is fun to grow, and to try on something new. And anyway, as some philosopher has sagely remarked, the only permanent thing we have is the impermanence of everything else.

However this may be, as he moved around the great hall observing the stunning geologic displays exhibited on the side tables and greeting old friends, it must have been a source of great satisfaction and pardonable pride to Dr. Edwin T. Hodge, gracious and urbane, founder of the Society and twice its president, to see his brain-child in such radiant health and vitality; to perceive what he had wrought.

For the first time in its history -- so far as we can ascertain -- the banquet offered an outstandingly fascinating display of choice geologic specimens exhibited by twenty-two collectors. Much too much to be described in any detail, we must at least mention the Junior Member's splendid display arranged by dint of much industry by Bob Hart; the impressive number of samples of Oregon building stone that Ralph Mason brought from the State Department; Mrs. Thora Baker's intriguing Little Black Box; Dr. Arthur Jones' Ancient and Modern Trilobites, and his wonderful Eocene fish; Bob Wilbur's teredo-in-wood and his fine leaf imprints; Clara Bartholomay's beautiful piece of garnierite; Bill Clark's Specimens for Beginning Collectors; Norris Stone's pre-Cambrian rocks; May Dunn's collection of Brachiopods; Dr. Hodge's collection of African artificats, with a mummified human hand thrown in for -- uh -- human interest; Leo Simon's huge volcanic bombs; Hilda Freed's nice zeolite; Dr. Stauffer's faulted rock from Ecola Park; Milvoy Robosky's lava prism; Emily Moltzner's collection from Mt. Tabor; Dr. Gilchrist's slab of fossil leaves from the Colawash; Ray Golden's volcanics; Truman Murphy's British Columbian collection; Murray Miller's calcite slab; Bob Anderson's Lavacicle, and Greg Hanson's knives.

This heart-warming response to Dennis Carmody's request for displays must have restored his faith in human nature -- or would have if he had ever lost it -- which of course he hasn't. As Chairman of Display this innovation was his one big splash of the year, and everybody got wet!

As more and more people arrived, the tempo quickened until the banquet scene became kaleidoscopic -- Delightful young ladies of Emily Moltzner's Hospitality Committee escorting people to their seats at tables attractively decorated with figures of boys toasting marshmallows over log fires built by Shirley O'Dell, amid the freshness of andromeda and camellias from the Leo Simon's garden -- Programs and place mats such as we had never had before of a wonderful aerial scene of the John Day Valley featuring Sheep Rock and the river, printed in Central Oregon spring green, courtesy of Delano Photographics. On the inside front cover was a drawing of characteristic prehistoric fauna that inhabited the locality, executed by Laurette Kenney -- Place cards printed and lettered by Jack Pollard and Bill Freer, intended to become identification cards afterward, and finally, after a poetic grace by Dr. Arthur Jones, our banquet -- catered by Obie's -- was airborne.

As the evening became gayer and gayer, the aura of success worn by Marjorie Fessenden, General Chairman of the whole caboodle, became brighter and brighter, and in no way flickered when the evening was turned over to our capable, irrepressible toastmaster, Ralph Mason, and she could relax and stop worrying. We were greeted by Leonard Delano, our outgoing president, and introduced to the people at the head table, which, of course is a mere formality, since we have known them all for a long time. After our excellent dinner, and the installations of new officers, Leonard reviewed the year in his farewell speech, and Al Kenney, our new president, made his inaugural speech -- printed elsewhere in this

* Assistant Editor, G. S. O. C. Newsletter.

Annual Banquet - cont'd.

issue -- and Ralph Mason gave Leonard his Past President's Pick and designated him a Fellow of the Society, all in our best tradition. Then Leonard designated H. Bruce Schminky an Honorary Life Fellow, which made everyone even happier than they were before. Miss Pat Landels was awarded a prize specimen for being the youngest member (13) present, and a rather awkward situation arose when there seemed to be nothing to give Orrin Stanley for being the oldest member (90) present, since he is considered to be a prize specimen himself.

Somewhere along here -- if we haven't got lost -- Ralph Mason, in the hallowed, time-honored tradition that we couldn't get along without, called the roll of our affiliated and sister organizations, whose members rose to be acknowledged -- The Oregon Agate and Mineral Society; the Archeological Society; the Oregon Historical Society; the Audubon Society; the Salem Geological Society; the Tyee Mineral Club; the Condon Club; the Tillamook Rock Hounds; the Carriba Club; the Mazamas; the Trails Club; the Portland Metropolitan Area Girl Watcher's Association -- uh, Leo, why don't you just remain standing -- the Mycology Society, and when he called for the Charter Members of GSOC, it made us take a deep, quivering breath. There must have been two dozen of them! And we were particularly happy to see that three of our favorite members who have been invalidated lately were able to make it; Mrs. Arthur Jones, Rudy Erickson and Dwight Henderson. Their attendance was rather nip and tuck for all of them --

Our speaker of the evening, Dr. John V. Byrne, Geologist in the Department of Oceanography at Oregon State University, who has previously established his popularity as one of our preferred speakers, paid the Society the compliment of making a magnificent talk covering the scope of the work of the marine geologist in the Pacific Ocean area. Observing that it was impossible to compete with the snappy repartee and ad libbing of Ralph Mason, he did very well indeed while his projector was being adjusted. We are not so presumptuous as to try to report Dr. Byrne's talk here. How he so effectively covered the area he did in the time he had, we will never know, but we have heard several people say that they will never forget it. Our appreciation went with the traditional complimentary pick that was presented to him at the conclusion of his talk.

After an intermission during which we had more opportunity to look at the display, Dr. Gilchrist recalled us to sing *De Re Geologica* and *In the Clarno* to the accompaniment of Mrs. Hancock on the piano, and enjoying singing these old songs of ours as we did, we felt that they should have been sung more lustily. Next time we must do better . . . The end of the singing was interrupted by a couple of old codgers who seemed to be reminiscing, and in the lull that followed we caught ourselves eavesdropping. They bore a faint resemblance to Al Kenny and Ralph Mason, and as we listened our interest grew when we realized that they were talking about old times at Camp Hancock. In fact, their reverie became so vivid that it materialized on the stage in the form of a group around a campfire that flickered spasmodically until Dr. Paul Howell threw on another bulb and made it burn more brightly. In this apparition, Leo Simon sang a little song in German -- *Roeslin auf der Heiden* (Little Rose on the Heath) -- as a forfeit for being late to breakfast that morning. Making the mistake of blaming Johanna for his tardiness, he got involved in another song which culminated in Johanna putting him in a laundry bag. Linda Miller read her celebrated treatise on Juniperalysis, an ailment found in hot weather anywhere where there is the shade of Juniper trees. Only it seemed more like Paulette Howell than Linda. And there was the exciting news that some erratics had been found down in the river where erratics had never been found before. Not this kind, anyway, which turned out to be green zeolites -- (watermelons to us). There was some loose talk about pogie bait (candy), and then, because the youngsters couldn't go to sleep without it, Bob VanAtta sang *Anne Boleyn*, and as of yore, " -- she walks the bloody tower, with her head tucked underneath her arm, at the midnight hour --" We were saddened the next day to reflect that we are no longer a child. We couldn't sleep at all . . .

After the group had sung an old favorite, "You can't get to Heaven", with Paul and his guitar, Paul sang a simple but hauntingly appealing little song called "The Wayward Wind", and before he had finished we all felt that we, too, had been " -- born the next of kin, the next of kin to the Wayward Wind."

(over)

Annual Banquet -

This charming production that so successfully communicated the spirit of some of the priceless memories of Camp Hancock to the banqueters came from the talented imagination and facile pen of Laurette Kenney, our new First Lady of the Society. It was an appropriate note on which to end the Twenty-eighth Annual Banquet, probably the largest we have had. 162 members and their guests were present. It was not perfect, which is a good thing. Had it been perfect, what would we have to strive for next year? For ladies without their snuggies on, the air-conditioning was a little cool. We can see that during the spring and fall there are times when the decision to wear or not to wear them is a delicate one. And if there is an elevator in the building, we should find it. The stairs were a little difficult for some of us. And Dennis says that next time the displays should be better illuminated after the daylight hours. Aside from these few things, we thought it was all quite super. We wonder what Dr. Hodge thought? Now, it is time to sing Good-bye, Rock Hunters, Good bye, and this time everybody sing!

GEOLOGICAL SOCIETY OF THE OREGON COUNTRY
FINANCIAL STATEMENT
FOR THE YEAR ENDED FEBRUARY 23, 1963

RECEIPTS:

| | |
|---------------------|------------------|
| Dues - 1962 | \$ 425.00 |
| Dues - 1963..... | 539.50 |
| Banquet - 1962..... | 211.50 |
| Banquet - 1963..... | 217.50 |
| Trip logs | 3.50 |
| Bumper cards | 4.50 |
| Name badges..... | 5.89 |
| | <u>\$1407.39</u> |

EXPENSES:

| | |
|------------------------------------|-------------------|
| Dues refund..... | \$ 10.00 |
| Newsletter..... | 654.48 |
| Banquet - 1962..... | 306.40 |
| Banquet - 1963..... | 28.00 |
| Stationery, printing, postage..... | 120.00 |
| Miscellaneous..... | 207.95 |
| | <u>\$ 1326.83</u> |
| | <u>\$1326.83</u> |

| | |
|------------------------------|------------------|
| Oregon State Corporation fee | \$ 5.00 |
| Camp Hancock - water system | 79.78 |
| Printing bumper cards | 30.00 |
| Program speakers | 30.00 |
| Name badges and cards | 22.67 |
| Field trip scouting expenses | 35.50 |
| Flowers | 5.00 |
| | <u>\$ 207.95</u> |

\$ 80.56

Balance February 28, 1962 \$1125.25

Balance February 28, 1963 \$1205.81

Portland Federal Savings \$ 1157.61
Dividends 49.24

\$ 1206.85

Respectfully submitted,

NEWS NOTES

LIBRARY RECEIVES BOOK

"The Ginkgo Tree", a monograph written by Mr. John R. Leach was recently presented to the GSOC Library by the author. The publication gives the detailed geologic history of this famous living fossil.

HALF AN HOUR

While geologists talk much of the time, measuring it in millions of years, this paragraph is about just half an hour. Because of the status given us by our scientific and educational appeal, Mrs. Helengrant Weaver, in charge of Room Services at the Central Library, has graciously extended our closing time one half hour, from 9:00 to 9:30 P. M. This additional half hour is valuable to us, and thanks to Mrs. Weaver, will be put to excellent use.

E. M.

THURSDAY LUNCHEON NOTES

In an interesting adventure at the March 21st luncheon H. Bruce Schminky explained the intricate mechanical details of the world's first "space needle", the Eiffel Tower of Paris. Bruce's talk was enhanced by his colored slides. Dr. Ewart Baldwin of the U. of O. was present, and Irving Rand was a guest.

E. M.

RIVERS OF ICE

At the Central Library on the evening of Friday, March 22nd, we followed Mr. John Mihelcic over the old trails of glaciers in Newfoundland, Nova Scotia, Michigan and the Great Lakes area, and in the Canadian Rockies and Alaska we caught up with the real thing. Mr. Mihelcic, knowledgeable of glaciers and their characteristics, gave us an interesting and instructive evening, illustrated with his own colored slides, many of which were exceptionally fine. One of the entrancing things about glaciers is the erratics they distribute, and we were told of how Mr. and Mrs. Mihelcic traced the route of one from its resting place in Michigan to its original source over two hundred miles away in Ontario. We are appreciative of Mr. and Mrs. Mihelcic giving us another good Friday evening.

W. M. F.

MOLLUSCA IN MARCH

Enthusiasts in two kindred sciences, Marine Zoology and Paleontology, met on Tuesday evening, March 19th, in Peebles Hall on the campus of Lewis and Clark College. The occasion was one of Dr. Francis G. Gilchrist's famous GSOC Library Night workshops in geology.

Mr. Albert R. Kenney, GSOC President, presented a program on Pelecypoda, approaching the subject from the paleontological aspect. A lively discussion followed with great interest in the characteristics and habitat of the living types. Many specimens were brought for exhibit and identification.

* * * * *

GEOLOGICAL NEWS LETTER



28TH
ANNUAL
BANQUET



Geological Society of the Oregon Country



MENU

PAINT POTS

SALAD
Choice of

CHALCOTRICHITE OR WHITE TRAVERTINE OR CRINOID STEMS

ENTREE
Choice of

FILET OF MASTODON or BAKED ICHTHYOSAUR

with

DIATOMACEOUS EARTH with LAVA FLOW and JADE PEBBLES

VOLCANIC BOMBS AND WULFENITE FLAKES

DESSERT

DUNITE CONGLOMERATE with ORPIMENT WEDGES

BEVERAGES

PETROLEUM ESSENCE or LIQUID AMBUR or

DIATOMS in LIQUID SUSPENSION

Tomato Juice
Choice of
Carrot or Cabbage or Macaroni Salad

Entree
Swiss Steak or Salmon Steak
with

Mashed Potatoes and Gravy
Peas Rolls and Butter

Dessert
Apple Cobbler with Cheese Wedge

Beverage
Coffee Tea Milk

VIEWING DISPLAYS

PROGRAM

Greetings Mr. Leonard H. Delano
President 1962

Introductions by Toastmaster, Mr. Ralph S. Mason

DINNER

INSTALLATION OF OFFICERS

Review of '62 Mr. Leonard H. Delano

Forecasts for the Future Mr. Albert R. Kenney

Honors and Awards Mr. Leonard H. Delano

INTERMISSION
VIEWING DISPLAYS

Address:
"Geology of the Pacific Ocean Basin"
Dr. John V. Byrne
Department of Oceanography
Oregon State University

INTERMISSION
VIEWING DISPLAYS

Singing
De Re Geologica Directed by Dr. Francis G. Gilchrist
In the Clarno Piano Mrs. A. W. Hancock

SKIT

"CAMP HANCOCK CAMPFIRE NOSTALGIA"
Author and Voice off Stage Mrs. Albert R. Kenney
The Pipe Dreamers Mr. Albert R. Kenney
Mr. Ralph S. Mason
Camp Director Dr. Paul W. Howell
Counselors Mr. and Mrs. Leo S. Simon
Mr. Clifford VanAtta
Mr. Robert O. Dempster

"Goodbye, Rock Hunters, Goodbye"

PROGRAM PERSONNEL

| | |
|-----------------------------|---|
| Toastmaster | Mr. Ralph S. Mason |
| Music | Piano Mrs. A. W. Hancock Guitar Dr. Paul W. Howell Director Dr. Francis G. Gilchrist |
| Table Decorations | Miss Shirley O'Dell |
| Place Cards | Mr. Jack D. Pollard Mr. William M. Freer |
| Hospitality | Mrs. Emily Moltzner Miss Alice Johnson Miss Eleanor Jackson Miss Alice Schminky Miss Celia Howell Miss Paulette Howell |
| Tickets and Reservations | Mr. and Mrs. Leo F. Simon |
| Photography and Cover Photo | Delano Photographics |
| Displays | Mr. Dennis M. Carmody |
| Junior Display table | Mr. Robert Hart assisted by Mr. Greg Hanson |
| Drawing | Mrs. Albert R. Kenney |
| Printers | Mr. and Mrs. C. Rosenberry |
| General Chairman | Miss Marjorie A. Fessenden |
| Dinner served by | Obie's Restaurant |
| Location | Mayflower Auditorium |

Twenty-eighth Annual Banquet

GEOLOGICAL SOCIETY OF THE OREGON COUNTRY

OFFICERS

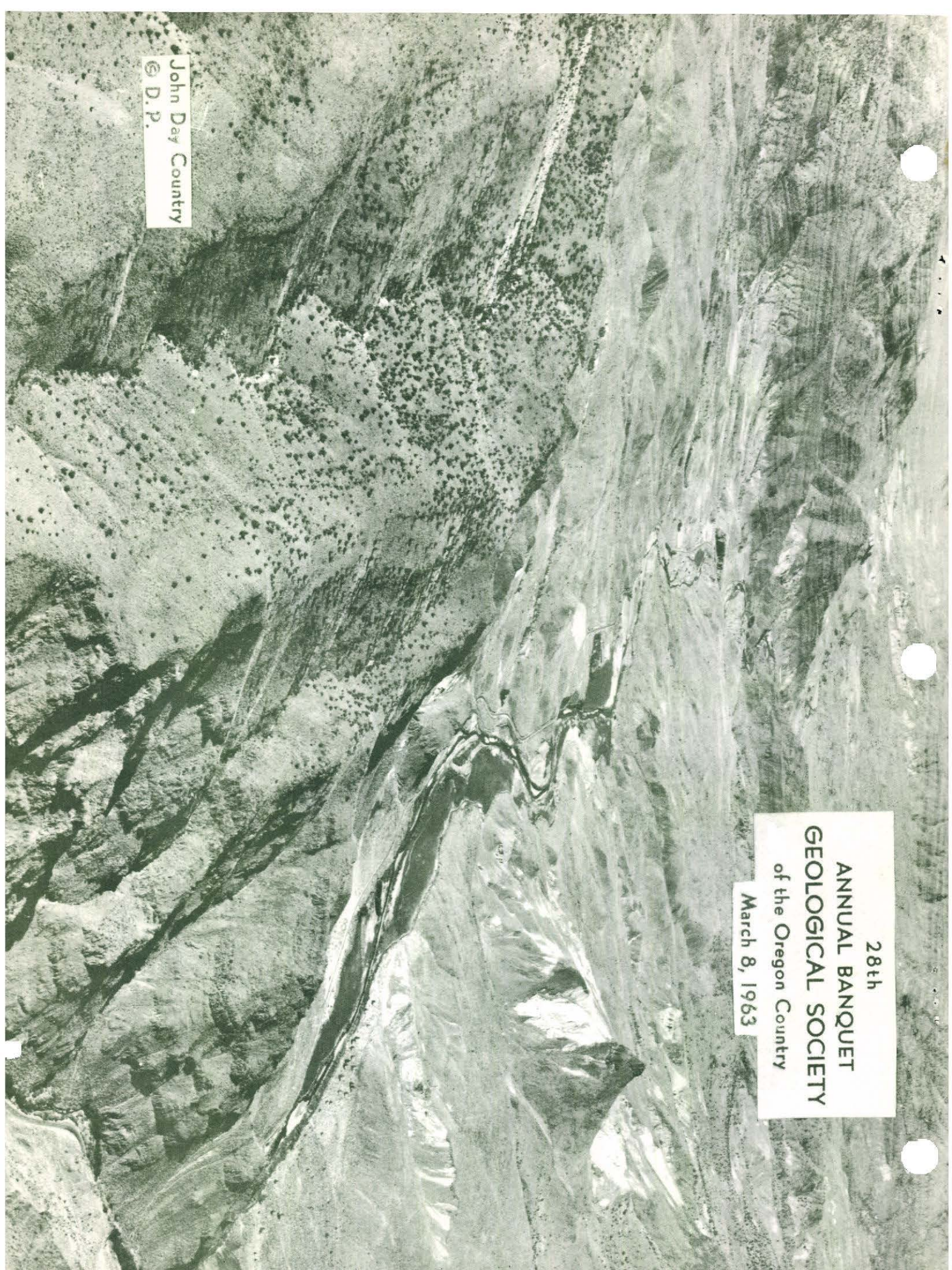
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|---------------------------|----------------------------|
| 1962 | 1963 |
| | President |
| Mr. Leonard H. Delano | Mr. Albert R. Kenney |
| | Vice-President |
| Mr. Albert R. Kenney | Mr. Emory Strong |
| | Secretary |
| Miss Hilda W. Freed | Miss Shirley O'Dell |
| | Treasurer |
| Miss Clara L. Bartholomay | Miss Marjorie A. Fessenden |
| | Directors |
| Mr. J. R. Rentsch | Mr. J. R. Rentsch |
| Dr. John H. Hammond | Mr. John H. Hammond |
| Mr. Leo S. Simon | Mr. Leo Simon |
| Mr. Ralph S. Mason | Mr. Fred Miller |
| Dr. Paul W. Howell | Mr. Leonard H. Delano |

Our thanks to the many members who have given generously of time and talent.



This aerial view of the familiar John Day River area, looking north, shows Sheep Rock in the center right and the distinctive Columbia River Basalt formations in the background. Turtle Cove is in center background.

Animals shown in drawing by Laurette Kenney are Entelodont, Hoplophoneus and Oreodont.



28th

**ANNUAL BANQUET
GEOLOGICAL SOCIETY
of the Oregon Country**

March 8, 1963

John Day Country
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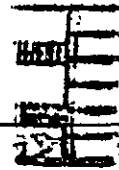
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PORTLAND, OREGON



May 1963

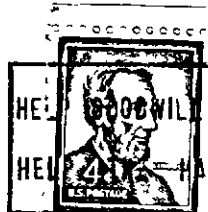
GEOLOGICAL NEWS-LETTER

Official Publication of the

Geological Society of the Oregon Country

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State of Oregon
Dept. of Geology & Mineral Industries
1069 State Office Bldg.
Portland 1, Oregon

GEOLOGIC TIME CHART

| AGE DIVISIONS | | DOMINANT LIFE | | TIME | | | | |
|---------------|---------------------------------------|---------------------------|--|--------------------------------------|----------------------------------|--------|--|-------|
| ERA | PERIOD | EPOCH | ANIMAL | PLANT | DURATION IN MILLIONS OF YEARS | | BEGINNING MILLIONS OF YEARS AGO * | |
| | | | | | ERA | PERIOD | | EPOCH |
| CENOZOIC | QUATER-NARY | RECENT | MAN | | 63.011 | 1.011 | 0.011 | |
| | | PLEISTOCENE | | | | 1 | 1 | |
| | TERTIARY | PLIOCENE | | | | | 12 | 13 |
| | | MIOCENE | MAMMALS | FLOWERING TREES AND SHRUBS | | | 12 | 25 |
| | | OLIGOCENE | BONY FISH | | | | 11 | 36 |
| | | EOCENE | BIRDS | | | | 22 | 58 |
| | | PALEOCENE** | SHELL FISH | | | | 5 | 63 |
| | | ARTHROPODS | | | | | | |
| MESOZOIC | CRETACEOUS | | | CONIFERS | 167 | 72 | 135 | |
| | JURASSIC | | REPTILES | CYCADS GINKGOS FERNs | | 46 | 181 | |
| | TRIASSIC | | | | | 49 | 230 | |
| PALEOZOIC | PERMIAN | | | SCALE TREES | 370 | 50 | 280 | |
| | PENNSYLVANIAN | CARBON-IFEROUS | AMPHIBIANS | CORDAITES | | 40 | 320 | |
| | MISSISSIPPIAN | | INSECTS | TREE FERNS | | 25 | 345 | |
| | DEVONIAN | | | CALAMITES | | 60 | 405 | |
| | SILURIAN** | | SHARKS | PRIMITIVE SCALE TREES AND TREE FERNS | | 20 | 425 | |
| | ORDOVICIAN** | | LUNGFISH | PSILOPHYTES | | 75 | 500 | |
| | CAMBRIAN** | | CORALS BRACHIOPODS | | | 100 | 600 | |
| | | ECHINODERMS TRILOBITES | FUNGI ALGAE | | | | | |
| PRE-CAMBRIAN | GRENVILLE OROGENY** | | BEGINNING OF PRIMITIVE PLANT AND ANIMAL LIFE | | 4000 | | 1000 | |
| | OLDEST KNOWN ROCKS IN NORTH AMERICA** | | | | | | 3200 | |
| | OLDEST KNOWN ROCKS (MURMANSK AREA)** | | | | | | 3400 | |
| | PROBABLE AGE OF THE EARTH | | | | | | 4600 | |

* ADAPTED FROM KULP, 1961

** ROCKS OF THIS AGE NOT KNOWN TO EXIST IN OREGON

CALENDAR FOR MAY 1963

Note: - All Scheduled Events will meet on Pacific Daylight Saving Time.

Every Thursday LUNCHEON - YMCA, 831 S. W. 6th Avenue (Use Taylor Street entrance.)
12:00 Noon - YMCA Cafeteria (approximate cost of one dollar.)
Eat and meet in the Mountain Room (adjacent to the main cafeteria.)
These informal sessions provide an opportunity to examine and discuss publications, specimens and to listen to occasional short talks on geology and related subjects of interest.

For additional information call Mr. Leo Simon, GSOC Luncheons Charman, at 236-0549 (residence) or 223-0300 (business).

May 10 Friday LECTURE - Public Library (Room A), 801 S. W. 10th Avenue.
7:30 p. m. - Speaker and topic to be announced.

May 21 Tuesday LIBRARY NIGHT - Peebles Hall, Lewis and Clark College Campus.
6:00 p. m. - Annual Spring Library Night Picnic will be held beside the swimming pool, weather permitting! Should inclement weather prevail, the gathering will take place inside Peebles Hall.

Coffee and tea will be furnished, but bring your own picnic supper and utensils.

After supper ample time will be provided for sightseeing around the beautiful campus or browsing in the G. S. O. C. Library.

8:00 p. m. - Movies on geology to be shown in Peebles Hall.

For further information and directions, call Dr. Francis G. Gilchrist, Library Night Chairman, at 636-5942.

May 24 Friday LECTURE - Public Library (Room A), 801 S. W. 10th Avenue.
7:30 p. m. - Speaker and topic to be announced.

May 26 Sunday FIELD TRIP - Saddle Mountain (near Seaside, Oregon) via private car.
10:00 a. m. - Meet in parking area at Saddle Mountain State Park. Dr. John Hammond, trip leader, will lead the group in a leisurely climb to the top with many stops enroute to admire the flora, fauna, and geology.
Come dressed with good hiking shoes and rain gear in the event of inclement weather. Bring lunches which will be eaten near the top. Cameras and binoculars optional.

No reservations required. For information and directions, call Mr. C. T. L. "Truman" Murphy, Field Trips Chairman, at 282-2027.

ADVANCE CALENDAR FOR JUNE 1963

June 9 Sunday SPECIAL - Dedication of J. C. Stevens Hydraulics Wing at Oregon Museum of Science and Industry. Ceremonies to be held at 2:00 p. m. The public is invited.

June 14 Friday LECTURE - To be announced

June 18 Tuesday LIBRARY NIGHT - Not scheduled during the summer months.

June 28 Friday LECTURE - To be announced
FIELD TRIP - Two-day camping trip to Antelope, Ore. and Mutton Mountains with

NEWS OF MEMBERS -

WILL OUR NW VOLCANOS ERUPT AGAIN? IF SO, HOW SOON?

NORMAN V. PETERSON, Dept. Geologist, and EDWARD A. GROH, private Geologist, give a detailed report on the subject in "Recent Volcanic Landforms in Central Oregon", in the March Ore Bin, official publication of the State of Oregon Department of Geology and Mineral Industries. The Oregon Journal, April 5th, summarized the article, quoted RALPH MASON, Dept. Mining Engineer, who stated "there would be a warning of many months to 20 to 30 years", and included comments from HOLLIS DOLE, Dept. Director, on work being done by the seismological group at Oregon State University covering our Nov. 5th earthquake. At our April 12th meeting, when asked about potential dangers from volcanic eruptions, Dr. John Allen states he isn't going to hurry about moving from Mt. Tabor.

PHIL BROGAN HONORED

PHIL BROGAN, at the April 5th banquet of Theta Sigma Phi (women's journalism) won the Edith Knight Hill award for his "outstanding contribution to Oregon". Very well known for his articles about geology, astronomy, Northwest history and meteorology in The Oregonian (Sundays), for which he is staff correspondent, he is also associate editor of the daily Bend Bulletin. In 1960 he received the Thomas Jefferson Award from the U. S. Weather Bureau, and in 1961 the U. S. Forest Service named for him the Phil Brogan Trail from the bottom of Lava Butte to a viewpoint. He's writing a book about Jefferson, Deschutes and Crook counties, and is chairman of the Oregon Geographic Names Board of the Oregon Historical Society. His charming wife was present to share his honors. The Brogans have been frequent hosts to our Society and have led numerous field trips in Central Oregon. Congratulations, Phil, we're real proud of you. (From The Oregonian and the Oregon Journal, April 6, 1963.)

F. W. LIBBEY, retired director of the State of Oregon Dept. of Geology and Mineral Industries, and R. E. (ANDY) CORCORAN, Dept. geologist, were interviewed and are quoted frequently in The Sunday Oregonian, March 17, article -- "Oregon King Silver Mine in Jefferson County Reactivated." About 30 miles NE of Madras, near Ashwood, the Oregon King has a history of having produced sizeable quantities of silver, gold, copper, lead and zinc, and may have an exciting future.

DELANO PHOTOGRAPHICS (Leonard, Emily and associates) were chosen FIRM OF THE WEEK at the April 3rd luncheon of the East Side Commercial Club, and placed a representative display in the Morrison Street window of the Weatherly Bldg., which took the viewer from mountains to seashore, ranch lands, geological areas, and included a spectacular aerial shot of Mt. Adams and Klickitat glacier.

KENNETH N. PHILLIPS, Project Hydrologist in Portland for the Geological Survey, has received the Dept. of Interior Meritorious Service award and a citation by Secretary of the Interior Stewart L. Udall, for 42 years work with the federal government. It was presented to Phillips at his office in the Pioneer Post Office by R. Stanley Lord, Chief, Surface Water branch, Pacific Coast area, Menlo Park, California. (Daily Journal of Commerce, April 19.)

MRS. LILLIAN WHITE and daughter LINDA led a group of Mazamas to the top of Mary's Peak April 13th. * * * DR. PAUL HOWELL, in his talk at the April 8th meeting of the Oregon Archeological Society, correlated geology with archeology.

MISCELLANY * * * A fossilized mastodon tooth, found near Gleneden Beach, by BILL WATSON of Taft, has been dated by paleontologist DOUGLAS EMLONG, operator of the Pacific Fossil Museum at Lincoln Beach, as being 35,000 to 50,000 yrs. old. (Sunday Oregonian - Apr 7th.) IF YOU HAVE THE JITTERS, try rolling a "feely" stone in the palm of your hand, as suggested by Genevieve Condit in The Oregonian, Mar. 26th. A tumbled rock should do nicely.

Sympathy is extended to MRS. JOHN K. (Phyllis) LONG and family, whose father, J. WARD VANDERMARK passed away April 18th.

PELECYPODA
(By Laurette Kenney)

From the time that primitive man paused in his ravenous gulping of the easily procured invertebrate, the mollusk, to muse on its shape and origin, it has become a subject of his constant interest since--mollusks, from the marine, fresh water and terrestrial snail or gastropod, the rubbery chiton clinging to the rocks or amphyneura, the scaphopoda or tusk shell that later became the red man's medium of exchange to the bivalve pelecypoda which possibly, because of its gastronomical attraction, could have held his interest the most.

The class Pelecypoda or "Hatchet Foot" of the Phylum Mollusca or "Soft Body" is a bivalve, having two shells that are normally equal and symmetrical in respect to a plane from the front to back and top to bottom (For standardized nomenclature see Figures I. and II. for external appearance.) Most members are marine but some have adapted to fresh water environment--the razor, blue, cohaug, cockle, mussel of salt water habitat to the fresh water mussel that we find in the John Day at Clarno. The pelecypoda's complex body structure unfortunately has rarely fossilized. Paleontologists have had to look to the shell structure, hinge teeth and the pallial lines for identification (See figures III. IV. and V.)

Paleontologists, generally, use a standardized two subclass classification consisting of Prionodesmacea and Teleodesmacea.

SUBCLASS PRIONODESMACEA:

Ordovician to Recent. Prismatic shell structure. Mantle Lobes separate. Siphons poorly developed.

Order Paleoconcha

Ordovician to Recent. Protobranch gills, no hinge teeth, subequal adductors, Predominantly burrowers.

Order Taxodonta

Ordovician to Recent. Protobranch or filibranch gills. Taxodont hinge teeth, subequal adductors. Vagrant benthonic and sessile.

Order Schizodonta

Ordovician to Recent. Filibranch; schizodont; subequal adductors. Predominantly vagrant benthonic.

Order Dysodonta

Ordovician to Recent. Filibranch and eulamellibranch; dysodont; anterior adductor reduced or absent; byssus. Chiefly sessile types. Includes six suborders, among them oysters and scallops.

Order Isodonta

Triassic to Recent. Filibranch; isodont; anterior adductor absent; some with byssus. Sessile types.

SUBCLASS TELEODESMACEA:

Ordovician to Recent. Shell laminated but not prismatic. Mantle lobes connected. Siphons well developed.

Order Heterodonta

Silurian to Recent. Eulamellibranch; heterodont; adductors subequal. Predominantly vagrant benthonic. Includes most types called "clams".

Order Pachyodonta

Jurassic to Recent. Eulamellibranch; pachyodont; one valve very much enlarged, may be coral-like. Sessile Benthonic.

Order Desmodonta

Ordovician to Recent. Eulamellibranch except for one suborder with septibranch gills; desmodont. Burrowers and borers. Razor clams, etc.

Pelecypoda - cont'd.

CLASSIFICATION BY GILL STRUCTURE:

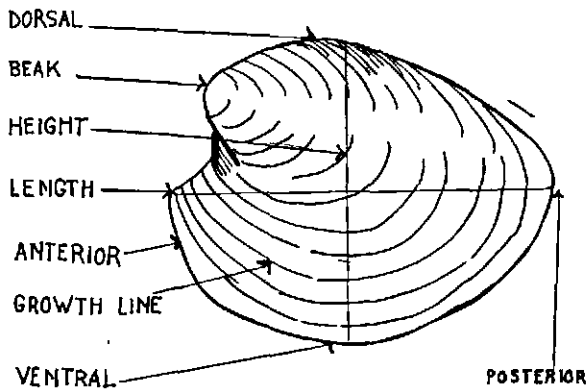
PROTOBRANCH - considered most primitive. Consists of two leaf-like structures hanging into mantle cavity.

FILIBRANCH - more advanced type. Consists of parallel rows of filaments joined at lower edge.

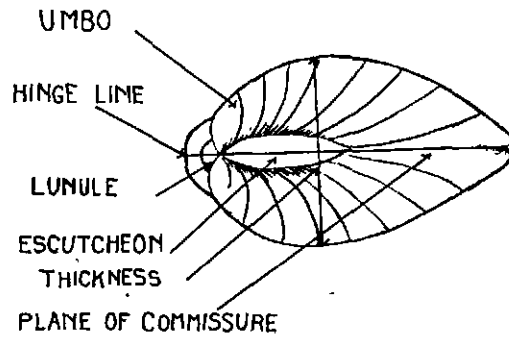
EULAMELLIBRANCH - still more advanced type with numerous lateral jointur between rows of filaments.

SEPTIBRANCH - small group of burrowing forms. Gills moved to side of mantle and form a partition or separation.

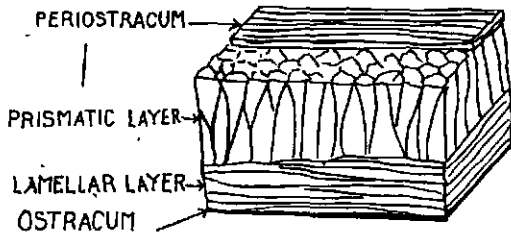
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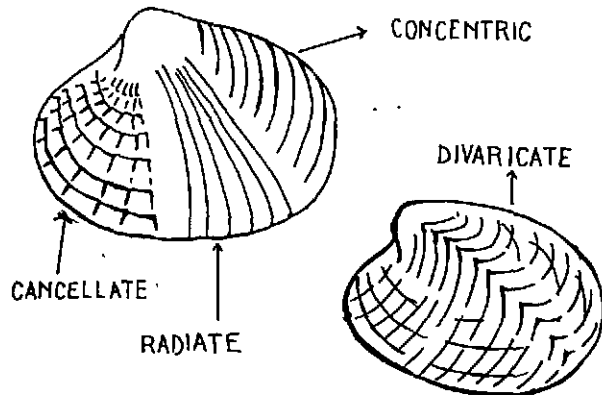
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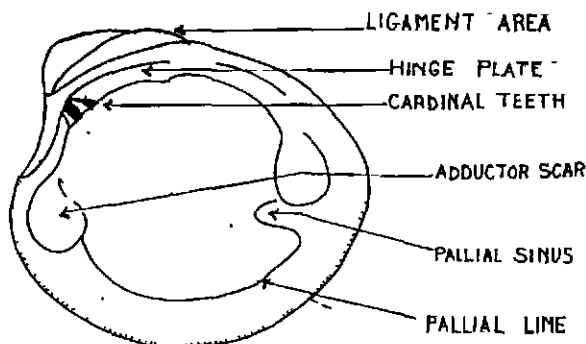
III



IV



V



MY UNSTUFFED SHIRT

By Paul W. Howell*

Much of the time I go along in life with the heartening feeling that I am a pretty smart fellow, especially in regard to things geologic. I know that this is being conceited, but I don't try to squelch the feeling. Without some sort of self esteem or confidence a man hasn't the fortitude to try some of the things he ought, and consequently, life becomes too passive and dull to be called "living". Anyway, every so often I get my shirt "unstuffed", so life balances out rather well in the long run. For some years now I have had the pleasant feeling that I was the originator and the principal promoter of several important concepts on the geomorphology and late geologic history of our Oregon Country. I complimented myself on my discerning eye and keen brain. But a short time ago I opened some books to read what J. Harlen Bretz had to say about the Satsop Formation and my ego just about collapsed. Bretz had covered more country, done more work, and had been more discerning than I, by far. That was in the days of the "tin lizzy" and poor roads, which facts seem handicaps to us, but perhaps were two of the reasons he did so well. He had the time and took the time to give the countryside a searching study.

J. Harlen Bretz was at that time Professor (he is now Prof. Emeritus) of Geology at the University of Chicago. Just before and during World War I days he did extensive field work in the Pacific Northwest, and during the years 1913 to 1919 he wrote several articles on the Quaternary and late Tertiary geology of our region. Between other investigations he worked as summer assistant to Ira Williams when Williams was deciphering the geology of the Columbia River Gorge, and Williams gave credit to Bretz for several important ideas set forth in the Columbia River Gorge book. Bretz is best known for his works on the Spokane Flood (now known as the Missoula Flood) and Grand Coulee. For those who really want to know the sequence of late geologic events in this region and something of the origin of our landscape I recommend the following publications:

- Bretz, J. Harlen (1913), Glaciation of the Puget Sound Region.
Washington Geological Survey, Bull. 8.
- " " " (1915), The Pleistocene of Western Washington.
GSA Bull., Vol. 26, Abstract p. 131.
- " " " (1917), The Satsop Formation of Oregon and Washington.
Jour. of Geol., Vol. 25, pp. 446-458.
- " " " (1919), Late Pleistocene Submergence in the Columbia Valley
or Oregon and Washington.
Jour. of Geol., Vol. 27, pp. 489-506.
- Williams, Ira A. (1916), The Columbia River Gorge: Its Geologic History Inter-
preted from the Columbia River Highway. Oreg. Bur. Mines,
Mineral Resources of Oreg., Vol. 2, No. 3, 130 pp.

So far as my ideas about the late geologic history of this region are concerned, Bretz anticipated me by 30 to 40 years, and only on a few points can I disagree with him. The most comfort I can get from the situation is that my concepts at least agree with those of a fairly illustrious predecessor. I now realize also that some of my contemporaries either have not read Bretz and Williams, or have failed to give them sufficient reference credit.

To show you how astute these geologists of yesteryear were I'm going to quote a few passages from the references given. Bretz (1915, p. 9) "The depression of Puget Sound is genetically synclinal, belonging to the most western synclinorium of North America. The Gulf of Georgia north of it, and the Willamette Valley of Oregon, the Great Valley of California, and the Gulf of California south of it are likewise portions of this structural trough." Bretz (1917, p. 450 to 458) gives evidence showing the eastward extension of the Satsop Formation (The Troutdale Formation was not yet split off and named) through the Cascade Range to eastern Washington. On page 456 he postulates correlation of the Methow Peneplane with the surface under the Satsop Formation in the Cascade Range, and on page 458 he says " - - - the Cascade Range, at least in this portion, is of Quaternary age." In

* Geologist, U. S. Army Corps of Engineers, and Past President of the Geological Society.

My Unstuffed Shirt - cont'd.

this part of the paper also he states that the surface of the Satsop lies at 500 feet elevation in the middle of the Willamette Valley and rises eastward to elevation 1500 in the middle of the Cascade Range. The Satsop and the gray lavas were deposited before the Cascade Range was warped upward. There is no upward slope toward the Coast Range. The Cowlitz, Chehalis, Columbia, and Willamette valleys are younger than the Coast Range. The Satsop Formation is younger than the valleys. Therefore, the Satsop Formation postdates the Coast Range by a considerable span of time. (I can agree with all he says except that these valleys are younger than the Coast Range).

Bretz (1919) traces the elevations of erratics and terrace levels from the Willamette Valley eastward to the great terraces above Chelan, Washington. He says on page 500 that the lower elevation of the erratics in the Willamette Valley may be due to warping in post-glacial time along the hinge-line approximately coincident with the axis of the Cascade Range. (This thought has rattled around in my own brain, but I never quite had the fortitude to put it in print. There is some good evidence to support it.) On page 504 he states that, as the erratics at The Dalles are at elevation 1200 and those at the edge of the Okanogan (glacial) Lobe are at elevation 1283, there was no downwarp or rebound for at least 125 miles from the ice front. Quote, "Therefore, the submergence is due to diastrophic movements of greater extent than, and different genesis from, those resulting from the weight of an ice sheet." (The possibility that much of the anomalous and sometimes contradictory evidence on the Pleistocene in our region might be due to the contemporaneous or alternate occurrence of submergences and glacial floods is one that intrigues this writer. Perhaps we have been asking too much of the Missoula Flood alone. I've gone farther than Bretz on this, but it is disconcerting to find that he anticipated me so long ago.)

Williams (1916) refers to the Troutdale Formation as the Satsop (They are two separate formations, with the Satsop being appreciably younger), and describes the many occurrences around Portland and up through the Gorge. On page 17 he says that subsidence and uplift caused aggradation and degradation of both the Satsop and the younger gravel fill of the Willamette Valley at Portland. On page 36 he specifically states that the valley of the Columbia was drowned in recent times.

Well, now that I'm deflated down to proper size, I'll start where Bretz and Williams left off and try to come up with some new and worthwhile concepts.

CORRECTION

It was inevitable that it would happen sometime -- that sooner or later the Sword of Damocles under which all editors live -- the chance of making some horrible gaffe -- would fall. And so it did, severely wounding our composure in the April issue of the NEWSLETTER, where, in the account of the banquet, we inadvertently conferred maidenhood on Mr. Pat Landels, thus creating a situation embarrassing to us and intolerable to him. We have been unsuccessful in contacting Mr. William Freer, our bete noire responsible for this repulsive state of affairs, who is understandably incommunicado -- he may even have left the country. Valuing as we do Pat's friendship and good will and not wanting to lose his subscription -- to say nothing of being sued for ten million dollars like the Saturday Evening Post -- it is our purpose to extend to him the most sincere apology possible. Pat, we are truly sorry!

EDITOR

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NEW ADDRESSES:

| | | |
|---------------------------|--------------------------|-------------------------|
| Mr. Harold Deyoe | 4553 N. E. 105th Avenue, | City (29) |
| Mr. & Mrs. Albert Kenney | 4125 S. E. Gladstone | City Tel: 775-5697 |
| Mr. & Mrs. Burt R. Schull | 418 N. Holland | City (16) Tel: BU5-2755 |

CORRECTION:

Mr. & Mrs. George V. Elder to Mr. George V. Elder

PRESIDENT'S MESSAGE

GREETINGS FELLOW GSOC'ERS:

After a short month in office I feel that the time has come to make a resume of plans and goals for the forthcoming year.

On the matter of standing committees and the chairmen for these committees, I have delayed in appointing these persons for two reasons: First, because of need for serious consideration of time, workloads, etc. of various members under consideration and secondly because I have been somewhat swamped with school, work and a change of residence. I hope to conclude this work within the next few days.

The project under way is the projected First Annual Campout as announced at the banquet. The dates for this occasion have been set as follows: August 31, 1963 through September 8, 1963. I plan to scout this trip in May with Mr. C. T. L. "Truman" Murphy, our able field trip chairman, and a detailed itinerary will be available for publication in the June Newsletter.

The series of lectures on the Physiographic Provinces of the Oregon Country have been opened by Dr. John E. Allen, and it is my hope that I am able to continue the series with as an outstanding group of lecturers as our opening speaker.

I am pleased with the willing response of the good ladies of our organization in response to my request for more active participation and leadership of our field events.

Our field trip chairman, Truman Murphy, has outlined what I consider to be an exceptionally good series of field trips for the forthcoming season and I feel sure that the members will continue to find the trips to be both interesting and instructive.

Unfortunately, I am personally unable to attend our noon luncheons on Thursday because of job requirements and location, but I have been receiving glowing reports on our luncheon chairman, Mr. Leo Simon, who is still operating with his inspired talents and abilities. I very much regret my inability to attend these activities as I feel that the noon luncheons are a very desirable and vital part of the society's program.

The society's library night activities are coming to a close in May after a very successful season under Dr. Francis Gilchrist's leadership, aided and abetted by Dr. Jim Sauffer. The plans for resumption of these activities in the fall are somewhat nebulous at this time with several factors that will need and will receive serious consideration. I feel confident that we will be able to resume in the fall with as excellent a program as we have enjoyed in the past years.

At this time I would like to express my appreciation for the helpful suggestions I have received from time to time. Suggestions and criticisms by the membership are of inestimable value to a leader in planning future activities--activities that will reflect the needs and wishes of the group and which will further the expressed objectives of the society.

In closing, may I express the hope that each of you will have an enjoyable, busy and activity-filled year.

Sincerely,

Albert R. Kenney

* * * * *

GRAND TOUR OF THE GRAND CANYON

At the Friday evening April 26th library meeting -- held for a refreshing change in the auditorium of the Public Service Building--Mr. Buz Sanderson, who is the District Engineer of the Surface Water Branch of the Geological Survey, took us on a Grand Tour of the Grand Canyon in a rare adventure more fabulous than we can begin to describe.

In company with an extensive family connection -- one of Mr. Sanderson's adventurous brothers conducted the trip whose personnel consisted of ten Sandersons, a geologist, a paleontologist and an enterprising woman who refused to cancel her previously made reservation when the party turned out to be all male, Mr. Sanderson took us through an amazing, excruciating, three hundred and ten miles of the world's greatest exposure from Lee's Ferry to Boulder, or Hoover Dam.

Though not a professional speaker, Mr. Sanderson charmed us with his easy wit, delighted us with his natural ability to communicate, held our spellbound attention for every minute of his beautifully illustrated talk. He made us feel the deep frustration of the geologist who had to watch all that stupendous geology drifting by without being able to do a thing about it; the scope of the uncanny ability of the paleontologist who knew the way of life of the ancient

THE APRIL FIELD TRIP

By J. R. Rentsch

To this writer our latest trip afield will always stand out as a study of The Deluge. Noah and his ark full of animals were not present at this great flood, and perhaps God did not send it to destroy wicked people as in Noah's time, but that the Spokane Flood was comparable there is little doubt. I feel that not half has been told of this tremendous event due to the force of nature.

To quote from Baldwin's "Geology of Oregon", p. 44: "Late in the Wisconsin stage of glaciation, as the large ice sheets were retreating and the ice was melting, a large flood or floods swept down the Columbia River through the Gorge and spread out in the vicinity of Portland. Most of the water continued to the sea but some swept across the area now occupied by Portland through the Oswego and Oregon City gaps and then into the Willamette River Valley."

As suggested above the origins of these flood waters were high up north and east of Spokane. Here was impounded water released by the great ice sheet and hemmed into what is known as Lake Missoula, covering great areas of Western Montana. The breaking of this great dam is traced to a point at Lake Pend Orielle. Perhaps there was a series of breaks due to great masses of ice getting clogged at this point. This flood raced across eastern Washington toward the Wallula Gateway scabbing areas many miles wide. *

To continue I quote from Sargent: "Flood waters reaching an elevation of approximately a thousand feet in the Gorge between the Wallula Gateway and The Dalles swept away the talus deposits and renewed existing beds of gravel and sand with poorly sorted materials. The time of the flood was quite late in the Pleistocene."

Stauffer offers the opinion that five hundred cubic miles of water was released in this flood; that some of the flood spilled over into the Sandy River and thus was aided in its sweep through the Oregon City and Oswego areas. He estimates that the Portland area was covered to a depth of three to four hundred feet. The turbulence of this wall of water as it swept around Rocky Butte, Kelly Butte and Mount Tabor can only be guessed at, as also the icebergs carrying trees, quarry boulders and other debris picked up en route. Ice-rafted erratics are found at various elevations. Some were carried short distances while others may have come hundreds of miles. Many are granitic, though the well known specimen near McMinnville, weighing many tons, is a slaty argillite.

At this point it should be recalled that the extremes of temperatures prevailing during the Wisconsin age set the stage for much erosion of existing features. Faulting and fracturing due to earthquakes and volcanos also played their parts.

Our first stop was made at the old iron furnace at Oswego. This historic landmark was preserved, said Dr. Hodge, largely through the efforts of GSOC. It was established in 1865 and produced pig iron for many years, ore being obtained at Diamond Head in the form of limonite. The existing structure is built of stone and brick standing about twenty-four feet square and thirty feet high.

A short stop was made at the Camassia Natural Area at West Linn to observe what The Nature Conservancy proposes to do to preserve this twenty-acre tract. The name is well chosen for we found camassia blooming here in great abundance. Many other rare plants and trees were noted. The most obvious thing apparent, however, was how the Spokane Flood had scabbed the entire Boring Lava area, creating ponds and marshes. This group deserves our support and we extend them a salute. Murray Miller met us here and gave each one a brochure of the project.

Just south of Oregon City a stop was made at a railroad cut about a hundred feet in height. Here were observed numerous flows of Boring Lava twenty to thirty feet in thickness. Dr. Stauffer estimates there may be five thousand feet of this, an Eocene flow, and related to the Goble Formation. Many zeolites containing feldspars were observed.

Our trip ended at the gravel pits near Lake Grove. These must be seen to be appreciated. Torrential bedding is evident in every phase. The huge basalt and breccia boulders and erratics lie helter-skelter. Dr. Stauffer postulates these were swept through the Oswego Gateway and turbidity currents determined the bedding directions. Many fragments of opal, limonite and quartzite pebbles were procured. At the pit furthest west sands were coarse, sharp and well sorted.

All were grateful to our trip chairman, Truman Murphy, for providing fine weather.

*See "Palouse and Snake River Geology", report of a Friday evening lecture by Richard Clem in the August, 1962 Newsletter.

April Field Trip - cont'd.

Our lunch stop at Champoeg State Park was enjoyed by all. Many thanks to Dr. Stauffer, trip leader, for a very instructive journey. Forty made the bus trip and two private cars followed.

THE GEOPHYSICAL PROVINCES OF OREGON

At the Friday evening library meeting of April 12th, Dr. John Eliot Allen, Head of the Department of Geology at Portland State College, introduced the Society to the new lecture series on the eight geophysical provinces of Oregon. The introduction was a general one delineating the areas and outlining the course. This series promises to be extremely interesting, especially since none of the provinces are beyond practical reach; any one of them could be visited on a week-end field trip. Dr. Allen gave us a rewarding evening, and it is not hard to see why no one ever goes to sleep in his lectures. Had there been any dullards so inclined, they would have come suddenly awake when Dr. Allen, mentioning the increasing activity of the Pacific Ring of Fire, intimated the possibility of our seeing volcanics in our own sector; that Mt. Tabor might even be reactivated; that he would enjoy observing this event. We went home very wide-eyed indeed, and in a pensive mood . . . W. M. F.

COMING EVENTS

President's Annual Camp Out

The first President's Annual Camp Out will be held in the Steens Mountain - Hart Mountain area beginning the 31st of August and continuing through the first week of September (1963).

The Camp Out, to be led by President Al Kenney will be in a very fertile territory for geologic observation and research. It has been suggested that GSOC'ers may wish to schedule a part of their summer vacation in order to participate.

GRAND TOUR OF THE GRAND CANYON - cont'd. from P. 40

inhabitants so well that he could tell at a glance what artifacts would be found in what locations he had never seen before.

For those who missed it we are sorry, and for an absolutely topping evening right down our alley we extend our gratitude to Mr. Buz Sanderson.

W. M. F.

G. S. O. C. LUNCHEON NOTES

At the luncheon meeting on April 11, Mrs. Louis Oberson announced that her memorial history of The Oregon Museum of Science and Industry will soon be published. These generous people contributed sufficient funds to pay for the printing of 500 copies so that each member of the Society could have a copy: H. Bruce Schminky, Dr. Paul W. Howell, Mrs. Arthur Jones, Leo F. Simon, Albert R. Kenney, Orrin E. Stanley, Emily Moltzner, C. T. Murphy, M. Albertsen, Charles Paul Keyser, Dr. Wallace Hodge, Irving G. Ewen, Fred E. Miller, and Kenneth R. Schramm.

GEOLOGICAL NEWS LETTER

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OBJECTIVES OF THE SOCIETY

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 the better acquaintance and closer association among those engaged in the above activities.

Persons desiring to become members should contact the Secretary.

Regular annual dues, single or family memberships, are \$5 for residents of Multnomah and adjacent counties (Clackamas, Columbia, Hood River, and Washington Counties of Oregon; Clark and Skamania Counties of Washington). Single or family memberships are \$3.50 for residents living outside of the above counties. Junior memberships are \$2.00.

Payments should be made out to the GEOLOGICAL SOCIETY OF THE OREGON COUNTRY.

* The "Oregon Country" is a loose term generally considered, as in the early days, to embrace the states of Oregon, Washington, Idaho, western Montana, and southwestern Wyoming.

ACTIVITIES OF THE SOCIETY

See calendar of the month for details.

| | |
|----------------|---|
| Luncheons: | Every Thursday noon |
| Field Trips: | Usually one field trip per month via private car caravan or chartered bus. Occasional two-day trips with overnight camping. |
| Lectures: | Illustrated talks on geology or related subjects. Two lecture meetings, the second and fourth Fridays, of each month. |
| Library Night: | The third Tuesday evening of each month. |
| Publication: | The <u>Geological News Letter</u> , published once each month, is the official publication of the Society. |

CALENDAR FOR JUNE 1963

NOTE: All scheduled events will meet on Pacific Daylight Saving Time.

Every
Thursday

LUNCHEON - Y. M. C. A. , 831 S. W. 6th Avenue (use Taylor Street entrance.)

12:00 Noon - YMCA Cafeteria (approximate cost of one dollar).
Eat and meet in the Mountain Room (adjacent to the main cafeteria).
These informal luncheon sessions provide a good opportunity to examine
and discuss publications, specimens and to listen to short talks on
geology and related subjects of interest.

For additional information call Mr. H. Bruce Schminky, temporary
luncheon chairman, at 236-3903.

June 8
Saturday

SPECIAL - Dedication of J. C. Stevens Hydraulics Wing at O. M. S. I.

2:00 P. M. - The public is invited to attend the ceremonies at the Ore-
gon Museum of Science and Industry, 4015 S. W. Canyon Road. For more
information call the Museum office at 226-4518.

June 14
Friday

LECTURE - Public Library (room A), 801 S. W. 10th Avenue

7:30 P. M. - Dr. John Eliot Allen, Head of the Department of Geology
at Portland State College, will present another lecture in the series on
the physiographic provinces of Oregon. Dr. Allen's talk, illustrated
with maps and drawings, will be on the basin and range area.

June 18
Tuesday

LIBRARY NIGHT - Not scheduled during the summer months.

FIELD TRIP - Overnight trip to Mutton Mountains and Antelope area.

June 22
Saturday

9:45 A. M. - Assembly point for the private car caravan will be at the
Warm Springs Indian Agency, on U. S. Highway 26 about 100 miles from
Portland.

10:00 A. M. - Departure for the Mutton Mountains with Dr. Paul W.
Howell, trip leader.

evening - Field trippers will camp overnight at the hot springs on the
Warm Springs River to the northeast of the Agency. GSOC'ers partici-
pating in the two day expedition are required to supply their own camp-
ing gear, food, etc.

June 23
Sunday

morning - Group will proceed to Antelope, Oregon on State Highway 218.

afternoon - Expedition will disband to return to Portland via individually
selected routes.

June 28
Friday

LECTURE - Public Library (room A), 801 S. W. 10th Avenue

7:30 P. M. - Mr. Elmer Gail Soper, Laboratory Assistant in Mineralogy
at Portland State College, will discuss crystals and crystallography.
Mr. Soper's talk will be illustrated with slides and specimens.

NEWS OF MEMBERS

By Emily Moltzner

LAURETTE KENNEY has 1001 original recipes for preparing seafoods. Does she know about MILVOY ROBOVSKY'S oyster beds? . . . BOB WILBUR gave many days of his time to the recent cancer crusade . . . DR. ARTHUR C. JONES is on the advisory committee of the public fund-raising campaign for the enlarged Portland Sanitarium. . . We haven't seen HARRIE and RUTH JENNISON recently because they've been touring Europe. . . DR. RUTH HOPSON who has been studying and photographing the movement of Collier Glacier since 1934, concludes her article in the 1962 Mazama with "Next year, I hope to return." We hope she does, as her findings are of great scientific value. . . On the Mazama Research Committee, are DR. RUTH HOPSON, RALPH MASON, CLARENCE PHILLIPS, KENNETH PHILLIPS and LINDA WHITE. . . We regret we don't recall having met MR. and MRS. THOMAS P. BINFORD. With her responsibilities at Christie School for girls, and his as president of Binford's & Mort, who publish most of the books about our Northwest, no doubt they're too busy, but we hope to meet them soon. . . RUDOLPH and JANE ERICKSON met Jane's sister, Mrs. Alta Yount, at Flagstaff Ariz., on their way to tour several geologic features. LEO and JOHANNA SIMON accompanied them to Flagstaff, then left for Colorado, Nevada, Chicago, St. Louis and finally to Ames, Iowa, to visit their grandchildren, their daughter LOTUS and her husband, DR. WILMER J. MILLER, on the faculty of Iowa State University. . . New member LEA SHRADER wonders if Rock Hounds' main interest in rocks is for polishing and jewelry making, while GSOCers want to know their composition, age, etc. . . LESLIE DAVIS and RAY GOLDEN recently enjoyed a week at St. Martin's Springs, Carson, Wash. . . For his high scholastic attainments, RODGER VERDEICT, a student with MARJORIE FESSENDEN, Prof. of Accounting at Lewis and Clark College, has received recognition from Portland Chapter CPAs.

ON THE MEND--MRS. FREER (Bill's mother) is able to get about a bit, as is also DWIGHT HENDERSON, and we are happy to have RUTH PRENTISS with us again after a battle with the "flu" . . . STELLA KEEN is now at Milwaukie Convalescent Hospital, 12345 Stanley Ave., Milwaukie, Ore. where cards may be sent her.

LUNAR RESEARCH -- HOLLIS DOLE, director of the State Dept. of Geology & Mineral Industries, DICK BOWEN and NORMAN PETERSON of his staff, PARK SNAVELY, Chief of Pac. Coast Div. of US Geological Survey, and DON ELSTON and HAL MASURSKY of the Astro-Geological Sections of the USGS recently looked over various Central Oregon volcanic areas with the purpose of gleaning what could be useful data for a trip to the moon. They were sponsored by Lunar Research Facilities, Inc., a subsidiary of the Bend Chamber of Commerce.

PORTLAND STATE COLLEGE FIELD TRIP LOGS 102,000 MILES! True -- because 170 people in 55 cars traveled 600 miles each. DR. JOHN ELIOT ALLEN, PSC Prof. of Geology, trip leader, reports that eight faculty members, as well as students of geology and observers viewing geologic wonders the first time made the journey. Stops were made at Mitchell, Picture Gorge and Camp Hancock and overnight campouts at Oreg. State Hwy. Comm. parks at Tumalo and Shelton. Dr. Allen is highly pleased with the rapidly growing interest in geology and is planning next year's trip scheduled for May 15, 16 and 17.

The GEOLOGICAL TRIP LOG of Madras train trip (500 copies this year), by DR. PAUL W. HOWELL and Wm. M. FREER, contains a supplement by FRED MILLER, giving our Society's Objectives and Activities, as well as names of members for contact by interested persons. Thus the fine public relations, established last year with CHARLES E. (CHUCK) HAYDEN, Traf. Dept. UPRR and President of Vernonia, South Park & Sunset Steam RR, continue to be mutually rewarding, as only a very few Logs were unsold.

HELEN PARKS, Staff Correspondent for The Oregonian at Ft. Rock, wrote (Apr. 27) about the probable establishment of a new recreational area of 22 sq. mi. which includes sand dunes, Fossil Lake, much geologic evidence and a "Lost Forest" of pine trees covering some 9,100 acres.

BACKGROUND FOR A JOURNEY
TO THE
CLACKAMAS UPLAND

By Dr. Paul W. Howell*

Many millions of years ago there existed in the Clackamas Upland area the fringes of a great volcanic terrain. There, during the late Oligocene and early Miocene epochs, were deposited layer upon layer of coarse volcanic detritus and lavas, the Eagle Creek Formation. The materials that make up this formation are largely andesitic in composition, but include appreciable amounts of basalt and some high-silica lavas. The andesites in particular are characterized by porphyritic textures. Most prominent among the layers of the Eagle Creek Formation are the coarse volcanic mudflows and breccias, but finer grained beds also abound. Alluvial deposits are sandwiched between the more volcanic deposits, particularly to the east and north. These were brought down off the ancient volcanoes by streams. The total thickness of the Eagle Creek Formation must be several thousand feet, but no one knows the total. In the Columbia River Gorge to the north it has thinned by erosion to about two thousand feet and rests unconformably upon the Clarno Formation. At Eagle Fern Park, the beds are nearly horizontal, but farther east at North Fork Dam on the Clackamas River, the beds dip 20 degrees or more downstream to the west. A good look at one of the volcanic mud flows can be found just south of Estacada.

Between early and middle Miocene time these volcanic deposits were deeply dissected by erosion. Great Valleys were cut in them and a new and rugged terrain developed. In middle to late Miocene time this terrain was largely filled in and buried by flows of black, fine-grained lava, the Columbia River Basalt.

The Columbia River Basalt was not seen along the trip route, having been either never present in this area or largely removed by erosion during early Pliocene time. Eastward on the Clackamas River it makes its appearance a few miles upstream of North Fork Dam, where its cliffs rise several hundred feet above the river. To the north in the Columbia River Gorge area it is at least two thousand feet thick where it occupies an older valley cut in the Eagle Creek Formation.

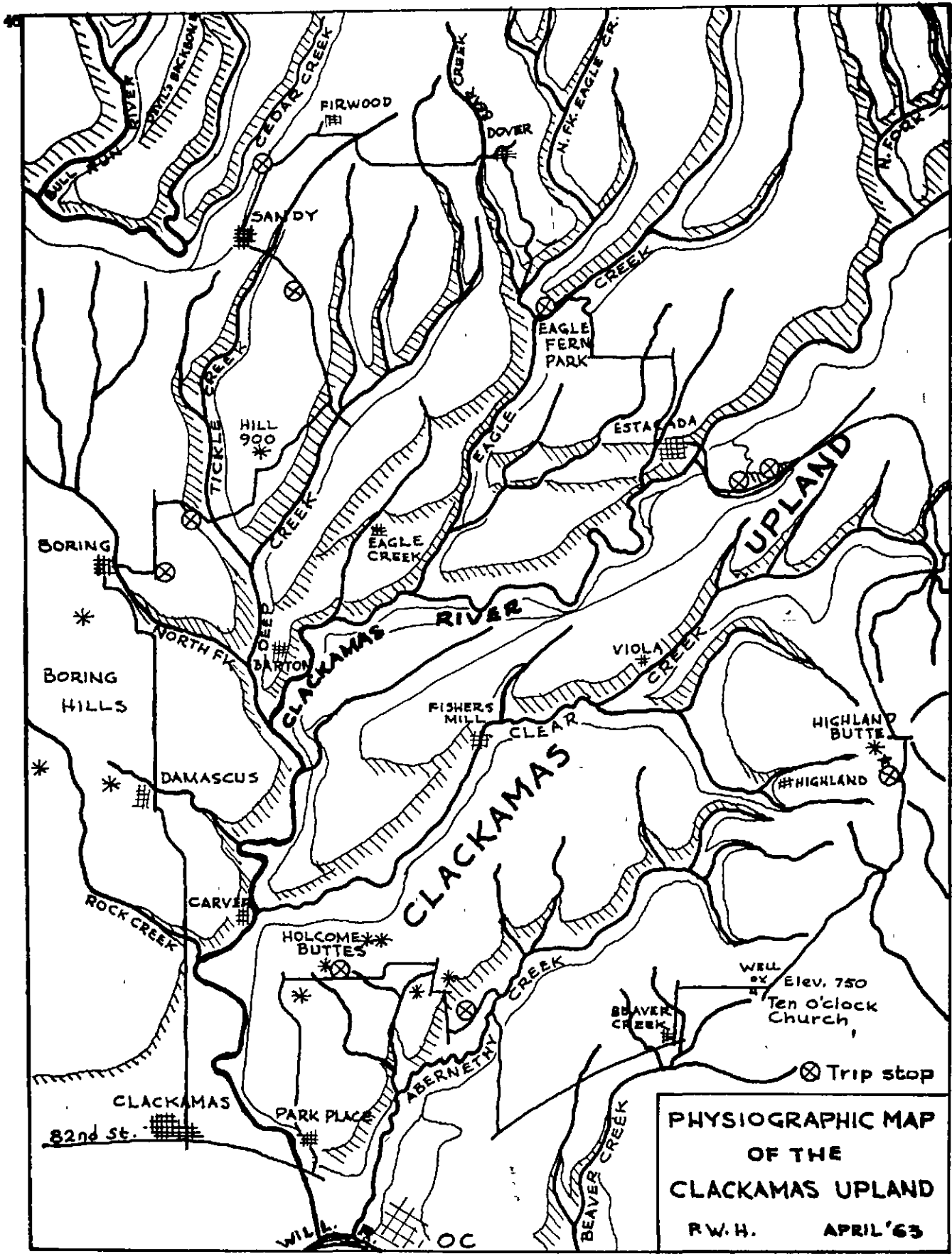
During early Pliocene time a gentle terrain was developed on the Eagle Creek formation in the Clackamas Upland area. Presumably the land surface was near sea level. The climate was warm and humid and weathering was deep and intense. A layer of ferruginous bauxite was developed on this old land surface. The weathered surface was then depressed, forming a sediment basin, and upon it was deposited a thick sequence of silts and sands, the Lower Member of the Troutdale Formation. The thickness of the Lower Troutdale is surprising and its shoreline particularly interesting. First let us consider the sedimentary basin of deposition. Its axis was approximately along a line west of the present Pudding River. Its southern extent was the Salem Hills and its northern extent the Goble Hills beyond Lewis River. The Tualatin Valley was an embayment off the main basin. The eastern shoreline followed the foothills of the Western Cascades in almost a straight line from Silverton northeast by east to the Columbia River and thence northwest into the Washougal River Basin. From there the shoreline swung along the south slope of the Silver Star Mountains and around into the lower Lewis River country. At the Ancestral Columbia River valley (Gordon Creek-Bridal Veil area) a narrow embayment extended far eastward into what is now the Cascade Range.

The sediments that filled this basin are very micaceous, and though other possible sources exist, they are most probably of Columbia River origin. They are non-marine and in places contain abundant peaty wood fragments. The highest exposure yet recorded is at elevation 750 near 10 o'clock Church, not far from Highland Butte. Their thickness is estimated to be greater than 1200 feet and how much has been eroded away is difficult to estimate. The elevation and character of the highest exposures indicate a subsidence of the basin in Lower Troutdale time greater than that during Upper Troutdale time.

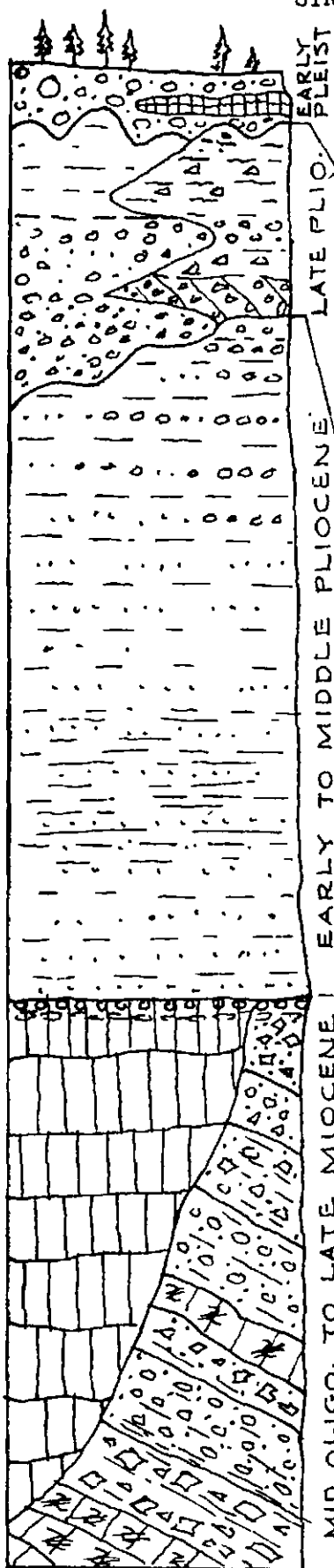
A period of uplift and vigorous erosion followed deposition of the Lower Troutdale. A great amount of the sediments were carried away and deposited elsewhere, probably in the Pacific Ocean. They were largely removed from the Ancestral Columbia River

*Geologist, U.S. Army Corps of Engineers, and Past President of the Geological Society.

GEOLOGICAL SOCIETY OF THE OREGON COUNTRY



PHYSIOGRAPHIC MAP
 OF THE
 CLACKAMAS UPLAND
 R.W.H. APRIL '63



SATSCP FORMATION. 100± feet. Coarse bouldery alluvium. Includes Boring lavas and agglomerates, and Cascan volcanic mud flows. Strong unconformity at base.

UPPER TROUTDALE, MOLALLA, AND FERN RIDGE TUFF. 300+ feet. Upper Troutdale is rusty micaceous sandstone and conglomerate. Conglomerate contains Columbia River gravels (quartzites, et al). Molalla is clayey and tuffaceous in upper part. Conglomeratic in lower. Fern Ridge Tuff is clayey in upper part; largely unaltered tuffs below. Tuffs of both Molalla and Fern Ridge Tuff are rhyolitic. Lies with strong unconformity on Lower Troutdale. Relief is several hundred feet. Farther north lies unconformably on the Columbia River Basalt.

LOWER TROUTDALE. 800 - 1200 feet. Mostly micaceous siltstones and sandstones. Some clay beds. South of Clackamas River volcanic materials become plentiful and near Estacada are dominant in upper 150 ft. of the formation. Material is andesitic and rhyolitic in composition. Conglomerate and pumice tuff beds are prominent locally. Conglomerate constituents seldom exceed 1 inch diameter; mostly pebbles. Near Dodge Park contains many black peaty wood fragments. Lies disconformably on the Columbia River Basalt and with angular unconformity on the Eagle Creek Formation.

COLUMBIA RIVER BASALT. 400 - 900 feet. Black, fine-grained, columnar. Flows usually have brick-bat structure in upper part, normal columnar structure below. Top of the formation in this area is deeply weathered and in part converted to ferruginous bauxite. Middle to late Miocene. Lies with angular unconformity upon the Eagle Creek Formation. Relief of more than 1000 feet.

EAGLE CREEK FORMATION. 2000+ feet. Tuff breccias, lava flows, flow breccias, volcanic mud flows, conglomerates, and tuffs. Mostly massive beds of coarse material, but locally contains fine-grained, shaley beds. Constituents are largely porphyritic andesites, but include some fine grained basalt and banded rhyolite in the conglomerates. Middle Oligocene to Early Miocene.

Background for a Journey to the Clackamas Upland - cont'd.

valley. Following this period of erosion, the land was again depressed and the resulting basin filled with the coarser sediments of the Upper Troutdale and related formations, the Molalla and the Fern Ridge Tuff. This occurred in middle to late Pliocene time.

Near the close of Pliocene time, the Cascade Range as we now know it, became the scene of violent eruptions and the outpouring of gray olivine-rich basalts and andesites. The westward extension of these is known as the Boring Lavas and agglomerates. Highland Butte, Holcomb Butte, and the Boring Hills were the scenes of local eruptions. Contemporaneous with the eruptions there occurred vigorous stream erosion in the newly forming Cascade Range. These processes combined to deposit on the adjacent lowlands, both east and west of the range, vast blankets of coarse alluvium and volcanic mud flows. The mud flows occurred largely during a late phase of the deposition. This alluviation was not confined to our Oregon country, but occurred all along the great downwarp between the Cascade-Sierra Nevada ranges and the Coast Ranges, and in places extended to the sea. The sediments were first described by J. Harlan Bretz along the Satsop River near Aberdeen, Washington and named by him the Satsop Formation. I believe the name should be extended to include all such sediments in the Willamette-Puget downwarp and is so used herein. In the Clackamas Upland area the Satsop Formation is easily distinguished and differentiated from the Troutdale and related formations below it by its coarseness, its ashy matrix, and the strong unconformity which separates it from the formations below.

During the volcanism and the deposition of these coarse sediments, the Ancestral Columbia River valley was clogged and blocked by the build up of Larch Mountain and Mount Defiance which sit astride the old valley. The Columbia River was thus forced to seek a new course north of these two mountains and chose the site of the present gorge.

In early to middle Pleistocene time, following deposition of the Satsop Formation, the Cascade Range was warped upward, producing a rapid westward tilting of its whole west slope. These streams vigorous enough to keep pace erosionally with the tilting were incised in their old courses. Most of the west bank tributaries were lost to these major streams, because the tilting decreased their gradients and thus reduced their erosive power. The east bank tributaries on the other hand were rejuvenated and rapidly extended their courses to capture the drainage of the old sluggish west bank tributaries. On the accompanying map, note the resultant assymetry of the drainage systems and the deep incision of the streams into the uplifted Satsop fill and subjacent formations. The ratio of upland surface with respect to canyon area places the Clackamas Upland in the physiographic category of a land surface in a youthful stage of development in its first cycle of erosion. Only the Clackamas River has had the erosive power to develop a broad valley with notable terraces. The Sandy and Bull Run rivers did so only at their junction, and the other streams not at all. The lack of such valley broadening and terrace development along the Columbia River attests to the late origin of its present course.

Late geologic events have left little impression on the Clackamas Upland area. In the middle Pleistocene time great floods of silt covered the Portland area and extended up onto the northwest part of the Clackamas Upland, but this is a story that deserves separate telling. Missoula Flood silts are found along the lower reaches of the Clackamas and Sandy River valleys, and recent westward tilting has produced an aggradation of the Columbia River and its larger tributaries west of the Cascade Range.

Reprints of this article, at ten cents per copy, may be obtained by mailing a self-addressed and stamped envelope and money to:

GEOLOGICAL NEWS LETTER

Geological Society of the Oregon Country

2020 S. E. Salmon Street

Portland 14, Oregon

FROM THE EDITOR

As the News Letter goes to press (a bit later than usual) it was thought timely to include a note from the editor regarding various changes that have taken place during the past year.

The Masthead

No doubt it has already been noticed inside the front cover of the last two issues, the masthead has been conspicuous by its absence. As a new administration takes office, it takes a while to fill the various committee chairmanships.

In the interim, it is felt that wise use has been made of this space which would otherwise remain blank. The April (1963) issue utilized this space for "Rules for G. S. O. C. Field Trips Via Private Car Caravans". The May (1963) issue contained the "Geologic Time Chart" which was printed originally by the State of Oregon, Department of Geology and Mineral Industries.

News Letter Staff

The staff of the Geological News Letter has "nearly doubled" by the addition of two new members. In addition to the present editor, the Assistant Editor (Mr. William M. Freer), and the Business Manager (Mr. Robert F. Wilbur) continue to serve in the same capacity as last year.

Mr. Freer has delighted many readers with his informative and entertaining style of writing. We of the Society are grateful for his past efforts and are pleased that he has accepted the request to continue as Assistant Editor.

Mr. Wilbur will continue to handle the details involved in the business end of the publication. We are also appreciative of his assistance in the past and pleased that he will continue as Business Manager.

New to the present staff, but certainly not to the Society and many of its committees of the past, is Mrs. Emily Moltzner known more familiarly as "Aunt Emily". Mrs. Moltzner has agreed to keep us informed on "News of Members" as well as members in the news. Since Mrs. Moltzner is active in all functions of the Society in addition to being well read on the news in print, she was felt to be particularly well suited for this position.

Also new this year is Mr. Robert Boyd Anderson, a commercial artist. Many GSOC'ers will remember the outstanding contemporary design on the program cover for the 26th Annual Banquet that was created by Mr. Anderson. Appropriately, Bob will assist as Art Advisor for the News Letter.

* * * * *

MEMBERSHIP ROSTER

| name | address | city and state | telephone |
|-------------------------------|-------------------------|---------------------|-----------|
| NEW MEMBERS | | | |
| Mr. John S. Biggerstaff | 2512 N. E. 21st Avenue | Portland, Oregon | 287-3321 |
| Mr. Norman A. Cooper | 710 "B" Avenue | Lake Oswego, Ore. | 636-2456 |
| Lea Shrader | 2221 N. W. Flanders St. | Portland 10, Ore. | 223-1452 |
| Mr. & Mrs. Robert Waiste, Jr. | 133 S. E. 27th Ave. | Portland 14, Ore. | 235-4320 |
| NEW ADDRESSES | | | |
| Mr. Harold L. Deyoe | 9945 N. E. Sandy Blvd., | Portland 20, Oregon | #72 |
| Mr. Casper H. Magennis | 944 S. E. Malden Street | Portland 2, Oregon | |
| RESIGNATIONS | | | |
| Mrs. Nellie V. Lange | 1534 S. E. 56th Avenue | Portland, Oregon | |

THE PRESS LUNCHES WITH US

FRANK HOCKADAY, Oregon staff artist, a guest on May 9th, gave us an extemporaneous talk about earthquakes. He believes we'll have another in the Portland area but there's no way to predict when, according to Dr. John Allen, with whom he conferred. On May 16th he was with us again, excused from speaking, and graciously accepted a specimen of obsidian from Newberry Crater to add to his collection of rocks and geological material. He loves trees, and is experimenting successfully by developing "bonsais" (miniatures) from regular-size trees. We'll be pleased to have him, his wife and two daughters join us in our activities. (See The Oregonian, May 6th and The Ore Bin of April 1962.

DICK FAGAN, of The Oregon Journal's editorial staff, best known for his "mill ends" feature, was a guest May 16th -- came "just to listen, but reserving the right to rebuttal." EMILY MOLTZNER introduced him as a "Distinguished Discoverer", finder of a fossil leaf print on the sidewalk at the SE corner of SW 6th and Jefferson. Skeptical reactions indicated a controversy was under way. PAUL KEYSER ventured it blew there from a nearby tree. DR. ARTHUR C. JONES conjectured a sentimental workman put it there. BOB WILBUR declared, "It just can't be!" FAY LIBBEY said he'd rather not guess. None of them had seen it. Emily had, so sought relief in RALPH MASON. He also let her down by showing and talking about a piece of man-made pumice, converted from obsidian by heating it. Chairman BRUCE SCHMINKY called us back to the subject by asking Mr. Fagan if he had his rebuttal ready. His reply, (in substance) was, "I certainly do" . . . "I want to join your Society." This brought much applause. However, a still insistent skeptic -- (the record is not clear here) -- asked Mr. Mason to what period he'd assign the leaf print. He asserted, "Certainly not the Permian; most likely Uppermost Permanente." Poor Mr. Fagan blushed. ("Permanente" is a trade name for cement!). . . Luckily, it was adjournment time. To mollify our guest, he was presented with a Pelecypod and a Gastropod from LAURETTE KENNEY, and a Metasequoia print from Bob Wilbur, while BILL FREER and Emily signed his application. We're anticipating getting well acquainted with the Fagan family. (See "mill ends" April 26, May 1, 8 and 22.)

THE OWYHEE PLATEAU

In the second lecture of the Physiographic Provinces of the Oregon Country series at the Friday evening Library meeting of May 24th, Raymond E. (Andy) Corcoran, geologist with the State Department, took us on a sentimental journey to the Owyhee Plateau. Anyway, it must have been sentimental for Andy, because it was here, amid formations whose names were strange to some of us, that Andy did the work for the thesis for his master's degree at the University of Oregon.

Outlining the geologic history of the area, he showed us with excellent slides many spectacular views of the Payette Formation; the Owyhee Basin, Deer Butte and the Idaho Group Formations. We followed him through the rhyolites and welded tuffs of Sucker Creek, saw the Owyhee basalts, the contorted rhyolite around the vent over which the Owyhee Dam is built; the sandstones and siltstones of the Idaho Group.

Andy, speaking easily, fluently, conveyed to us the great fascination of this arid, desolate land, extended the scope of our knowledge of the Oregon Country, gave us a brief, glimmering glimpse of the geology of the Owyhee Plateau --

W. M. F.

FEDERAL GOVERNMENT GIVES OREGON 200,000 ACRES OF LAND - For agriculture? No, because it's all under water, states the US Coast & Geodetic Survey. Maybe oil speculators should start boring instead of sunning themselves on the beaches. (The Oregon Journal, May 1)

EMORY STRONG ADDRESSES LIBRARY NIGHT AUDIENCE

The April Library Night found an enthusiastic audience of GSOCers at the Lewis and Clark rendezvous listening to a very interesting and informative discourse on the archeology of the Northwest. The speaker was our own vice-president, Emory Strong. As past president of the local chapter of the archeological society the speaker was particularly prepared in this field of science as he has personally explored much of the culture of the Northwest Indians. His book, Stone Age on the Columbia, is a best seller.

Mr. Strong detailed the life, habits and handiwork of the early inhabitants and displayed many artifacts of their household and arms equipment. He showed grinding stones, atlatls, arrow and spear points, mortars and pestles, basketry and novelties. He exploded the theory that arrowmaking was a craft for only the most adept, arguing that usually the individual warrior made his own in a matter of a few minutes. His slides portrayed many pictographs and petroglyphs yet to be seen on Columbia cliffs as well as some now forever buried beneath flood waters. He believed that inhabitants of the valley were engulfed and destroyed by the Missoula flood. Recent discovery of a stone axe in flood debris would bear this out.

Library night offers society members a first-hand offering of the new literature that is being received continually as well as the standard volumes of the past. More than that it has become an evening of presentation and discussion of new technics of geological research such as fossil leaf identification, studies in micro-organisms, of paleobotany and paleontology, of field identification of specimens. Members who wish to improve themselves in the science take advantage of this opportunity. Further it affords the newcomer an excellent chance to get acquainted during the social hour.

CTLM

PICNIC AT LEWIS AND CLARK COLLEGE

Among the flora of the lovely campus, GSOCers and guests met for this season's final of "Library Night" events. After supper they gathered in Peebles Hall, where TRUMAN MURPHY led them in spirited singing.

Exciting highlight was showing of two color movies: 1st - "The 1959-1960 Eruption of Kilauea", so realistic we smelled the gases and felt the terrific heat. DRS. HODGE and JONES led a discussion, and we learned that this gigantic volcano, measured from the ocean floor, has a height of 32,000 ft. Movie was loaned us by the Menlo Park, Calif., Library of the U. S. Geological Survey. 2nd: "Australia's Coral Wonderland", where we saw corals alive and fossilized, fishes of every color, a turtle laying eggs and its tiny babies, as soon as hatched, flapping madly toward the sea. This movie came from Portland Central Library's Room Services Dept. headed by Mrs. Helengrant Weaver.

Appreciation was expressed by Chairman DR. FRANCIS GILCHRIST to all who had presented programs, and to MRS. MURRAY MILLER and MISS MARIE WAGNER, our librarians. LEONARD DELANO thanked DRS. GILCHRIST and JAMES STAUFFER and their wives for the many educational programs and social hours given us.

We're all looking forward to next season's Library Nights.

WOOLGATHERING

One of our correspondents -- who shall remain nameless -- wishes to apologize to Dr. John Allen for manhandling the report on the Doctor's lecture in the May NEWSLETTER when he used the term "geophysical" instead of "physiographic", and Whereas he was admittedly woolgathering, and Whereas the corrections in the NEWSLETTER are beginning to take more space than everything else, and Whereas it is generally conceded that he has already gathered enough wool to last the rest of his natural life; Therefore, he has promised to Resolve to try to reform and henceforth lead a better life.

EDITOR

ROCKS FOR EVERYBODY

Though we have always admired the charm of buildings built of stone, and have been interested in building stone itself, we never before realized how gay, how light-hearted, how utterly effervescent building stone can be until Ralph Mason told us at the Friday evening lecture at the Library on May 10th. Ralph, whose preparation for his talk had not been completed by the time the talk began, had thoughtfully brought some cubes of building stone from the State Department's well-known exhibit which he cleverly employed in a competition between teams headed by Leo Simon and Dr. Arthur Jones to see which team could identify the places of origin of the greatest number of cubes. Leo, whose team won the competition, was awarded a prize -- one of the little cubes that was apparently useless for building because it was so full of holes. Considerate as always, Ralph made it clear to everyone that any resemblance between Leo and the prize was purely coincidental.

Sometime during the hilarious evening -- we are not sure just when -- Ralph outlined in general the field of Oregon building stone: analyzed the difficulties in developing it. Whether or not the lecture caught up with and passed its preparation, or whether they finished neck and neck, we will never know. It didn't really make much difference.

W. M. F.

* * * * *

JUNE FIELD TRIP INFORMATION

Saturday, June 22nd

The June field trip will be an overnight camping expedition to the Mutton Mountains and to the region around Antelope. Dr. Paul Howell is the leader. Trippers will meet Saturday, June 22, at 10 a. m. at the Warm Springs Indian Agency about a hundred miles from Portland on US 26 and shortly before the crossing of the Deschutes River. This is a village of stores, filling station, brick schools and the agency headquarters. The Mutton Mountains will be prospected and overnight camp set at the Hot Springs on the Warm Springs River on a side road to the northeast of the agency.

Sunday, June 23rd

Next day, Sunday, June 23, the party will advance to the vicinity of Antelope on State Highway 218.

CTLM

* * * * *

HISTORY OF O. M. S. I. PUBLISHED

"One Man's Civic Dream Becomes Community's Push-Button Project", a memorial history of the Oregon Museum of Science and Industry, written by Mrs. Viola L. Oberson has been published and will soon be available to the general public from the Museum.

Through the generosity of several members of the Geological Society this booklet is being made available without charge to the entire membership of the Society. Contributing members were:

Mr. H. Bruce Schminky

Mrs. Emily Moltzner

Dr. Paul W. Howell

Mr. C. T. L. Murphy

Mrs. Arthur C. Jones

Mr. Maurice M. Albertson

Mr. Leo F. Simon

Mr. Charles P. Keyser

Mr. Albert R. Kenney

Dr. Wallace Hodge

Mr. Orrin E. Stanley

Mr. Irving G. Ewen

Mr. Fred E. Miller

Mr. Kenneth R. Schramm

This booklet will be mailed with this issue to all members. Enough copies have been purchased with the funds donated to supply each future new member with a personal copy.

* * * * *

GEOLOGICAL NEWS LETTER

OFFICIAL PUBLICATION OF THE



PORTLAND, OREGON

July 1963

GEOLOGICAL NEWS-LETTER

Official Publication of the

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COMMITTEE CHAIRMEN

| | | | |
|----------------|---------------------|----------------|-----------------------|
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| Field Trips: | Mr. C. T. L. Murphy | O. M. S. I.: | Mr. Ralph S. Mason |
| Historian: | Mrs. James Running | Program: | Mrs. Thora M. Baker |
| Junior GSOC: | Dr. John Hammond | Publicity: | Mr. William M. Freer |
| | Dr. Paul W. Howell | Public Relat.: | Mr. Clarence Phillips |
| Library: | | Research: | Mr. Rudolph Erickson |
| Library Night: | | Social: | Mr. Robert Hart |
| Luncheon: | Mr. Leo Simon | Telephone: | Mr. Greg Hanson |

OBJECTIVES OF THE SOCIETY

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 the better acquaintance and closer association among those engaged in the above activities.

Persons desiring to become members should contact the Secretary.

Regular annual dues, single or family memberships, are \$5 for residents of Multnomah and adjacent counties (Clackamas, Columbia, Hood River, and Washington Counties of Oregon; Clark and Skamania Counties of Washington). Single or family memberships are \$3.50 for residents living outside of the above counties. Junior memberships are \$2.00.

Payments should be made out to the GEOLOGICAL SOCIETY OF THE OREGON COUNTRY.

* The "Oregon Country" is a loose term generally considered, as in the early days, to embrace the states of Oregon, Washington, Idaho, western Montana, and southwestern Wyoming.

ACTIVITIES OF THE SOCIETY

See calendar of the month for details.

| | |
|----------------|---|
| Luncheons: | Every Thursday noon |
| Field Trips: | Usually one field trip per month via private car caravan or chartered bus. Occasional two-day trips with overnight camping. |
| Lectures: | Illustrated talks on geology or related subjects. Two lecture meetings, the second and fourth Fridays, of each month. |
| Library Night: | The third Tuesday evening of each month. |
| Publication: | The <u>Geological News Letter</u> , published once each month, is the official publication of the Society. |

CALENDAR FOR JULY 1963

NOTE: All Scheduled Events will meet on Pacific Daylight Saving Time.

Every Thursday LUNCHEON - Y. M. C. A. , 831 S. W. 6th Avenue (use Taylor Street entrance.)
12:00 Noon - YMCA Cafeteria (average cost of lunch is one dollar.)
GSOC'ers dine in the Mountain Room adjacent to the main cafeteria.
Enjoy informal sessions which provide an opportunity to examine and discuss publications and specimens. Occasional short talks are heard on geology and related subjects of interest.

For additional information call Mr. Leo Simon, Luncheon Chairman, at 236-0549 (residence) or 223-0300 (business).

July 12 Friday LECTURE - Public Library (room A), 801 S. W. 10th Avenue.
7:30 P.M. - Dr. John Eliot Allen, Executive Officer of the Department of Geology at Portland State College, will lecture on the High Cascades. This lecture is one of a series on the Physiographic Provinces of Oregon being presented by the Geological Society. Dr. Allen's presentation will be illustrated with maps, charts, diagrams, and slides.

July 14 Sunday FIELD TRIP - Silver Star Mountain, Washington.
8:30 A.M. - Meet at Battleground Lake (north and east of Vancouver, Washington.) Society President Al Kenney will lead the private car caravan to Silver Star Mountain via the Lewis River side.
Field trippers should come prepared with the usual necessary items (lunch, geology picks, rough clothes, and rain gear in the event of inclement weather.)

No reservations are required. For more information and directions call Mr. C. T. L. "Truman" Murphy, Field Trips Chairman, at 282-2027.

July 16 Tuesday LIBRARY NIGHT - Not scheduled during the summer months.

July 26 Friday LECTURE - Public Library (room A), 801 S. W. 10th Avenue.
7:30 P.M. - Mr. Irving Rand, local Portland attorney, will speak on his recent trip to Asia Minor. Mr. Rand's presentation will be illustrated with slides.

ADVANCE CALENDAR FOR AUGUST 1963

August 9 Friday ANNUAL PICNIC - In lieu of the usual Friday evening lecture, the Society will meet in the cinder cone at Mount Tabor Park for an evening of picnicking and entertainment.

August 20 Tuesday LIBRARY NIGHT - Not scheduled during the summer months.

August 23 Friday LECTURE - No lecture scheduled during August.

FIELD TRIP - Tentatively, a short one-day tour is being planned up the Columbia Gorge to visit points of interest that might have been missed on previous trips through this area. Date, time, departure point, and trip leader to be announced.

NEWS OF MEMBERS

By Emily Moltaner

DR. ARTHUR C. JONES, a 1921 B. A. graduate, received an Honorary Doctor of Humane Letters degree from Pacific University during its 100th Commencement Exercises. Happily present were his wife DORIS, their daughter ARDIS and her husband DAVID G. HITCHCOCK, their son IRVING W. and his wife ELEANOR, and their grandchildren. Dr. Jones has been a faculty member of the University of Oregon Medical School since 1927, was co-founder and medical director of the Oregon Rehabilitation Inst. of Oregon from 1947 to 1961, co-founder and is a director of the Oregon Chapter of the Arthritis and Rheumatism Foundation; also co-founder of the Alcohol Rehabilitation Assn. Notwithstanding these 'round-the-clock activities, plus his own Physical Medicine and Rehabilitation work, he still finds time for his friends and his hobbies of gardening and geologizing. A Charter member and a Fellow of our Society, he was its president in 1947. The "natural-as-life" picture of him in The Oregonian (May 29) and The Oregon Journal (May 30) was taken by his son.

GREG HANSON, our ever-faithful and efficient Social Chairman, has graduated from Milwaukie High School and is planning to enter Lewis and Clark College . . . Lovely SANDRA ROSS, grand-daughter of MRS. RUTH GOOCH, was Rose Festival Princess from Madison High School . . . GREGORY ALAN BERG, son of MR. AND MRS. OSCAR K. BERG, graduated from Portland State College with a B. S. degree in General Science . . . MRS. AVA CROWE recently vacationed in Santa Cruz and Los Angeles, Calif. and Nogales, Mexico. . . Our popular patriarch ORRIN STANLEY is taking a post-post graduate course in photography at Asilomar Conference near Pacific Grove, Calif., but will be home for his 91st birthday July 28th . . . Geologizing for a week the easy way, MR. and MRS. FRED MILLER and BOB WILBUR traveled by train and bus to Vancouver, B. C., Fraser River Valley, Jasper National Park, Lake Louise, Banff and Columbia Ice Fields in Canada. Hope they took a lot of pictures . . . new member LLOYD A. WILCOX says he wishes he'd become interested in geology 40 years ago. We assured him geology will last a long, long time and welcome him and his wife to our Society.

ON THE MEND is MRS. LESLIE (CLARA) DAVIS, following surgery on her right eye . . . MRS. ALBERT (STELLA) KEEN is still improving at Milwaukie Convalescent Home.

IT SADDENS US to record the death of JAMES GALT on June 13. We remember him fondly for his wit and humor, as well as the happiness he derived from sharing his turkey sandwiches and Scotch marmalade with hungry field-trippers. Farewell, Jim.

NEW OMSI WING DEDICATED

It was a proud moment for DR. JOHN CYPRIAN (JACK) STEVENS and his many friends on June 8, when the new Hydraulics Wing was named and dedicated in his honor, and he paid tribute to as many of those as time permitted, whose financial support and unflagging efforts made the Oregon Museum of Science and Industry a reality.

He was lavish in his praise of VIOLA (MRS. LOUISE E.) OBERSON for authoring the booklet "One Man's Civic Dream Becomes Push-Button Project." Reading it, we feel the frustrations and disappointments, but are sustained by the perseverance of Dr. Stevens and his helpers. They were indomitable. Without this booklet most of us would remain ignorant of how OMSI became the famous Museum it is. Names of our members are sprinkled like stars over its pages in text and pictures, yet we know many, many more not mentioned gave financial and physical help.

We, too, extend our plaudits and appreciation to you, Viola. We're sure the 10,000 copies of this first edition will be multiplied many times and the booklet will have very wide distribution.

GSOC PRESIDENT SCOUTS THE STEENS FIELD TRIP

By C. T. L. "Truman" Murphy

Last month President Al Kenney scouted the lay of the land for the week-long trip of the President's Annual Campout. This is to the Steens Mountains and will be held August 31 to Sept. 7. Al took four days of his vacation and put a lot of miles on his car. He took me along as his man Friday. I appreciated it. Maybe some highlights of the trip would encourage other GSOCers to get on the band wagon this August 31st.

Our first stop was at Glass Buttes east of Bend. Here sheen obsidian lies as float all over the place but we continued on up the side of the butte to a location of several mine adits near the top. Here with hard hats and gas lanterns we entered the most promising of the shafts to find ourselves surrounded by opaline walls deeply intruded by red cinnabar. We filled our rock sacks with good pay ore. Up on top of a veritable mountain of opal we collected our fill of pure opal and enjoyed a sweeping view of old lake bottom. Through this area Al continually took pictures of the many wild flowers that decorate the desert. He came home with slides of penstemon, Lewisia, desert evening primrose, white lupine, larkspur, phlox and many others.

From Burns the road lay south on State 205 through more than fifty miles of old Malheur lake bottom which once extended up to Burns. This is the beginning of the Malheur Wild Life Refuge, a vast tract of swampy land and two lakes. It is fed sweet water from the north by the Silvies which flows south from the Blue Mountains and from the south by the Donner and Blitzen which flows north from the Steens area. A ten mile dike prevents overflow to the north but on wet years the surplus drains into Harney Lake. The latter, having no outlet, is strongly alkaline. It cannot be seen from our road.

From the level lake bottom we climbed an obstruction to our route. This is called Wright's Point and is a prominent fault block of 25 miles length. This is our first contact with the fault block, a feature that characterizes the whole region through which we are to pass for four days, and is the chief scenic attraction of the Basin and Range Province of central Oregon. Dr. John Allen, in his address to the society on June 14, showed that most of these fault scarps trend in a NNW to SSE direction with others about NNE to SSE and this was borne out visually in our travels. Many ranges, as the Steens, Hart Mt., Warner and Abert Rims and Winter Rim to the west, are horsts with intervening grabens but never to the exclusion of the individual fault block that rises alone out of some Pleistocene lake bed and dominates the landscape in its area. Viewed from a height like Warner Rim they appear like ice cubes, mostly tilted, floating on a sea of land. The camera enthusiast exhausts his film with pictures of such outstanding exposures.

The cat-tails and other aquatic plants that cover the marshes of Malheur Lake provide the nesting places for countless water birds and land birds as well. While we saw geese, brant, pin-tails and mallard, ruddys and coots, together with cranes and herons, we also saw snipes, avocets, various owls and hawks and red wing blackbirds in untold numbers. Near Diamond and Frenchglen we came upon great colonies of yellow-headed blackbirds, a species new to our acquaintance. Flickers and other woodpeckers were noted, chukar quail and pheasant. We expected to have magpies in the desert but we also found killdeer through most of our trek. Both of us photographed a town of beaver and muskrat houses but the inhabitants did not show themselves. However, rounding a turn of a side road where we observed a large petroglyph, a couple of badgers came out near us and disported among the rocks.

Pres. Kenney made a side trip to the mouth of Kiger Creek especially to observe the glaciation that is a feature of this canyon but was told at the village post office that the roads were impassable at this season. Actually rain squalls which preceded us made all side roads precarious and the constant cloud cover interfered with our photography. It is believed that September weather will correct these shortcomings. The crest of the Steens and the Pueblos were outlined in snow and covered with thin clouds much of the time.

President Scouts Steens Field Trip - cont'd.

We spent the second night in Frenchglen on the Donner and Blitzen river at the southern terminus of the Malheur refuge. The little hotel is quaint and comfortable and is recommended to all wayfarers in this region. Across the creek is "P" Ranch, headquarters of Peter French, last of the cattle barons of this region. At his death his holdings reached the total of 150,000 acres. The government bought 65,000 acres to add to the refuge. Fish Lake, high on the west slope of the Steens, is to be our camp site in September and from here it is only a short drive to the summit. The view here is eastward over the vast graben which is the Alvord desert. Fish Lake is a favorite resort with fishermen and a good campground is maintained here but we were able to drive up only half way to it due to the muddy road.

Climbing the fault scarp of Jackass Mountain at the back of Frenchglen, we dropped only a few feet in elevation to the bed of ancient Catlow Lake. This body of water was 75 miles long and 30 miles wide and its depth was said to be 350 feet. This, said Dr. Allen, was only one of the great number of Pleistocene lakes fed by melting glaciers and interconnected so that they covered much of the land. As we drove along the foot of the west scarp of the Steens, a cliff much lower than the east facade because of the tilt of the block, we could easily make out several distinct shorelines of ancient Catlow Lake. To our right at the south end was an area of dunes.

The ranches that are located in these remote places generally have good springs that discharge from the mountains. The most prominent ranch here was the Roaring Springs Ranch, a large project of fine buildings machinery, tall poplar trees, a prominent radio tower, an airplane hangar and an airstrip. Through all of southeast Oregon we were never out of sight of a powerline strung on twin poles. We reasoned that the remotest ranch could have the comforts of urban life and maybe freedom from a lot of its ills.

At Home Creek we crossed the delta of the mountain stream that spread its outwash from the canyon and reasoned that at the time of its deposition there must have been much more water in evidence than in this present day. The beach lines were very prominent here.

At last we cut through the gap between the Steens on the north and the Pueblos on the south and came out into Alvord desert at Fields. Here is civilization with a general store, gas, water, a good little restaurant and a motel of four units. Four miles north we turned off the road to the old borax works which operated at the turn of the century.

The fault scarp of the Steens is on our left as we proceed northward through Andrews, a sleepy Basque settlement. Not a living soul showed his face as we drove through. At Alvord Ranch, the big establishment at the base of the highest peak, we looked up to the 10,000 foot eminence. It is said that 42 distinct lava flows are in evidence in this escarpment and some of them overlay sediments of the Alvord Creek formation. This is well described in Baldwin's Geology of Oregon, a volume we consulted throughout the trip.

There being no public campground in this area Al paced his Chevrolet through the gate of Wildhorse Ranch and four miles farther to the ranch proper where the owner ignored our presence till we came upon him. Introduced and our identity established and our wishes made known, the good man found he was not in a tussle with the BLM, traditional antagonists of the ranchers, and generously offered us sanctuary at the mouth of Wildhorse canyon which debauches at his back door. Here will be our third camp.

Retracing our way southward we drove to Denio (Rhymes with deny) a thriving village on the Nevada state line with tourist facilities. We filled the gas tank for there was none to be had for the next hundred miles. On solid pavement on this Winnemucca-to-the-Sea Highway, through alkali flats south of the Pueblos, we turned westward across the broad valley of desert sage in this Nevada northland. The creek that drains it when there is water to be had is called Thousand Springs Creek. Here is a nice ranch of the same name. The fault scarp which we climb to the west gives us a tremendous view of this expanse of wasteland.

President Scouts Steens Field Trip - cont'd.

We take pictures. We are in the Sheldon Antelope Refuge and in the waning sunlight come upon a pronghorn monarch and his harem of does who capered a few feet as we passed rapidly.

At the Oregon state line we came upon new road construction. Last year the state of Oregon built its connecting link with the long-established Nevada route of the Winnemucca-to-the-Sea and this now gives southern Oregon a paved outlet from Lakeview eastward. The new road has been carved right out of the steep face of the tremendous fault scarp that overlooks the Guano valley and this exposure reveals the contortion of cooling basalt, a feature that is not unknown to our own Portland vicinity. We cross the foothills of the Hart Mountains to the Warner Lakes area.

At Adel we turned north past Pelican Lake where a flock of 15 white pelicans made the welcoming party. Crump geyser adjacent refused to geys for us and without waiting for its period we drove on north to Plush. Enroute we crossed a section of basalt that had refused to fall into the graben. We dropped down again into the Warner Lakes and followed them through the village of Plush and along the face of Warner Rim, a tremendous fault scarp that reaches its eminence in Warner Peak (8,020 feet). Climbing the face of it on a well-graded rise, we emerged at the top where the view out over the vast lake region is breath-taking and the ultimate in photographic prospect.

The supervisors of the Hart Mt. Game Refuge (240,000 acres) were most hospitable and our last camp will be located in one of their well-appointed camp grounds near the peak itself. They assured us that we shall have every likelihood of seeing their mountain sheep, an emplantation that is flourishing and likely to restock a range that was once well populated with mountain sheep before hunters and ranchers killed them. From this eminence our ice-cube blocks are once more a striking feature of the landscape.

The east slope of the Abert Rim is a gently tilting dip of the famous fault block that extends for 19 miles along the east shore of Abert Lake. It is considered one of the most striking fault exposures in the world and is considered of relatively recent origin. Our view west from the crest looks out over the lake and to the west companion horst of the intervening graben.

Our way home led through Paisly and ancient Lake Chemaucan and its broad gravel delta, past Fremont's Summer Lake at the foot of Winter Rim and over Picture Rock Pass that dams the southern expanse of Fort Rock valley and the present residue of it in Silver Lake. The remainder of our trek has been well covered in previous trips.

It remains only to assure the membership that Pres. Kenney has scouted a route that makes for the maximum in scenery, wild life, and geologic experience and we in the society are in this business for exactly that purpose.

LUNCHEON NOTES - During June H. Bruce Schminky has been officiating as temporary luncheon chmn. while Leo Simon and his wife, Johanna, have been on an extensive motor tour.

On June 13, Mr. Irving Rand, Portland attorney, enlightened the group by reviewing a few highlights of his recent trip to the Holy Land. His comments generated so much interest that he has been invited to speak at the Friday evening lecture on July 20th.

At the June 20th luncheon, GSOC'ers enjoyed a double treat by hearing two speakers, Mr. Thomas C. Mathews, spectroscopist for the State of Dept. of Geology and Min'l Industries, who spoke on the discovery and use of Teflon, and by Mr. H. Bruce Schminky, who told of his impressions of Vienna and its people. He illustrated his talk with a portable projector and slides taken during his European tour last fall.

On June 27th, Leo Simon surprised the group by his return from his motor tour. He presented the group with a 5-minute resume of his trip.

MUTTON MOUNTAIN MEANDERINGS

Hi yo, silver -- among other things -- and away! Such might have been the rallying cry of the G. S. O. C. ers on the Mutton Mountain field trip on the 22nd and 23rd of June. We met at the Warm Springs Indian Reservation, then backtracked toward Bear Springs. We passed thru hills capped by Cascan basalts, columned like the walls of Troy. Below this was gravel, due to glaciation, which in turn supported by Pleistocene lake beds. The next stone tier was Carriaba or Columbia River basalt. The lowest deposit in that area is the John Day formation.

Mother Earth must literally have had a splitting headache when the Mutton Mountains were reared up. The land was first heavily faulted and split, then sharply uplifted. In the lifting, much Columbia River basalt was ripped up as well as the John Day and Clarno, but it seldom shows, being for the most part buried. The land round about undulated, as though it was covered with small sand dunes. Dr. Howell, trip leader, explained these as resulting from the differing reactions of the layered deposits to temperature changes. The upper layer of silt, due to damming, reacted differently than the lower level lavas, culminating in a rather irregular landscape.

The caravan turned right on the first road beyond the Warm Springs River, and rolled merrily along until the Doctor halted us at a road cut that displayed a meeting between the John Day, a reddish formation, with the chalky-grey Deschutes (Madras) formation. The rubble joint between the two gave mute evidence of the sharpness of the faulting in the area. Not far beyond, we made a right turn that headed us back toward our meeting place. Another road cut revealed welded tuff of a type known as polka dot. This Clarno tuff was peppered with tiny agate nodules. The tuff itself slanted northwest, displaying clearly the direction of faulting of the entire Mutton Mountain mass.

We passed through country that would have done credit to the devil's palace. Pinnacles of red rock jutted skyward like jagged teeth, and the empty eye sockets of a leering skull were mirrored in caves which gaped out of citadel-like rocks. This land is wide and free, and man begins to realize that he is merely another transient occupant, who will go the way of his forebears unmourned by the sage, sky and stone.

Our day climaxed with our visit to the proposed site for the Round Butte Dam, ten miles west of Madras on the Deschutes river. The dam will be completed in the fall of 1964 and be capable of generating 300,000 kilowatts of power, thus making it the largest hydroelectric plant located entirely within Oregon. David Campbell, geologist on the project, told the group what he could about the job in the time we had. The base layer for the canyon walls at the dam site was Deschutes basalt, overlaid by mudflows and four more flows of basalt capped that on up to the rim rock. The butte itself is a cinder cone, and the lavas form the rimrock on the right abutment. The inter-canyon basalt is pillow lava, resulting from the Redmond flows' having argued with the Metolius. All of the basalts are olivine basalts except, of course, the Columbia River deposit.

This concluded the first day's wandering, so the company settled down for the night in various motels and parks, meeting in front of the Y motel in Madras next morning. We then pointed ourselves toward Hay Creek valley. Road cuts revealed contacts between John Day sediments and Columbia basalts, and the tilted structure in the sediment was easily noted. The valley rimrock was a thick flow of basalt, supported by a step-by-step progression from Deschutes formation to Columbia River basalt to John Day deposits. A rock quarry near the road yielded a peculiar welded tuff of a brick red color. The color is due to iron in the hot ash deposits forming the tuff. The deposit ties into a hogback ridge at right angles. The hogback ridge is the culmination of the west side of the Hay Creek uplift. A mile beyond are rolling hills of the Clarno formation. The road cuts into an anticline in this area, revealing textbook examples of welded tuff, interspersed with miniature thunder eggs of calcidian. On top of the Clarno is a 3 to 400 foot-thick deposit of other tufts with a columnar pointing structure.

Today's high point was a visit to the Oregon King silver mine. Dr. Radke, mine geologist,

Mutton Mountain Meanderings - cont'd

explained that the mine was an old one, closed down when silver prices fell. It was re-opened a year ago, and the native gold and hornsilver is being taken out along with galena, tetrahedrite spherican pyrite. Yield: \$150.00 a ton. This is a high temperature deposit located in fault that runs N 45°W. Several cross faults of later date than the deposit itself.

Soon after this our party split up, some going to Camp Hancock, others homeward, so like the traditional westerners we faded off into the sunset, taking with us fascinating memories and a sincere gratefulness to all those who worked so hard to make our trip a success.

- Greg Hanson -

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GSOCERS INVADE SADDLE MOUNTAIN

A caravan of a score of cars assembled at the Saddle Mountain picnic ground on May 26 for an orderly raid on the old promontory. With malice aforethought they brought their floral expert, Dr. John Hammond, along for a hill of this dimension and altitude is fertile ground for wild flowers that follow the blooming season in orderly progress as the altitude advances. Thus it might be past season for trilliums at the base but at the 4,000 foot level they might be found in their prime. Dr. Hammond led the party in easy stages up the zig-zag path so that none might become too fatigued.

It would be impossible to name even a small part of the varieties of floral excellence that was examined, classified and named by the leader and many there were who collected specimens to press in their albums. I remember particularly stone crop and Douglasia and the field of wild onions that carpeted the top of the mountain. It seems that at every pause in the ascent Leonard Delano, Al Kenney and Dr. Hammond were hovered over some little posy with trick cameras and probably next fall our Library Night will be treated to classy little quarter-inch specimens blown up to sun flower size on the screen. Jack Pollard and Thora Baker were experimenting with long shots of the coast surf and the mouth of the Columbia from the 4,000 foot north peak. Dr. Gilchrist did a show-stopping act as he scampered unconcernedly out the length of a knife-sharp spur to retrieve some treasured specimen. He made it.

Geologically Saddle Mountain is worth investigating. The highest peak in the Coast Range north of Mary's Peak, it dominates the skyline when one gets above the highway canyons and has a chance to look around. Dr. Baldwin suggests that Saddle Mountain is a remnant of a whole area of pillow lavas that once covered much of Clatsop County. That erosion has removed much of the terrain but some hard strata at the top has held the mountain up in twin peaks connected by a saddle. Pillow breccias are noticed throughout. But the eye-popping element is the succession of dikes that cut the old hill in many places. Being harder basalt they have resisted erosion and now stand out on the mountain side like well-ordered stone walls sometimes ten or fifteen feet high and up to six in width. The camera enthusiasts climbed over the dikes for good camera angles. From the campground and car park below the visitor looks right up to see them.

Luncheon was had when the climber most felt the pangs of hunger. Most of the party ate in the saddle. Two trusty springs supplied the climbers so that it was not necessary to carry canteens. I brought my coffee thermos.

CTLM
* * * * *

FT. ROCK CAVE DEDICATED AS NATIONAL PARK MONUMENT. This cave, about 1-1/4 miles from Ft. Rock, is extremely significant because DR. LUTHER CRESSMAN, retired head of the U of Oregon Anthropology Dept., found in it artifacts left by its inhabitants some 9,000 years ago, driven out, most likely killed by volcanic eruptions. REUBENA LONG, who donated the property, and PHIL BROGAN assisted in the ceremonies. See Oregonian: Mr. Brogan's article of June 16, and picture page of June 24. Also Ore Bin, May 1963: "Maars of South-Central Oregon", by N. J. PETERSON, geologist, Ore. Dept. Geology & Min'l Ind., and E. A. GROH, private geologist. -- E M --

THE BASIN AND RANGE AREA

Dr. John Eliot Allen gave the third lecture in the series on the physiographic provinces of Oregon at the Central Library meeting on Friday evening, June 14th. This lecture, on the Basin and Range Area, outlined the vast expanse of country constituting the province, extending from deep in Mexico to Southern Oregon and Utah; from California nearly to Colorado. Dr. Allen's discussion of this great area, created by the drifting of continents -- a theory that he says is now widely accepted by geologists -- was general to begin with; more specific concerning the relatively small section of it lying within the southernmost part of Oregon. Of this he showed an interesting chart illustrating the intricate faulting pattern mapped only last year (Donath, G. S. A., 1962), and discussed four different hypotheses regarding the faulting.

Those in attendance will recall that Dr. Allen, Head of the Department of Geology at Portland State College, gave the first -- and introductory -- lecture in this series at the Library on Friday, April 14th.

W. M. F.

CRYSTALOGRAPHY

At the Friday evening June 28th Central Library meeting, Mr. Elmer Gail Soper, Laboratory Assistant in Mineralogy at Portland State College, introduced those of us who didn't know to the fundamentals of crystals and crystallography, a fascinatingly interesting subject that every geologist must know more or less about, but probably mostly more. Mr. Soper, after briefly sketching the historical development of the science gave us the fundamental principles of the basic crystalline forms, which he explained by the use of models of the type we are used to seeing indicate the structure of atoms. He also showed a series of colored slides to illustrate the types of crystals he had been explaining to us. For those who had trouble assimilating all of the involved information in Mr. Soper's lecture, he tells us that by dint of a little industry we can catch up by consulting the 17th edition of the MANUAL OF MINERALOGY, by Dana, and/or MINERALOGY, by Berry and Mason, both standard texts at Portland State. He also tells us that for those who would like to augment their information at first hand by growing their own crystals there is a small, convenient, inexpensive and extremely interesting book titled CRYSTAL GROWING by Holden and Singer.

W. M. F.

MEMBERSHIP ROSTER

NEW MEMBERS

| | | |
|--|---|---------------------------|
| Mrs. Katherine F. Beynon | 1230 S. E. Morrison Street Rex Arms, Apartment 310 | Portland, Ore. 235-1134 |
| Mr. George R. Dahlin | Route 1, Box 150 | Orchards, Wash 2-3427 |
| (Mr. & Mrs. A. Klug Vitas (Adeline) | 2840 S. W. Champlain Drive | Portland, Ore. 223-7784 |
| Mr. & Mrs. Lloyd A. Wilcox (Reba) | 16650 Lake Forest Blvd. | Lake Grove, Ore. 636-6594 |
| Mr. Leonard Wilkinson, Jr. | 1163 McRae Court | Prineville, Ore. |

NEW ADDRESSES

| | | |
|----------------------|------------------------|------------------|
| Mrs. Gladys L. Bryan | 6309 S. W. 32nd Avenue | Portland 1, Ore. |
|----------------------|------------------------|------------------|

GEOLOGIC TIME CHARTS

The Geologic Time Chart which appeared inside the front cover of the May 1963 issue was enthusiastically received by GSOC'ers and many requests have been made for additional copies. Because of the interest shown, arrangements have been made to staple a loose copy with this issue.

Ed.

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Geological Society of the Oregon Country

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GEOLOGICAL SOCIETY OF THE OREGON COUNTRY

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| | | | |
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| Directors: | (elected) Mr. Leo Simon (1 yr.), Mr. J. R. Rentsch (2 yr.), Mr. Fred Miller (3 yr.) (past presidents) Dr. John Hammond, Mr. Leonard Delano | | |

STAFF OF THE GEOLOGICAL NEWSLETTER

| | | | |
|------------------|------------------------|---------------------------------------|----------|
| Editor: | Mr. Irving G. Ewen | 4128 N. E. 76th Avenue, Portland 18 | 281-7098 |
| Asst. Editor: | Mr. William M. Freer | 2405 S. E. Taylor St., Portland 14 | 232-9601 |
| News of Members: | Mrs. Emily Moltzner | 7032 S. E. Stark Street, Portland 16 | 254-2362 |
| Art Advisor: | Mr. Robert B. Anderson | 303 Wilcox Building, Portland 4 | 222-7095 |
| Business Mgr.: | Mr. Robert F. Wilbur | 2020 S. E. Salmon Street, Portland 14 | 235-7284 |

COMMITTEE CHAIRMEN

| | | | |
|----------------|---------------------|----------------|-----------------------|
| Display: | Mr. Dennis Carmody | Membership: | Mrs. Gwen Helm |
| Field Trips: | Mr. C. T. L. Murphy | O. M. S. I.: | Mr. Ralph S. Mason |
| Historian: | Mrs. James Running | Program: | Mrs. Thora M. Baker |
| Junior GSOC: | Dr. John Hammond | Publicity: | Mr. William M. Freer |
| | Dr. Paul W. Howell | Public Relat.: | Mr. Clarence Phillips |
| Library: | | Research: | Mr. Rudolph Erickson |
| Library Night: | | Social: | Mr. Robert Hart |
| Luncheon: | Mr. Leo Simon | | Mr. Greg Hanson |
| | | Telephone: | |

OBJECTIVES OF THE SOCIETY

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 the better acquaintance and closer association among those engaged in the above activities.

Persons desiring to become members should contact the Secretary.

Regular annual dues, single or family memberships, are \$5 for residents of Multnomah and adjacent counties (Clackamas, Columbia, Hood River, and Washington Counties of Oregon; Clark and Skamania Counties of Washington). Single or family memberships are \$3.50 for residents living outside of the above counties. Junior memberships are \$2.00.

Payments should be made out to the GEOLOGICAL SOCIETY OF THE OREGON COUNTRY.

* The "Oregon Country" is a loose term generally considered, as in the early days, to embrace the states of Oregon, Washington, Idaho, western Montana, and southwestern Wyoming.

ACTIVITIES OF THE SOCIETY

See calendar of the month for details.

| | |
|----------------|---|
| Luncheons: | Every Thursday noon |
| Field Trips: | Usually one field trip per month via private car caravan or chartered bus. Occasional two-day trips with overnight camping. |
| Lectures: | Illustrated talks on geology or related subjects. Two lecture meetings, the second and fourth Fridays, of each month. |
| Library Night: | The third Tuesday evening of each month. |
| Publication: | The <u>Geological News Letter</u> , published once each month, is the official publication of the Society. |

CALENDAR FOR AUGUST 1963

NOTE: All scheduled activities will meet on Pacific Daylight Saving Time.

Every Thursday LUNCHEON - Y. M. C. A. , 831 S. W. 6th Avenue (Use Taylor Street entrance.)

12:00 Noon - YMCA Cafeteria (no minimum cost - ala carte.)

GSOC'ers dine in the Mountain Room adjacent to the main cafeteria.

Enjoy these informal sessions which provide an opportunity to examine and discuss publications and specimens. Occasional short talks are given on geology and related subjects of interest.

For more information call Mr. Leo Simon, Luncheons Chairman, at 236-0549 (residence) or 223-0300 (business).

August 9 Friday ANNUAL PICNIC - Throat of Cinder Cone in Mt. Tabor Park.

6:30 P. M. - Pot luck supper for all GSOC'ers and their guests.

Bring a hot main dish or salad and table service for your group. Rolls, beverages, etc. will be furnished by the Society.

7:30 P. M. - Evening program, song fest, et al. Included in the festivities will be a showing of three films from Sweden. The films, entitled "KIRUNA", "LINNAEUS", and "THE BRIDGE", were arranged for by the Programs Chairman, Mrs. Thora Martin Baker, with the Swedish Film Center in New York.

August 18 Sunday FIELD TRIP - Columbia Gorge via private car caravan.

10:00 A. M. - Assemble at Eagle Creek Park about one mile east of Bonneville Dam on Interstate 80 N (US 30). Entrance to park requires a small fee. A short hike up to the Devil's Punch Bowl on Eagle Creek is scheduled, returning to the starting point in time for lunch.

Afternoon - Return trip to Portland will include stops at McCord Creek and Oneonta Gorge. GSOC'ers entering Oneonta Gorge should be provided with shallow-wading foot gear, galoshes, boots, or be prepared to brave the creek with bare feet.

Mr. Robert F. Wilbur, trip leader, has scouted an interesting trip for the group. For more information and directions, contact Mr. C. T. L. "Truman" Murphy, Field Trips Chairman at 282-2027.

August 20 Tuesday LIBRARY NIGHT - Not scheduled during the summer months.

August 23 Friday LECTURE - None scheduled during August.

PRESIDENT'S ANNUAL CAMPOUT - Southeastern Oregon.

August 31 Saturday Meet at Glass Buttes, about 81 miles east of Bend, Oregon on Highway US 20. Arrival time is optional since the group will be camping here over night.

September 1 Sunday Depart for Fish Lake via Hwy U. S. 20 to Burns, then via State Hwy 205 to French Glen, then east via a secondary road.

See "STEENS TRIP HIGHLIGHTS", feature article for August issue of the Geological News Letter, for complete details.

NEWS OF MEMBERS --

By Emily Moltzner

HISTORICAL JOURNEY .

Most ably conducted by the Oregon Historical Society was the trip June 28, 29 and 30 for some 170 people in three buses and several cars, of more than 1,000 miles round trip, to historical sites, markers, monuments and museums as far northeast as Hat Point, Oregon, across the Snake river from Idaho, and into Walla Walla, Wash. We wish more GSOCCERS had been along. Present were MR. AND MRS. PHIL BROGAN, who met us as Imnaha, MYRTICE FOWLER, EFFIE GODMAN, DR. AND MRS. ARTHUR C. JONES, JACK POLLARD, MRS. ADELINE K. VITAS and the writer. Brought home were specimens of lava, rhyolite and volcanic ash from Imnaha Canyon and granite boulders from Wallowa Lake. See Phil Brogan's articles in The Oregonian of July 1st and 7th. and The Portland Reporter's July 2nd account by Mary Ann Campbell. Also George Lindsay's story in The Oregonian of July 16th about the John Day Dam, -- of particular interest since the magnitude of this work is apparent for many, many miles along The Dalles-California Hwy.

* * * * *

DICK FAGAN'S LEAF PRINT

RICHARD G. (DICK) FAGAN, Associate Editor and Columnist with The Oregon Journal has written frequently about geology in his "mill ends". After his startling discovery of a leaf print at SW 6th and Jefferson, he accepted our invitation to luncheon. Here, though a guest, he was rudely challenged, stood trial, was exonerated and graciously responded by asking for membership in our society. Having taken a course in geology in college and being always alert, he may be the first to have seen this leaf, though thousands must have passed it over the years it's been in the sidewalk. Who knows what he'll find when he comes on a field trip! Even amateurs, hunting the first time, have discovered spectacular specimens. A hearty welcome to DICK, MRS. FAGAN and their children. See "mill ends" April 26, May 22 and July 8. Also our June News Letter.

* * * * *

MARRIED: DOUGLAS DELANO, son of Leonard and Emily Delano, and JENNIE JOHNSON, July 6th, at Milwaukie Presbyterian Church. They are living at Lake Oswego, where they've bought a home . . . PRES. ALBERT and MRS. KENNEY announced the engagement of their son, CHARLES H. to SALLY TODD, who were with us on our field trip July 14, and to whom we extend our felicitations. Wedding date to be announced . . . MISS MICHELE MASON, daughter of RALPH S. and MRS. MASON, has been teaching marine biology at OMSI. She is a senior biology student at University of Oregon . . . CFF TO JAPAN in early October will be our Social Chairman GREG HANSON with a group of cultural exchange students. Lewis and Clark College contributed the major portion of his tuition, and by the time he leaves, he'll no doubt thank them in Japanese, which he's studying diligently. Tho' we'll miss him greatly, we're proud of him and wish him every happiness and success . . . BOB HART, also on our Social Comm. has been helping on field trips at Camp Hancock, while also serving as handyman around camp . . . GWEN HELM recently visited White Sands Nat. Monument, Carlsbad Caverns, Monument Valley and Rocky Mtn. Nat. Monument. . . MARTIN WEBER, former member, now of Sacramento, Calif., where he is science supervisor of County schools, was a luncheon guest July 18th. Other guests were DR. R. M. BRIDENBAUGH, of Physical Medicine and Rehab. Service, Vets' Hosp., JASPER L. HOLLAND, Head of our local Soil Conservation Service, and one of its geologists, ROBERT HIGH . . . CLAIR E. PENSE, our County Surveyor, took his family with him to attend the 28th Annual Conf. & Products Exhibit of the Nat. Assn. of Counties at Denver, then to visit his wife's mother in Cheyenne, returning by way of Yellowstone Park . . . H. BRUCE SCHMINKY, Chief City Surveyor, with RUTH, his wife, and daughter ALICE, motored through western Canada, saw the eclipse July 20, and heard the Shakespeare plays at Ashland before coming home . . . MR. and MRS. H. F. TRAVIS are vacationing in Victoria B. C. and the San Juan Islands . . . ALBERT J. KEEN is the new President of the American Federation of Mineralogical Societies . . . MR. and MRS. CLARENCE HANSON were in Washington, D. C. a couple of weeks visiting relatives and looking over the city . . .

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STEENS TRIP HIGHLIGHTS
Itinerary for President's Annual Campout
by Albert R. Kenney*

Leaving Portland as individuals, the group will assemble at Campsite #1 at Glass Buttes on Saturday, August 31, 1963. Glass Buttes are 81 miles east of Bend on Highway 20, or a total of 241 miles from Portland via Bend. The campsite at Glass Buttes is south of the highway at Mile Post 81.9. A sign will be posted and someone will be there to direct you. Activities will include obsidian collecting (many varieties), visiting a cinnabar mine (cinnabar in opalite). There will be desert flowers, shrubs and wildlife in season. Dry camp--bring your own water.

Leaving Glass Buttes, Sunday, September 1, 1963, the group will proceed as a caravan to Campsite #2 at Fish Lake via Highway 20 to Burns, then south from Burns via Highway 205 to French Glen, then east from French Glen to Fish Lake on a secondary road. The trip from Glass Buttes to this campsite will total approximately 120 miles. Activities will include observing wild life, birds, etc. in Malheur refuge, the wild flowers and plants in the Steens mountains and the spectacular lake bed and fault block topography. A search for artifacts if time permits. Interesting will be the glaciated topography in the high Steens such as Kiger Gorge, Wild Horse Canyon. A short drive will be taken to the highest point of the Steens mountains.

Camp at Fish Lake Sunday and Monday nights, September 1st and 2nd. Leave Fish Lake campsite Tuesday, September 3rd, and proceed via French Glen and Catlow Valley to Fields. Turn north along Alvord Basin to Camp #3 in Wild Horse Canyon. Approximately 71 miles. The group will camp in Wild Horse Canyon Tuesday and Wednesday nights, September 3rd and 4th, on Beerington's Wild Horse Ranch. Activities will include magnificent view of east and major fault face of Steens Mountains, Alvord Desert, display of geological column from Paleozoic to Cenozoic at Alvord Ranch. Old borax recovery site in Alvord Basin. Hot springs and lakes. Bring bathing suits. Hunt for relics and artifacts. Hiking in Wild Horse Canyon area.

Caravan will leave Wild Horse Canyon Thursday morning, September 5th, and proceed to Denio along east escarpment of Steens and Pueblo Mountains. Turn west at Denio on Highway 8A and go to Adel. Turn north at Adel and follow Warner Basin via Plush to Camp #4 in the Hart Mountain Antelope Refuge. Approximately 180 miles.

Enroute is marvelous view of Pueblo mountains, desert and salt flats. Brine lakes, Pine Forest Mountains, Trout Creek Mountains, Thousand Creek Gorge, Charles Sheldon Antelope Range, Fault Escarpment of Guano Lake Basin, Crump Geyser, Warner Basin and Warner Lakes, Hart Mountain escarpment and Hart Mountain Antelope Refuge.

Group will camp at Hart Mountain Camp #4, Thursday and Friday nights, September 5th and 6th. Activities will include touring Antelope Refuge, hiking in Hart Mountain and Warner Peak areas, mineral collecting in escarpment face, views of Warner Basin, Warner Lakes, etc. Group will disband Saturday, September 7 and proceed home individually via Flagstaff Lakes, between Coyote and Rabbit Hills to Highway 395. Approximately 30 miles. Suggested routes of Return:

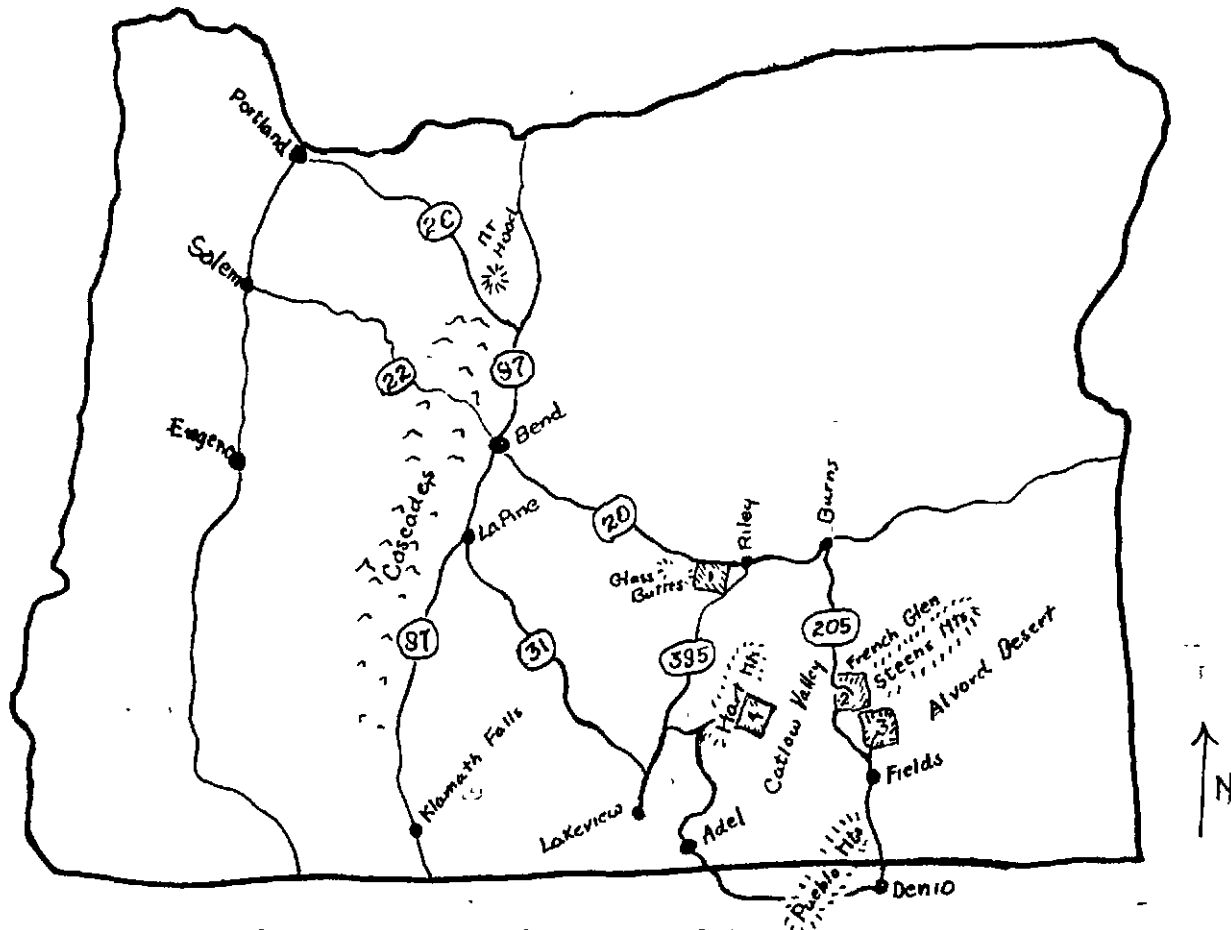
#1 South on 395 to Valley Falls along Abert Rim and Abert Lake, then north on Highway 31 to La Pine, then north on Highway 97 to Bend.

#2 North on Highway 395 via Wagontire to Riley, then west on Highway 20 to Bend. and proceed from Bend to Portland as suits individual.

(See map on following page.)

* President, Geological Society of the Oregon Country.

Steens Trip -



Index Map for President's Annual Campout

BUS AVAILABLE FOR STEENS TRIP

The OMSI bus, driven by the regular OMSI licensed driver will take up to 25 passengers, together with their camping and cooking gear, a distance of about 1,000 miles for 8 days time, for the price of \$15.00 each. Trippers should contact Truman Murphy 282-2027 or Al Kenney 775-5697 for reservations. Individual cars, some with trailers, will also make up the caravan. Drivers should also contact the above so that plans may be made for all. See itinerary in this issue of the News Letter.

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NEWS OF MEMBERS

By Emily Moltzner - cont'd.

A guest at our meeting of July 12 was President THOMAS A. LEUPP, of our expanding Cascade College, -- said he came to hear DR. JOHN ELIOT ALLEN'S lecture about the Cascades (Mtns.) We hope to see him often. . . SHIRLEY O'DELL, our Secretary, saw Calgary Edmonton, Lake Louise, Banff, Jasper Nat. Park, Kamloops and Vancouver, B. C. while vacationing. SANDRA ROSS, grand-daughter of MRS RUTH GOOCH, was one of 12 Girl Scouts who enjoyed a trip to Mexico, where each was a house guest of a Mexican family, and spent some three weeks touring and studying the culture, customs and manners of the country. She was Madison High's Rose Festival princess. . . Greetings to the Society from Roberta Jensen from Athens. Roberta is in the middle of a Mediterranean tour.

EVENING WITH THE RANDS

On Friday evening, July 26th, Mr. and Mrs. Irving Rand took us on a trip to Egypt, Lebanon and Syria, during which, with Mrs. Rand as projectionist, Mr. Rand showed us some of the modern and ancient glories of Egypt -- Cairo, a modern city with neon lights and a Hilton hotel, just like any other modern city -- and then up the Nile to Luxor and the Valley of the Kings, with all the splendid ruins of its ancient, splendid, long-gone civilization. In this wonderland of wonders, the greatest wonder of all is how they ever did it. Here we lingered for some time, but fleeting time was running out on us as we hastened to Beirut and Lebanon, where our views came faster and faster -- faster even than Mr. Rand could talk, and the library clock struck nine before we got to Syria --

The Society appreciates the courtesy of Mr. and Mrs. Rand in giving us this interesting evening.

W. M. F.

* * * * *

ORRIN STANLEY HONORED

At our meeting July 26, our beloved patriarch, who reached his 91st year July 28, received a candle-topped cupcake, a copy of Leonard C. Ekman's book "Scenic Geology of the Pacific Northwest", and heard the verse written by and read for him by GREG HANSON: "All that is gold does not glitter, Not all those who wander are lost, The old that is strong does not wither, Deep roots are not reached by the frost." Mr. Stanley's acknowledgment to Greg's presentation exemplified the association of youth and age in our society. Our best wishes, Orrin. As to Greg, who is only 17: Still our wonder grows, That just one head can carry all he knows.

(Apologies to Oliver Goldsmith.)

* * * * *

MEMBERSHIP ROSTER

New Members

| | | | |
|------------------------------|------------------------|--------------------|----------|
| Fagan, Mr. & Mrs. Richard W. | 2850 S. W. Fern Street | Portland 1, Oregon | 223-6820 |
| Harvey, Mrs. Eleanor | 3724 S. E. 64th Avenue | Portland, Oregon | 771-1740 |
| Willson, Mr. & Mrs. Kenneth | Post Office Box 445 | Corvallis, Oregon | |

Address Change

| | | | |
|-----------------------|----------------------------|---------------------|----------|
| Albertson, Mr. Morris | 2118 S. W. Primrose Street | Portland 19, Oregon | |
| Deyoe, Mr. Harold L. | 9945 N. E. Sandy Boulevard | Portland 20, Oregon | |
| | (Apartment No. 72) | | |
| Netter, Dennis* | Route 3, Box 337C | Canby, Oregon | |
| Netter, Ernest* | Route 3, Box 337C | Canby, Oregon | |
| Newell, Roger A. * | 5916 S. E. 50th Avenue | Portland 6, Oregon | 771-9273 |

Resigned

Smith, Mrs. Ruth W.

Correction

Vitas, Mrs. A. Klug 2840 S. W. Champlain Drive Portland, Oregon 223-7784

*Student Member

GEOLOGICAL SOCIETY OF THE OREGON COUNTRY

ANNUAL MEMBERSHIP ROSTER

Compiled by the Secretary

August 1963

| NAME | ADDRESS | CITY AND STATE | TELEPHONE |
|---------------------------------|--|-----------------------|-----------|
| Abramovic, Mr. & Mrs. Emil | 3212 S. E. Risley Avenue | Milwaukie 22, Oregon | 654-0938 |
| # Adams, Mrs. W. Claude | 2614 N. E. Bryce Street | Portland 12, Oregon | 281-8747 |
| Albertson Mr. Maurice M. | 2118 S. W. Primrose Street | Portland 19, Oregon | 244-7668 |
| " Allen, Dr. & Mrs. John Eliot | 1162 S. E. 58th Avenue | Portland 15, Oregon | 236-1558 |
| Anderson, Mr. Robert Boyd | 303 Wilcox Building | Portland 4, Oregon | 222-7098 |
| Appelgren, Mr. & Mrs. Wilson | R. F. D. #3, Box 166 | Hood River, Oregon | 386-3224 |
| Avedovich, Mr. & Mrs. Myer | 2214 N. E. Brazee Street | Portland 12, Oregon | 282-0648 |
| Baker, Mrs. Lois Inman | 541 West 16th Street | Eugene, Oregon | 345-5870 |
| Baker, Mrs. Thora Martin | 1717 S. W. Park Avenue (Ione Plaza, Apt. 104) | Portland 1, Oregon | 228-7862 |
| Baldwin, Dr. & Mrs. Ewart M. | 2058 Harris Street | Eugene, Oregon | 345-9758 |
| Barr, Mrs. Amza | 4830 S. E. 62nd Avenue | Portland 6, Oregon | 774-2458 |
| Bartholomay, Miss Clara L. | 1620 N. E. 24th Avenue (Apartment 306) | Portland 12, Oregon | 284-6980 |
| Becker, Mr. & Mrs. Henry G. | 7612 S. E. 32nd Avenue | Portland 2, Oregon | 771-2988 |
| Berg, Mr. & Mrs. Oscar K. | 8721 S. W. 42nd Avenue | Portland 1, Oregon | 244-3788 |
| Beynon, Mrs. Katherine T. | 1230 S. E. Morrison Street (Rex Arms, Apt. 310) | Portland 14, Oregon | 235-1134 |
| Biggerstaff, Mr. John S. | 2512 N. E. 21st Avenue | Portland 12, Oregon | 287-3321 |
| Binford, Mr. & Mrs. Thomas P. | 6915 N. E. Sacramento Street | Portland 13, Oregon | 282-0425 |
| Blore, Mr. & Mrs. Stephen W. | 5520 S. W. Downs View Court | Portland 1, Oregon | 292-4578 |
| Boyd, Mr. & Mrs. C. A. | 434 Riverside Boulevard | Bend, Oregon | 382-4468 |
| Brice, Mrs. Loyd | 3501 N. E. Portland Blvd. | Portland 11, Oregon | 284-8260 |
| Brogan, Mr. & Mrs. Phil F. | 1426 Harmon Boulevard | Bend, Oregon | 382-0560 |
| Bronkema, The Reverend Rosalie | 2362 S. W. Cactus Drive | Portland 5, Oregon | 228-3948 |
| " Brown, Mr. & Mrs. Franklin M. | 411 - 2nd Avenue, North | Edmonds, Washington | |
| Brown, Mr. & Mrs. Jesse L. | 8317 - 188th, S. W. | Edmonds, Washington | |
| Bruckert, Mr. & Mrs. Walter E. | Box 292 | Wasco, Oregon | 442-5218 |
| Bryan, Mrs. Gladys L. | 6309 S. W. 32nd Avenue | Portland 1, Oregon | |
| Buckner, Mr. & Mrs. James S. | Route 2, Box 680 | Sherwood, Oregon | |
| Buffam, Mr. & Mrs. Merton E. | 6221 N. E. 23rd Avenue | Portland 11, Oregon | 282-5248 |
| Butler, Mrs. J. Dean | 4404 S. E. Hill Road | Milwaukie 22, Oregon | 654-2854 |
| Campbell, Mr. Donald R. | 2505 North Emerson Street | Portland 11, Oregon | 289-5728 |
| Carmody, Mr. & Mrs. Dennis M. | 6234 S. E. Carlton Street | Portland 6, Oregon | 771-4904 |
| " Clark, Mr. & Mrs. William F. | 3613 S. E. 9th Avenue | Portland 2, Oregon | 234-7090 |
| Coffyn, Mrs. C. L. | 1706 N. E. 53rd Avenue | Portland 13, Oregon | 282-9514 |
| Cooper, Mr. Norman A. | 710 "B" Avenue | Lake Oswego, Oregon | 636-2450 |
| Cox, Miss Beryl C. | 1048 S. E. 112th Avenue | Portland 16, Oregon | 253-4847 |
| Crowe, Mrs. Ava B. | 528 - 2 Street | Lake Oswego, Oregon | 636-1788 |
| Dahlin, Mr. George R. | Route 1, Box 150 | Orchards, Washington | 892-3427 |
| Davenport, Miss Mary | 309 West 15th | Vancouver, Washington | 694-5988 |
| " Davis, Mr. & Mrs. Franklin L. | 7114 S. W. Corbett Avenue | Portland 19, Oregon | 244-8978 |
| Davis, Mr. & Mrs. Leslie C. | 7704 S. E. Taylor Street | Portland 15, Oregon | 253-6728 |
| DeFrance, Mrs. & Mrs. John A. | 2737 S. W. Buena Vista Dr. | Portland 1, Oregon | 223-0378 |
| " Delano, Mr. & Mrs. Leonard H. | 1536 S. E. 11th Avenue | Portland 14, Oregon | 236-2138 |

GEOLOGICAL SOCIETY OF THE OREGON COUNTRY-ANNUAL MEMBERSHIP ROSTER-AUGUST 1963

| <u>NAME</u> | <u>ADDRESS</u> | <u>CITY AND STATE</u> | <u>TELEPHONE</u> |
|----------------------------------|--|-----------------------|------------------|
| DeWitt, Mrs. Peacha G. | | Bates, Oregon | |
| Deyoe, Mr. Harold L. | 9945 N. E. Sandy Boulevard (Apartment No. 72) | Portland 20, Oregon | |
| Dodson, Mr. & Mrs. Guy R. | 1400 N. W. Electric Avenue | Beaverton, Oregon | 644-1609 |
| Dole, Mr. & Mrs. Hollis M. | 2612 N. E. 23rd Avenue | Portland 12, Oregon | 284-5994 |
| Dunn, Mr. & Mrs. Paul E. | 6124 N. E. Mallory Street | Portland 11, Oregon | 285-5008 |
| Elder, Mr. George V. | 6922 S. E. Brooklyn Street | Portland 6, Oregon | 771-5846 |
| Elliott, Mrs. Lyla L. | 1530 North 99 W. | McMinnville, Oregon | |
| Erickson, Mr. & Mrs. Rudolph | 249 S. W. Glenmorrie Drive | Lake Oswego, Oregon | 636-1873 |
| Errett, Mr. & Mrs. Sanford | 2707 North Halleck Street | Portland 17, Oregon | 289-6044 |
| Eudaly, Mr. & Mrs. Donald | 5204 N. E. 28th Avenue | Portland 11, Oregon | 288-3654 |
| Ewen, Irving Gilbert | 4128 N. E. 76th Avenue | Portland 18, Oregon | 281-7098 |
| Fagan, Mr. & Mrs. Richard W. | 2850 S. W. Fern Street | Portland, Oregon | 223-6820 |
| Fessenden, Miss Marjorie A. | 743 S. W. Maplecrest Court | Portland 19, Oregon | 246-2987 |
| Fink, Mr. & Mrs. V. Carl | 7025 North Oatman Avenue | Portland 17, Oregon | 289-0188 |
| Fisher, Mr. & Mrs. Robert S. | Route 1, Box 720 | Sherwood, Oregon | 638-3373 |
| Fite, Mr. & Mrs. George | 3610 N. E. 115th Avenue | Portland 20, Oregon | 253-3469 |
| Fowler, Myrtice E. | 6116 N. E. Cleveland Avenue | Portland 11, Oregon | 285-5143 |
| Freed, Miss Hilda W. | 1969 S. W. Park Avenue (Apartment No. 306) | Portland 1, Oregon | 223-9715 |
| Freer, Mr. William M. | 2405 S. E. Taylor Street | Portland 14, Oregon | 232-9601 |
| Fuerst, Mr. & Mrs. Edward | 1015 S. E. 26th Avenue | Portland 14, Oregon | 232-4281 |
| Fullman, Mr. & Mrs. Harvey C. | 7325 S. W. Macadam Avenue | Portland 19, Oregon | 246-3341 |
| Gavigan, Mr. & Mrs. Lee T. | 215 N. Sumner, Apartment 4 | Portland 17, Oregon | 288-4870 |
| George, Mr. & Mrs. Carl L. | 1924 S. E. 24th Avenue | Portland 14, Oregon | 232-6610 |
| Gilchrist, Dr. & Mrs. Francis G. | 0644 S. W. Palatine Hill Road | Portland 19, Oregon | 636-5942 |
| Gilliam, Mrs. Elizabeth A. | 1729 N. E. 17th Avenue | Portland 12, Oregon | 284-8922 |
| Gillis, Mrs. Doris E. | 5109 N. W. St. Helens Road | Portland 10, Oregon | 223-0280 |
| Godman, Miss Effie J. | 2328 S. W. Madison Street | Portland 5, Oregon | 223-4919 |
| Golden, Mr. & Mrs. Ray S. | 3223 S. E. 19th Avenue | Portland 2, Oregon | 234-3921 |
| Gooch, Ruth Grey, Mrs. | 8637 S. E. Alder Street | Portland 16, Oregon | 253-6897 |
| Gordon, Mrs. M. Elinor | 4710 Sunyside Road, S. E. | Salem, Oregon | |
| Gregory, Dr. & Mrs. Victor | Perkins State Hospital | Jessup, Maryland | |
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| Grubaugh, Mr. Philip L. | 2942 S. E. Brooklyn Street | Portland 2, Oregon | 236-5402 |
| Haggerty, Mr. & Mrs. E. W. | 12950 S. W. Fielding Road | Lake Oswego, Oregon | 636-4020 |
| Hall, Mr. & Mrs. George T. | 4155 E. Center Street | Salem, Oregon | 363-2684 |
| Hamilton, Rose | 5412 S. E. Powell Boulevard | Portland 6, Oregon | 775-9762 |
| Hammill, Mr. & Mrs. Kenneth C. | 1905 N. E. 77th Avenue | Portland 13, Oregon | 253-7749 |
| Hammond, Dr. & Mrs. John H. | 14815 S. E. Oatfield Road | Portland 22, Oregon | 654-5570 |
| Hancock, Mrs. A. W. | 2720 S. E. 84th Avenue | Portland 16, Oregon | 771-5285 |
| Hanson, Mr. & Mrs. Clarence W. | 2304 E. Burnside Street | Portland 14, Oregon | 232-5911 |
| Hanson, Mr. & Mrs. Hilbert | 15724 S. E. Hanwood Lane | Portland 22, Oregon | 654-2657 |
| Harbert, Mr. & Mrs. Melvin | 6221 N. E. Fremont Street | Portland 13, Oregon | 284-5714 |
| Harvey, Mrs. Eleanor | 3724 S. E. 64th Avenue | Portland, Oregon | 771-1740 |
| Haumann, Mr. & Mrs. George | 36 N. E. Meikle Place | Portland 13, Oregon | 235-2364 |
| Helm, Mrs. Gwen | 6225 S. E. Belmont Street | Portland 15, Oregon | 236-8324 |
| Henderson, Mr. Dwight J. | 838 S. E. Peacock Lane | Portland 14, Oregon | 232-0814 |
| Henley, Miss M. Ada | 2545 S. W. Terwilliger Blvd. (Apartment 413) | Portland 1, Oregon | 228-2871 |

GEOLOGICAL SOCIETY OF THE OREGON COUNTRY ANNUAL MEMBERSHIP ROSTER-AUGUST 1962

| <u>NAME</u> | <u>ADDRESS</u> | <u>CITY AND STATE</u> | <u>TELEPHONE</u> |
|-----------------------------------|--|---------------------------|------------------|
| Hewitt, Mrs. L. P. | 2545 S. W. Terwilliger Blvd. | Portland 1, Oregon | 226-4911 |
| Hinkle, Mrs. Vera S. | (Apartment 613) | | |
| Hitchcock, Mr. & Mrs. David | 16901 S. E. Division | Portland 36, Oregon | 254-4930 |
| #Hodge, Dr. Edwin T. | 8418 S. W. 39th Avenue | Portland 19, Oregon | 244-5626 |
| Hodge, Dr. & Mrs. Wallace C. | 2915 N. W. Luray Terrace | Portland 10, Oregon | 223-8345 |
| Holliday, Mr. & Mrs. Kenneth J. | 3994 N. E. 39th Avenue | Portland 12, Oregon | 282-3837 |
| Hopson, Dr. Ruth E. | 2506 N. E. Halsey Street | Portland 12, Oregon | 281-0570 |
| Hoven, Miss Rowena | 4138 S. W. 4th Avenue | Portland 1, Oregon | 222-1430 |
| "Howell, Dr. & Mrs. Paul W. | 1007 S. E. 21st Avenue | Portland 14, Oregon | 234-9005 |
| Hungerford, Mr. & Mrs. Bob | 9130 S. W. Borders Street | Portland 23, Oregon | 244-5728 |
| Hyman, Dr. Selma H. | 1633 S. E. Dagmar Road | Portland 22, Oregon | 654-5810 |
| | 3262 N. E. Everett Street | Portland 12, Oregon | 236-9032 |
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| John, Mr. & Mrs. Roy M. | 603 S. E. 54th Avenue | Portland 15, Oregon | 234-4662 |
| #Johnson, Mr. & Mrs. E. Cleveland | 5914 N. E. Fremont Street | Portland 13, Oregon | 281-6767 |
| Johnson, Mrs. Wallace | Beerman Creek Farm, Hamlet Rte, Box 22 | Seaside, Oregon | |
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| Johnston, Mr. & Mrs. Theodore | Rt. 1, Box 1 | Moro, Oregon | 562-3586 |
| "# Jones, Dr. & Mrs. Arthur C. | 3300 Heather Lane, S.W. | Portland 1, Oregon | 222-3100 |
| Jones, Mr. & Mrs. Irving | 17112 S. W. Kelok Road | Lake Oswego, Oregon | 636-5416 |
| Jorgens, Fred J. | 4839 S. W. 39th Drive | Portland 19, Oregon | 246-3029 |
| " Keen, Mr. & Mrs. Albert J. | 2715 N. E. 41st Avenue | Portland 13, Oregon | 281-0229 |
| Kellmer, Mr. & Mrs. Earl B. | 6105 N. E. Rodney Avenue | Portland 11, Oregon | 284-1093 |
| Kenney, Mr. & Mrs. Albert R. | 4125 S. E. Gladstone Street | Portland 2, Oregon | 775-5697 |
| Kern, Mr. & Mrs. Emery R. | 152 S. E. Kelley Street | Gresham, Oregon | 665-4628 |
| Kerr, Marguerite, Miss | 903 N. Alberta Street | Portland 17, Oregon | 288-4463 |
| Keyser, Mr. Charles P. | 1225 S. W. 6th Avenue c/o University Club | Portland, Oregon | 223-6237 |
| Kibler, Mr. & Mrs. G. A. | 13245 S. E. Harold Street | Portland 36, Oregon | 771-8495 |
| Klatt, Mr. Joe F. | 7315 S. E. 52nd Avenue | Portland 6, Oregon | |
| Kooken, Miss Katherine | 7114 S. W. Brier Place | Portland 19, Oregon | 244-7125 |
| Landels, Mrs. Rhoda P. | 3105 N. E. 56th Avenue | Portland 13, Oregon | 288-1416 |
| Larson, Mr. & Mrs. Dennis A. | 1923 E. 19th Avenue | Eugene, Oregon | 344-7754 |
| Latourette, Dr. Kenneth Scott | 409 Prospect Street | New Haven 11, Connecticut | |
| Laurence Mr. & Mrs. T. Herbert | 1808 S. E. 35th Place | Portland 15, Oregon | 232-5294 |
| Lawrence, Dr. & Mrs. Donald B. | 2420 - 34th Avenue, South | Minneapolis 6, Minnesota | |
| " Libbey, Mr. Fay W. | 2269 N. W. Everett Street | Portland 10, Oregon | 227-2145 |
| Lilly, Mrs. Elwin R. | Box 8353 Grace Station | Ashville, North Carolina | |
| Lindquist, Mr. & Mrs. Arven P. | Rt. 8, Box 203 | Olympia, Washington | 342-5377 |
| Lloyd, Mr. & Mrs. L. G. | 01139 S. W. Palatine Hill Road | Portland 1, Oregon | 636-4493 |
| Long, Mr. & Mrs. Edward J. | 600 East Fairfield Street | Gladstone, Oregon | 656-1035 |
| Long, Mr. & Mrs. John K. | 1005 E. Jackson Street | Hillsboro, Oregon | 648-1053 |
| Long, Mr. & Mrs. Loren A. | Rt. 2, Box 122 | Sherwood, Oregon | 639-2596 |
| Lucus, Mr. & Mrs. Fred A. | 6171 S. W. Harrington Avenue | Lake Grove, Oregon | 636-1896 |
| Magennis, Mr. Casper H. | 944 S. E. Malden Street | Portland 2, Oregon | 285-9085 |
| Marshall, Miss Emily L. | 3471 S. W. Patton Road | Portland 1, Oregon | 223-6720 |
| Mason, Mr. & Mrs. Ralph S. | 3932 S. W. Idaho Terrace | Portland 1, Oregon | 244-2106 |

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|-----------------------------------|---|-----------------------|------------------|
| Matthews, Mr. & Mrs. Thomas C. | 4014 N. E. Flanders Street | Portland 12, Oregon | 236-6759 |
| Merryman, Mr. Frank J. | 9318 S. W. 2nd Avenue | Portland 19, Oregon | 246-4494 |
| Michel, Mr. & Mrs. Bert | Rt. 3, Box 336-F | Canby, Oregon | |
| Miller, Mr. & Mrs. Fred E. | 3122 S. E. 73rd Avenue | Portland 6, Oregon | 771-6154 |
| Miller, Mr. & Mrs. Hugh | 2165 Summit Drive | Lake Oswego, Oregon | 636-2245 |
| Miller, Mr. & Mrs. Murray R. | 1018 Promontory Avenue P. O. Box 465 | Oregon City, Oregon | |
| Miller, Dr. & Mrs. Wilmer J. | 209 Howard Avenue | Ames, Iowa | |
| Moltzner, Mrs. Emily | 7032 S. E. Stark Street | Portland 16, Oregon | 254-2362 |
| Moore, Mrs. Evangeline T. | 2440 N. E. 11th Avenue | Portland 12, Oregon | 282-0603 |
| Mueller, Mr. Godfrey | 7117 S. E. Harold Street | Portland 6, Oregon | 774-4724 |
| Murphy, Mr. & Mrs. C. T. L. | 2026 N. E. Wasco Street | Portland 12, Oregon | 282-2027 |
| Nelson, Mr. & Mrs. Jack O. | 635 S. E. 41st Avenue | Portland 14, Oregon | 234-3887 |
| Jewcomb, Mr. & Mrs. Reuben C. | 01631 S. W. Radcliffe Road | Portland 1, Oregon | 636-4062 |
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| Nielsen, Mr. Howard E. | 1230 S. W. Columbia Street (Apartment 2) | Portland 1, Oregon | 223-6896 |
| Nakes, Mr. Alva | 218 N. W. Flanders Street | Portland 9, Oregon | 227-5123 |
| Noberson, Mr. & Mrs. Louis E. | 3569 N. E. Stanton Street | Portland 12, Oregon | 282-3685 |
| Nordell, Miss Shirley | 2140 S. W. Palatine Street | Portland 19, Oregon | 246-1339 |
| Norkerman, Mr. & Mrs. William | 11618 S. E. Lincoln Court | Portland 16, Oregon | 254-3054 |
| Norhart, Mr. Reynolds W. | 783 Capitol Street, N. E. | Salem, Oregon | |
| Norsen, Mr. & Mrs. Ejner | 2466 N. W. Overton Street | Portland 10, Oregon | 222-2992 |
| Norem, Mr. & Mrs. Hollis M. | 434 N. E. Mirimar Place | Portland 15, Oregon | 234-2650 |
| Nornduff, Dr. William W. | 772 S. W. Broadway Drive | Portland 1, Oregon | 228-5815 |
| Pagni, Mr. & Mrs. Earl E. | 11211 S. E. Flavel Street | Portland 66, Oregon | 774-1570 |
| Paight, Mr. & Mrs. Russell A. | 904 E. 26th Street | Vancouver, Washington | 694-6490 |
| Patterson, Mr. & Mrs. William F. | 2928 N. E. Broadway Street | Portland 12, Oregon | 281-2928 |
| Peirce, Mr. & Mrs. Hayward | 7236 S. E. Salmon Street | Portland 15, Oregon | 253-8046 |
| Pense, Mr. & Mrs. Clair E. | 17021 S. E. Division Street | Portland 36, Oregon | 254-7101 |
| Phillips, Mr. & Mrs. Clarence D. | 1485 S. W. Cardinell Drive | Portland, Oregon | 223-3312 |
| Phillips, Mr. & Mrs. Kenneth N. | 4124 S. E. Woodward Street | Portland 2, Oregon | 235-1052 |
| Pollard, Mr. Jack D. | 7244 S. W. 33rd Avenue | Portland 19, Oregon | 244-4767 |
| Poppleton, Miss Grace M. | 12640 S. W. Riverside Drive | Portland 19, Oregon | 636-4891 |
| Prentiss, Mrs. Ruth Eliot | 1923 N. E. Schuyler Street | Portland 12, Oregon | 281-0341 |
| Prudeau, Elizabeth | 13372 S. W. Fielding Road | Lake Oswego, Oregon | 636-7342 |
| Reichen, Mr. & Mrs. Sam | 8131 S. E. Crystal Springs Boulevard | Portland 6, Oregon | 771-8775 |
| Reimers, Mr. Fred | 7535 S. E. Clinton Street | Portland 6, Oregon | 771-9188 |
| Reentsch, Mr. J. R. | 1110 S. W. 11th Avenue St. Francis Hotel | Portland 5, Oregon | 223-2161 |
| Riley, Mrs. Constance | 2920 S. E. 77th Avenue | Portland 6, Oregon | 774-8540 |
| Robosky, Mr. Milvoy | Rt. 1, Box 452 | Tillamook, Oregon | 842-4088 |
| Rosa, Miss L. Kate | 807 S. W. 14th Avenue | Portland 5, Oregon | 223-0297 |
| Rose, Mr. & Mrs. Howard E. | 2206 N. Willamette Blvd. | Portland 17, Oregon | 289-6738 |
| Rosen, Mr. Ernst August | 239 N. W. Skyline Boulevard | Portland 10, Oregon | 223-0547 |
| Rosenberry, Mr. & Mrs. Cecil L. | 1606 N. E. Thompson Street | Portland 12, Oregon | 287-4170 |
| Running, Mr. & Mrs. James | 1951 N. E. 142nd Avenue | Portland 30, Oregon | 252-5202 |

GEOLOGICAL SOCIETY OF THE OREGON COUNTRY-ANNUAL MEMBERSHIP ROSTER-AUGUST 1965

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|-----------------------------------|-----------------------------------|--------------------------|------------------|
| Schirmer, Dr. Elizabeth H. | 2424 N. W. Northrup Street | Portland 10, Oregon | 223-2029 |
| #Schminky, Mr. & Mrs. H. Bruce | 11030 S. E. 54th Avenue | Portland 15, Oregon | 236-3903 |
| Shrader, Mrs. Lea | 2221 N. W. Flanders Street | Portland 10, Oregon | 223-1452 |
| Schramm, Mr. & Mrs. Kenneth R. | 3407 S. E. Vineyard Road | Milwaukie 22, Oregon | 654-4275 |
| Schreiber, Mr. J. E. | Rt. 2, Box 275 | Oregon City, Oregon | Redland 25 |
| Schull, Mr. & Mrs. Bert R. | 418 N. Holland Street | Portland 11, Oregon | 285-2755 |
| 0" #Simon, Mr. & Mrs. Leo F. | 7006 S. E. 21st Avenue | Portland 2, Oregon | 236-0549 |
| Sims, Kathryn | 131 S. E. 24th Avenue | Portland 14, Oregon | 234-5997 |
| Sipple, Mr. & Mrs. Norman W. | Rt. 3, Box 114 | Sherwood, Oregon | 538-5317 |
| Smith, Miss Almeda | 1330 Ranier Road | Woodburn, Oregon | |
| #Smith, Mrs. Ben F. | 1350 S. E. Flavel Street | Portland 2, Oregon | 232-1565 |
| 0' Stanley, Orrin E. | 2601 S. E. 49th Avenue | Portland 6, Oregon | 235-1250 |
| "Stauffer, Dr. & Mrs. James | 717-8th Street | Lake Oswego, Oregon | 636-3825 |
| Steere, Miss Margaret L. | 2064 S. E. 72nd Avenue | Portland 16 Oregon | 774-6382 |
| Stevens, Miss Eliza | 3934 S. E. Boise Street | Portland 2, Oregon | 774-0439 |
| "#Stevens, Dr. & Mrs. J. C. | 6639 S. E. Yamhill Court | Portland 16 Oregon | 253-7349 |
| "Stone, Mr. & Mrs. Norris B. | 16450 Glenmorrie Drive Box 473 | Lake Oswego, Oregon | 636-3601 |
| Strasser, Mr. & Mrs. Rheinhard J. | 8110 S. E. Sunset Lane | Portland, Oregon | 775-0415 |
| Strong, Mr. & Mrs. Emory | 2753 N. E. Wiberg Lane | Portland 13, Oregon | 288-4605 |
| #Strong, Mrs. F. H. | 2755 N. E. 51st Avenue | Portland 13, Oregon | 281-8278 |
| Sullivan, Miss Irma | Rt. 1, Box 329 | Oregon City, Oregon | 656-7165 |
| Sweet, Mr. & Mrs. Charles E., Jr. | 5550 N. W. 137th Avenue | Portland 10, Oregon | 644-6752 |
| Taggart, Mr. & Mrs. O. Winston | 5255 S. W. Dosch Road | Portland 1, Oregon | 244-5540 |
| Thompson, Mr. & Mrs. Orvie E. | P. O. Box 154 | Rockaway, Oregon | 842-6379 |
| Trainer, Mr. & Mrs. Cecil | 815 "F" Avenue | Lake Oswego, Oregon | 636-2824 |
| Travis, Mr. & Mrs. H. F. | 2427 N. E. Skidmore Street | Portland 11, Oregon | 281-2274 |
| Turner, Mr. & Mrs. Jay E. | 5611 S. E. Madison Street | Portland 15, Oregon | 234-8730 |
| Underwood, Dr. Herbert L. | 5226 S. W. Menefee Drive | Portland 1, Oregon | 246-3786 |
| 0# Vance, Mrs. A. D. | 5128 Cedros Avenue | Sherman Oaks, California | |
| Vitas, Mrs. A. Klug | 2840 S. W. Champlain Drive | Portland, Oregon | 223-7784 |
| #Wade, Mrs. Tracy | 3326 N. E. 25th Avenue | Portland 12, Oregon | 287-6060 |
| Wagner, Miss Marie K. | 1088 S. W. Gaines Street | Portland 1, Oregon | 222-3493 |
| Waiste, Mr. & Mrs. Robert, Jr. | 133 S. E. 27th Avenue | Portland 14, Oregon | 235-4320 |
| Weber, Dr. & Mrs. David E. | 8005 S. E. Morrison Street | Portland 15, Oregon | 253-7340 |
| White, Mrs. Lillian R. | 1830 N. E. 25th Avenue | Portland 12, Oregon | 287-7838 |
| White, Miss Mella C. | 7114 S. W. Brier Place | Portland 1, Oregon | 244-7125 |
| Whitmer, Dr. John H. | Box 8762 | Stanford, California | |
| "Wilbur, Mr. Robert F. | 2020 S. E. Salmon Street | Portland 14, Oregon | 235-7284 |
| Wilcox, Mr. & Mrs. Lloyd A. | 16650 Lake Forest Boulevard | Lake Grove, Oregon | 636-6594 |
| Wilkinson, Mr. Leonard, Jr. | 1163 McRae Court | Prineville, Oregon | |
| Williams, Mr. & Mrs. Philip M. | 4858 S. E. Grant Street | Portland 15 Oregon | 235-0612 |
| Williamson, Mr. & Mrs. Douglas A. | 967 West 12th Avenue | Eugene, Oregon | 343-7186 |
| Willson, Mr. & Mrs. Kenneth | P. O. Box 445 | Corvallis, Oregon | |
| "Wilson, Mr. & Mrs. Ford E. | 865 East 2nd Street | Prineville, Oregon | |
| #Wimmer, Mr. Joseph | 5005 N. E. Multnomah Street | Portland 13, Oregon | 282-9119 |

GEOLOGICAL SOCIETY OF THE OREGON COUNTRY-ANNUAL MEMBERSHIP ROSTER-AUGUST 1963

| <u>NAME</u> | <u>ADDRESS</u> | <u>CITY AND STATE</u> | <u>TELEPHONE</u> |
|-----------------------|-----------------------|-----------------------|------------------|
| Zimmer, Miss Hazel F. | 805 S. E. 60th Avenue | Portland 15, Oregon | 236-8319 |
| Zimmer, Miss Ruby M. | 805 S. E. 60th Avenue | Portland 15, Oregon | 236-8319 |

Junior and Students

| | | | |
|------------------------------|---|---------------------|----------|
| Dorfman, Miss Diantha | 868 S. W. Burlingame Terrace | Portland 1, Oregon | 246-5148 |
| Ford, David W., Mr. | Geological Department | Cincinnati, Ohio | |
| Gaglund, Mr. & Mrs. Wayne M. | Apartment 9, Building 6 Stauffer Place | Lawrence, Kansas | |
| Hart, Mr. Robert | 13023 S. E. 21st Avenue | Portland 22, Oregon | 654-7865 |
| Hughes, Mr. Steven | P. O. Box 319 | Hillsboro, Oregon | 648-3850 |
| Jackson, Miss Eleanor L. | 50 S. W. Ridge Drive | Portland 19, Oregon | 636-3601 |
| Linkens, Mr. Lee | Box 151 | Canby, Oregon | 266-9545 |
| Johnston, Miss Alice | Akin Hall, 0615 S. W. Palatine Hill Road | Portland 19, Oregon | 636-3601 |
| Letter, Mr. Dennis | Rt. 3, Box 337C | Canby, Oregon | 226-7747 |
| Letter, Mr. Ernest | Rt. 3, Box 337C | Canby, Oregon | 226-7747 |
| Lewell, Mr. Roger A. | 5916 S. E. 50th Avenue | Portland 6, Oregon | 771-9273 |
| Mukai, Mr. Ken W. | 600 N. W. 107th Avenue | Portland 10, Oregon | 644-7188 |
| Manford, Mr. Paul L. | 2435 S. E. 76th Avenue | Portland 6, Oregon | 774-4511 |
| Masser, Mr. Rob | 8617 S. E. 36th Avenue | Milwaukie, Oregon | 654-2622 |
| Mowensend, Mr. Paul Graham | 2035 N. Saratoga Street | Portland 17, Oregon | 289-5490 |

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GEOLOGICAL NEWS LETTER

OFFICIAL PUBLICATION OF THE



PORTLAND, OREGON

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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 1963 - 64

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| Secretary: | Miss Shirley O'Dell | 2140 S. W. Palatine St., Portland 19 | 246-1339 |
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| Directors: | (elected) Mr. Leo Simon (1 yr.), Mr. J. R. Rentsch (2 yr.), Mr. Fred Miller (3 yr.) (past presidents) Dr. John Hammond, Mr. Leonard Delano | | |

STAFF OF THE GEOLOGICAL NEWSLETTER

| | | | |
|------------------|------------------------|---------------------------------------|----------|
| Editor: | Mr. Irving G. Ewen | 4128 N. E. 76th Avenue, Portland 18 | 281-7098 |
| Asst. Editor: | Mr. William M. Freer | 2405 S. E. Taylor St., Portland 14 | 232-9601 |
| News of Members: | Mrs. Emily Moltzner | 7032 S. E. Stark Street, Portland 16 | 254-2362 |
| Art Advisor: | Mr. Robert B. Anderson | 303 Wilcox Building, Portland 4 | 222-7095 |
| Business Mgr.: | Mr. Robert F. Wilbur | 2020 S. E. Salmon Street, Portland 14 | 235-7284 |

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| | | | |
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| Display: | Mr. Dennis Carmody | Membership: | Mrs. Gwen Helm |
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| | Dr. Paul W. Howell | Public Relat.: | Mr. Clarence Phillips |
| Library: | | Research: | Mr. Rudolph Erickson |
| Library Night: | | Social: | Mr. Robert Hart |
| Luncheon: | Mr. Leo Simon | Telephone: | Mr. Greg Hanson |

OBJECTIVES OF THE SOCIETY

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 the better acquaintance and closer association among those engaged in the above activities.

Persons desiring to become members should contact the Secretary.

Regular annual dues, single or family memberships, are \$5 for residents of Multnomah and adjacent counties (Clackamas, Columbia, Hood River, and Washington Counties of Oregon; Clark and Skamania Counties of Washington). Single or family memberships are \$3.50 for residents living outside of the above counties. Junior memberships are \$2.00.

Payments should be made out to the GEOLOGICAL SOCIETY OF THE OREGON COUNTRY.

* The "Oregon Country" is a loose term generally considered, as in the early days, to embrace the states of Oregon, Washington, Idaho, western Montana, and southwestern Wyoming.

ACTIVITIES OF THE SOCIETY

See calendar of the month for details.

| | |
|----------------|---|
| Luncheons: | Every Thursday noon |
| Field Trips: | Usually one field trip per month via private car caravan or chartered bus. Occasional two-day trips with overnight camping. |
| Lectures: | Illustrated talks on geology or related subjects. Two lecture meetings, the second and fourth Fridays, of each month. |
| Library Night: | The third Tuesday evening of each month. |
| Publication: | The <u>Geological News Letter</u> , published once each month, is the official publication of the Society. |

CALENDAR FOR SEPTEMBER 1963

Note: All scheduled activities will meet on Pacific Daylight Saving Time

Every Thursday LUNCHEON - Y. M. C. A. , 831 S. W. 6th Avenue (Use Taylor Street entrance)
12:00 Noon - YMCA Cafeteria (all selections a la carte.)
The luncheon group meets in the Mountain Room adjacent to the main cafeteria. Informal sessions provide members and guests an opportunity to examine and discuss publications and specimens. Short talks on geology and related subjects are presented from time to time.
For additional information call Mr. Leo Simon, Luncheons Chairman, at 236-0549 (residence) or 223-0300 (business).

September Only FIELD TRIP - None Scheduled.
Due to the week-long President's Annual Campout conducted throughout southeastern Oregon, no additional field trips are scheduled during this month.

September 13 Friday LECTURE - Public Library (room A), 801 S. W. 10th Avenue.
7:30 P. M. - Mr. David Rahm, Geomorphologist, will present an illustrated lecture on the "Geology of the Columbia Basin". Mr. Rahm is Assistant Professor of Geology at Washington State University at Pullman, Washington.

September 17 Tuesday LIBRARY NIGHT - Not scheduled during the summer months.

September 27 Friday LECTURE - Public Library (room A), 801 S. W. 10th Avenue.
7:30 P. M. - Dr. Paul W. Howell, Geologist with the U. S. Army Corps of Engineers, will present an illustrated lecture on the Deschutes and Umatilla Plateau. Dr. Howell's lecture is one of a series being presented by the Society on the Physiographic Provinces of Oregon.

ADVANCE CALENDAR FOR OCTOBER 1963

October 11 Friday LECTURE - Mr. Norman Peterson of the State Department of Geology will present a lecture on "The High Lava Plains".

October 15 Tuesday LIBRARY NIGHT - Details to be announced.

October 25 Friday LECTURE - Dr. Paul W. Howell, a past president of the Society, will present a lecture entitled "The Western Cascades".

FIELD TRIP - G. S. O. C. President Al Kenney will lead a trip to Short Sands Beach on the Oregon Coast. Date of the Sunday selected will depend upon tides.

Every Thursday LUNCHEON - As usual at the Y. M. C. A. See September Calendar for details.

October 6 Sunday SPECIAL - OMSI sponsored Boat Trip up the Columbia River.
By reservation only. Cost \$2.50 for child under 12 years of age; \$4.50 for adults. All Gee-sockers invited to participate. Ralph Mason will narrate on the geology enroute. For reservations and information call the Museum at 226-4518.

NEWS OF MEMBERS
By H. Bruce Schminky*

DR. AND MRS. ARTHUR C. JONES IN TEXAS

Dr. and Mrs. Arthur C. Jones are in Dallas, Texas attending the Annual Congress of Physical Medicine and Rehabilitation. Dr. Jones is one of the presiding officers of the Congress. The Jones' plan to return to Portland by the 9th of September.

THE FRED MILLERS IN CALIFORNIA

The Fred Miller family, who has been attending the President's Annual Campout in Southeastern Oregon will be spending the next year in Lompoc, California.

MR. JESS RENTSCH IN NEW YORK

The Thursday Luncheon group received a card from Mr. Jess Rentsch that was mailed from Miller Place, New York.

DR. JOHN ELIOT ALLEN TO TEACH ABROAD

Dr. John Eliot Allen will serve in a geology post at the University of Peshawar in West Pakistan during the 1963-64 school year. Dr. Allen was appointed to this position by the Secretary-General of SEATO at Bangkok, on the recommendation of the U. S. Department of State.

TRUMAN MURPHYS' MOTORING EASTWARD

The Truman Murphys left Portland September 3rd for a two months trip to the middle west and the eastern seaboard. They expect to visit friends and relatives in Nebraska, Missouri and Chicago, leaving Chicago about October 1st for a drive down the St. Lawrence to Quebec City. Turning down into Maine they will then go to Boston, New York and Washington. From Williamsburg, Virginia the Murphys expect to turn homeward through Kentucky and Denver, arriving home about the first of November.

NEWSLETTER EDITOR RETURNS

Irv Ewen and his friend, Jack McCourtney, recently returned from a two-week motor tour of U. S. and Canadian National Parks. Parks visited included Grand Teton, Yellowstone, and Glacier in the U. S. and Jasper, Banff, Yoho, and Glacier in Canada. "High point" of the tour was camping near the Columbia Ice Fields in Jasper Park.

MEMBERSHIP ROSTER

| name | address | city and state | telephone |
|-------------------------------|--|---------------------|-----------|
| NEW MEMBERS | | | |
| Chriss, Mr. Dennis L. | 625 N. E. Morgan St. | Portland 11, Oregon | 285-9405 |
| Owen, Mr. Hugh | 424 S. W. Main Street | Portland 4, Oregon | 228-6141 |
| ADDRESS CHANGE | | | |
| Barr, Mrs. Amza | 823 N. E. 82nd Avenue | Portland 13, Oregon | |
| Hall, Mrs. George T. | 10300 S. W. Barbur Blvd. (space 15) | Portland, Oregon | |
| Stone, Mr. and Mrs. Norris B. | 3122 S. Glenmorrie Drive | Lake Oswego, Oregon | 636-1154 |

* Substituting for "Aunt" Emily Moltzner.

CHASING SHADOWS

By H. B. Schminky*

On July 13th, the Schminky family (including Cricket) headed north on a journey into the past and the present. Crossing the Columbia River into Washington, we looked back beyond written history to the great floods of the Ice Age. Later the Indian made this river his highway, untroubled by thoughts of a white skinned man. But Broughton, Lewis and Clark, the Astorians, men of the Northwest and the Hudsons Bay Fur companies, and the great stream of Emigrants soon forced the reality of the white man on the Indian.

Down along the Columbia and up the Cowlitz, past the old Hudson Bay farms on Cowlitz Prairie and at Nisqually, passing the Tenino mound country, which again reminds us that Ice Age glaciers moulded this land long before the Indian and the white man saw it. Then along the sound, where Cook and Vancouver poked their boats into uncharted waters, and left a wealth of place names that are still in use. And here also, the Indian felt the push of the whiteman, who came first for his furs, but stayed to clear farms, and build big cities.

We cross the border into British Columbia at Sumas, to the Fraser, a mighty river that needed all the water and the sands and gravels that the Ice Age could furnish, to carve its canyon through the granites of the 9000 foot Coast Range. And it is still working at the job, for in many places the canyon walls squeeze it to less than a quarter of its normal width. Here the path of the Indian echoed not only to the explorer and trapper, but to the boot of gold hungry men also. Two railroads and a highway gouged their way through the canyon to make present day travel easy.

We are through the Coast Range and into the trough that lies between it and the Rockies. We find now, that the Fraser, and its tributary the Thompson, are cutting into glacier debris that filled this trough, just as are the Columbia and the Willamette here at Portland. We follow the Thompson to Cache Creek, gateway to the Cariboo country, that last Eldorado of the gold rush days. So we turn into the trail of those argonauts, and follow their pack mules, and later the heavy ox drawn freight wagons, the stage coaches, and even a camel train, that carried men and supplies on the road to riches or to disappointment. We pass Clinton, 70 Mile House, 100 Mile House, Lac la Hache, 150 Mile House, Soda Creek and many other stopping places on that road, to Quesnel and finally Barkerville at the end of the trail. Not all returned from the diggings, and both the lucky and the unlucky now remain in the solitude of Boot Hill. Barkerville is now being made into a living museum of gold rush days. All this mad rush for gold was made possible by ancient glaciers, which ground down old mountains and concentrated the metal in ancient stream beds.

From Quesnel, the road pushes north to Prince George and the start of the John Hart highway, which leads to Dawson Creek on the ALCAN highway. The entire route, until the Hart highway crosses the Rockies, is over glacier fill or around steppe mountains rising out of it. All the depressions on the fill surface contain a swamp, or ponds and lakes. This was the home of the moose, but we see none. At Prince George we cross the Fraser river on roadways that have been added on the sides of the railroad bridge of the Canadian National. As a reminder that steamboats once plied the upper Fraser, this bridge has a, now unused, draw span.

The Hart highway crosses the Rockies through Pine Pass, as does the Pacific Great Eastern Railway, at an elevation of 2850 feet. The highway reaches an elevation of 3100 feet just west of the pass. We are now in faultblock mountains and sedimentary rocks, but we have no time to search for fossils.

Out of the Rockies, which have an elevation of some 9000 feet, we come into the great Canadian bush country, corresponding to our plains, but timbered. Again this is a surface left by dying glaciers, in whose depressions swamps, ponds and lakes abound. This was the home of the wood buffalo, but their shadow is now cast only in parks and game reserves. The timber decreases in height from fifty feet as we first see it, to about fifteen at the far end of our journey. Occasionally, low hills, whose roots lie deep below the morain material, rise a few hundred feet above the general average of the land, which has a gentle slope toward the north and east. Dawson Creek is in the western extension of the Peace River farm belt, and like the rest of the towns we are to pass, the grain elevators on the railroad are the beacons that spot them for miles before we reach them. And the towns come about every seven miles as we go east toward Peace River. Not all of the land has been turned into farms

* Past President of the G. S. O. C.

Chasing Shadows - cont'd.

as yet, so that at times we drive for miles between clearings, while near the original settlements most of the land is cleared. New farms are still being made, but now tractors and bulldozers make quick work of the bush. Cattle, hay and grain are the main crops. Original log cabins are being replaced by modern buildings on many of the farms.

Then came the town of Grimshaw, in northern Alberta, and the start of the Mackenzie highway to Hay River and Yellowknife on the Great Slave Lake. Here we have the car serviced for the 380 miles of macadam road that lies ahead. As we travel north, the farms become more scattered and at last die out for a time. But cars need gas and service, and people need food and sleeping quarters, so new places are being developed along the road, and with towns come a few brave farmers. We find that the road is not bad for traveling, but loose rocks thrown by passing cars are a menace. (We had one hit on the windshield and another through the headlight for the round trip.) At last we cross the border between Alberta and Northwest Territory, the boundary showing as a narrow clearing through the bush to the east and west of the highway. About 38 miles from Hay River, we pause to view the 106 foot sheer drop of the beautiful Alexandra Fall, on the Hay river. The water, a black coffee color from swamp and sluggish stream drainage, is churned to a thick foam at the base of the fall. The canyon below the fall was carved in a limestone that formed the basement rock, below a thin veneer of gravel. A few miles downstream from Alexandra Fall, is the most spectacular and unique Louise Falls. Its drop of 65 feet is broken in midstream by a rectangular flat-topped block of limestone, that rises to almost a third of the height of the main fall, and juts downstream about 100 feet square, onto which the waters break, and fall from its three sides as from a big step. Here again, the coffee colored water is churned to thick foam, which floats in great patches downstream.

Hay River lies at the end of the road, and on the shore of the Great Slave Lake. It is the port of entry to the entire Mackenzie river drainage, even into the Arctic ocean, where ever a tug can push a barge. At the present the boats are loaded from the open shore, for this spring an ice jam flood destroyed much of the town. Boats, cars, trailers and houses are still seen, piled together in utter confusion, throughout the town. No lives were lost. Heavy mining machinery, broken down into component parts for easier handling; trucks, usually loaded; cars and house trailers; tractors and bulldozers; cross arms, hardware and wire for a telephone line; huge metal tanks, with built on metal skids for moving by tractor; lumber; bundles of 8 foot slab wood; metal trailer-like houses, also with built on metal skids; cartons, crates, boxes and barrels of all kinds and sizes; steel cable; structural steel; and much more clutter the mile of loading shoreline, or stand on barges still being loaded for the big out yonder. We stand on the lakeshore and see only the curve of the horizon off to the north.

Saturday, July 20th, is the day that had caused us to head into this far country. This is to be day of the big shadow - the day that the moon eats the sun. Rain and clouds had followed us all the way from Portland, and they had only stopped the rain on Thursday. Friday was broken clouds, but that night was clear. A team of eight men had come from Germany, there was a man from Australia and one from Japan, and there were men from the States and from Canada among the scientists that waited the event, besides hundreds like ourselves. Two planes were all set to view the eclipse from above any clouds that might spoil the ground view. Saturday morning starts clear, but a big cloud bank loomed off to the south, with another to the north. We have an early breakfast, and head south to Enterprise to get on the Yellowknife highway that circles the west end of Great Slave Lake, with Fort Providence as our goal. As we travel the two cloud banks begin closing in on each other. We take time to drive about four miles off the highway to view Lady Evelyn Fall on the Kakiska river. It makes a very pretty sight as the sun paints rainbows in its spray. I guess that the drop is about 75 feet, again in the limestone rock, we had seen on the Hay river, but this water is clean and clear. We hurry back to the highway and the ferry that will take us across the head of the Mackenzie, here nearly a mile wide. We just make the last spot on the boat as she is ready to cross. Now the clouds, which had threatened to close out the heavens begin to break, and we see the sun for longer periods. We drive into Fort Providence and find the shore of the river lined with viewers. The moon started to move in on the sun about 12:30, MST, but we decide to drive back and about five miles farther north on the Yellowknife highway to be as near as possible in the center of the shadow. We

Chasing Shadows - cont'd.

see others along the road, but continue on until we go the full five miles.

We view the inroads of the moon by projecting the sun's image on a sheet of white paper with our binoculars. We furnish meals for a horde of mosquitos and flies as we watch. At first the darkening comes slowly, but during the last few minutes it really begins to turn dusk. Out in the bush around us, birds began their goodnight songs. Then, just as if someone had turned off a light switch, it is dark. It was 1:30 when totality began. The surprised birds kept up their songs in a discordant manner for several seconds before they shut up. We had seen Venus and Jupiter on opposite sides of the sun before it was dark but now we see other stars as well. The sun's corona seems to form more of an oblong than a circle around the black disk of the moon. It never becomes pitch dark, for we can look off in the far distance around us and see the sunshine on the clouds beyond the shadow. Just 100 seconds later the first light of the sun is again seen. We had heard the planes flying high above us, as they tried to extend the total time of darkness by flying with the sun's shadow. We learned since that they had 142 seconds for their observations. Daylight comes back much faster, or so it seems, than darkness had come. While it was dark, mosquitos and other flying insects seemed to increase a hundred fold in numbers, but they departed again when it became light. The birds did not make one peep, however, with the coming of the second day. We remain to see that the crescent image had reversed itself, when we again project the sun on our paper, and then begin our 1950 mile trek for Portland.

We had seen the shadow that primitive man viewed in consternation, we had followed the shadowy paths of history, and had seen a new day born within a day, as a symbol of the future. Now, we have one more wisp to chase before our vacation is over. In Ashland town the shadowy creations of the Bard of Avon are at play, and there we head to enjoy the fun. Merry Wives of Windsor, Romeo and Juliet, Love's Labor Lost and King Henry V was the fare that held us in their spell, there under the stars.

Live on, sweet shadows!

COLUMBIA RIVER GORGE FIELD TRIP

On Sunday, August 18 at 10 a. m. "Gee-sockers" and friends converged on the north picnic-area of Eagle Creek campgrounds in the Columbia River Gorge. Bob Wilbur, as Trip leader, had the able assistance of Leo Simon, to whom the Gorge has been "old stamping-grounds" for many years.

From this point on the south bank of the Columbia River there is an unobstructed view of Hamilton Mt. (2432 ft.) and Table Mt. (3420 ft.), each with a dark-colored cap of "Columbia River Basalt" starting at the 2300 ft. level, on the north side of the river at ranges of 3-1/2 and 4 miles respectively. This term has been shortened to "Coriba" by Dr. E. T. Hodge. The lighter-colored formation, upon which the Coriba rests, bears the name of "Eagle Creek". Many geologists have written of the interesting relationship between the two formations at this point in the Gorge.

In general we are asked to visualize Eagle Creek as of late Oligocene to Early Miocene age; originating in probably two volcanoes in vicinity of Huckleberry Mt. about 10 miles north of the Columbia River at the present elevation of at least 4200 ft. Truly a "conglomeration" - breccias, tuffs, agglomerates, gravels, mudflows, ash, and water-borne volcanic debris. Eruptions from these cones have been suggested as the origin of much of the ash comprising the John Day fossil-beds of Eastern Oregon. An 8-ft. section of petrified tree-trunk from this formation is on display at our assembly-point at the mouth of Eagle Creek and more specimens of fossilized material from this area were to be seen later. At this point there are only several hundred feet of this formation overhead, indicating a long easy slope to the summit, at least ten miles to the north of us.

We are told that following formation of these two volcanoes Coriba welled up thru fissures in the earth's surface at widely-spaced areas; lapping around the bases of these cones and building up in a series of strata with sufficient interval between some to permit formation of soil from disintegrating lava. Then came plant-growth even to the extent of forest and swamps. A general build-up of layer upon layer occurred from Middle to Late

Columbia River Gorge Field Trip - cont'd.

Miocene; completely burying the two Eagle Creek cones which had meantime been eroded and gullied into a rugged terrain; and extending at least as far south as Clackamas River area. *

A four-hour hike was taken up the Eagle Creek trail to The Punchbowl and return. The "gorgeous gorge" was at the height of its beauty. First half mile featured exposures of carbonized and petrified tree-limbs, trunks, and roots amid high overhangs of only fairly-well cemented Eagle Creek rubble. The trail then crosses into the higher cliffs of Coriba with their assortment of columnar and "brickbat" structures; definite lines of contact between strata showing in several locations petrified and carbonized remains of tree-growth that had required a long interval for development; and an interesting change in blossoming plant-life from the types found at lower elevations.

Approaches to the Punchbowl from both the lower and higher trails afforded a "hey-day" for the photographers, with the canyon walls cloaked in moss, lichens, and ferns dripping spray and seepage in the sunlight.

After lunch at the picnic-area on the river-bank additional observations were made on the role played by the Eagle Creek formation in development of the present channel of the Columbia River. An aerial photo furnished our ex-President Leonard Delano of Delano Aerial Surveys was used as a basis for discussion of the Bonneville Landslide and the Bridge of the Gods legend pertaining to it. It shows plainly the 1-1/2 mile displacement of the river from its former channel farther north. This has been attributed to the weight of the several thousand feet of Coriba atop the wet and comparatively loose south slope of the Eagle Creek formation when the river finally wore its channel to that depth and began to undercut the heavy layers of lava.

Ponding action of the slide had flooded a section of forest near Wyeth. Wood from some of these trees, well preserved under water, has been submitted to the carbon 14 test and from it the approximate date of the slide, estimated at 700 years ago allowing for an error of 200 years either way, in the test made on a sample of Garry Oak from Bingen,¹ or at 670 years ago, allowing for an error of 300 years either way, in the test made on a sample of Douglas Fir from Wyeth. This data appears in a publication on the work of two of our members, Dr. and Mrs. Donald B. Lawrence at the University of Minnesota.

On display were specimens of leaf-prints and of carbonized and petrified wood collected by the trip-leader in exposures of Eagle Creek formation along McCord, Moffett, Tanner, and Eagle Creeks. It included also a portion of tree-trunk from the submerged forest at Wyeth, collected by Mrs. Amza Barr of our Society.

From the roadside as we left Eagle Creek a section of a diabase feeder-dike could be seen. Extruded by volcanic action through the comparatively loose and soft Eagle Creek formation, it was used as a secure anchor for the south end of Bonneville Dam and Power-house.

Our last stop was at Oneonta Gorge for observation of some of the 65 tree-trunk "molds" reported as mapped by Dr. W. D. Wilkinson of Ore. State University. As further reported, we found them confined to the line of contact between two of the three strata of Coriba and alligned in a general east to west direction; suggesting the probable direction of the lava-flow that leveled them. As we had seen in the Coriba at high elevation on the Eagle Creek trail, we found here at river-level the same evidence of a long-enough interval between flows to permit disintegration of lava in the formation of sufficient soil to support tree-growth.

In the attempt to penetrate to Oneonta Falls the group was "stymied" by deep water behind a gravel-dam. All but one, to be correct. The Navy has its "Frog-men", GSOC its "Grog-girl". Doris Miller, doubling in the role of "human fly" and "frog girl!" inched her way across the face of a steep cliff, lost her hold in an undercut in deep water, disappeared around a bend, and returned; reporting "mission accomplished"--that Oneonta Falls are still there!

* See "Background For A Journey To The Clackamas Upland."

Geological News Letter V. 29, No. 6, Jn. 1963. Map & Stratig. Fig.

Paul W. Howell, Geologist, Army Corps of Engineers and Past Pres. Geological Society of the Oregon Country.

Reprints at 10¢ each and self-addressed envelope to Geological News Letter, 2020 S. E. Salmon, Portland 14, Ore.

CHILDREN'S FIELD TRIP - NE SLOPE OF MT. TABOR AND BIRTHDAY PARTY AT
EMILY MOLTZNER'S HOME - AUGUST 22, 1963 - CLEAR AND SUNNY

The Field Trip - by Janice Koreywo, age 13

David Saunders, 9, his sister Laura, 13, my brother Mark, 11, and I started with Mrs. Moltzner from her home about 3:15 p. m.

We made the following stops: 1st-NW Cor. Gilham Ave. & SE Stark, a wall made from large rocks, many of them quartzites. They come in a variety of colors, are very hard and composed of sandstones which recrystallized and have cemented together. 2nd-Gilham Ave. & SE Ash, where layers of silt and gravels have been embedded in a bank since the Missoula flood, when some parts of what is now Portland were under 300 ft. of water. 3rd-7136 SE Stark, to me the most interesting, where we saw a piece of opalite from the John Day River, quite large and very beautiful. 4th - At my home, we have two walls of basalt, a gray rock, very strong and heavy. On our bank we have a matrix with rounded holes in which clams or oysters once lived. 5th - The yard at 7033 SE Stark has a wall made with several kinds of rock, including rainbow, which is red, with lighter and darker strips of color running through it. 6th - A wall extending from 535 to 605 SE 70th, composed of common rocks and quartzites of different colors and sizes. 7th and last stop, Mrs. Duley's, 604 SE 70th, where we found a large dark red quartzite in her rock pile, and quite a number of other specimens.

Specimens I brought included many types of shells, polished and unpolished agates, sandstone, a composite and Andesite. I referred to Dr. Herbert S. Zim's book "Rocks and Minerals" while writing this. When I grow up I think I'll be an archeologist.

(Note by Emily Moltzner: Walls at 1st and 6th stops, and rock pile at 7th are NE Mt. Tabor rocks and boulders.)

The Birthday Party - By Laura Saunders, age 13

After the field trip Mrs. Moltzner invited us inside and we tramped up the steps with the specimens we'd gathered, besides our collections from home, to display and discuss.

Janice Koreywo showed a very nice collection of rocks, fossils and quite a variety of shells. David and I brought agates, petrified wood, lava and quartzites. My collection is made up mostly of purchased and traded rocks and includes quartz, augite, feldspar, gypsum, pyrite (fool's gold), calcite, snow rock, turquoise, sandstone, conglomerates, rose quartz, jasper and two pieces of amethyst. I like fossils very much but feel I get more variety this way and my girl friend and I often trade specimens.

We had a special reason for this get-together. It was Mark's 11th birthday, so at 4:15 Mr. and Mrs. Koreywo, my mother and two younger brothers arrived. We sat around enjoying Mrs. Moltzner's luscious cup cakes and cookies, served with punch, while the adults had coffee. Mark's cup cake had 11 candles on it which he blew out while we sang "Happy Birthday." From our hostess, Mark received a darling birthday card, and from the Saunders family, a small present. Then everyone trooped outside, where Mrs. Moltzner and Mom took group pictures.

As a perfect close for the day, our gracious hostess presented each family with "Geology", one of the books in the Boy Scout Merit Badge Series and we all thanked her for a very nice time. Wouldn't you say it was a wonderful day?

For my work when I'm grown, I think I'll choose journalism or the diplomatic service. (Notes by Emily Moltzner: (1) Mr. and Mrs. Walter Koreywo live at 515 SE 71st; Mr. and Mrs. David T. Saunders at 5302 SE Flavel. (2) The children and I hope to visit our State Dept. of Geology & Mineral Industries to see its exceptionally fine display of rocks, minerals, fossils and building stones.

IN MEMORIAM

HILBERT HANSON, husband of Ruth, grandfather of Greg, and long-time member of the Society, died on August 28th at the Veteran's Hospital. Born in Rockford, Washington, on August 23rd, 1886, Hilbert was a veteran of World War I, and until his retirement in 1958 he was a construction superintendent for George H. Butler Construction Company. He had made his home in Milwaukie for forty years.

The Society, bereft by the loss of a faithful and cherished member, extends its deepest condolences to Mrs. Hanson and Greg.

THE ANNUAL PICNIC

Under the lowering clouds of the lingering overcast of the reluctant summer the Society held its annual picnic as scheduled on the evening of August 9th in the Mt. Tabor Volcano, long the traditional setting for this popular event. Popular as it is it did seem that the attendance this year was down a little, probably because of the uncertain weather. But the buffet was as varied and delectable as always, and the fellowship as delightful. And inevitably, as always, someone forgot to bring his personal tableware -- in this case, guess who. Quietly, graciously, Mr. and Mrs. Bert Schull rescued him from his predicament, restored his composure. The organization of the picnic by the Picnic Committee was so smoothly perfect that it was hardly obvious, and our compliments to Co-chairmen Rose Hamilton and Johanna Simon, and to Myrtice Fowler, Almeda Smith and Kate Rosa, who made the coffee as usual.

The smorgasbord exhausted, there ensued a short social hour before the picnickers wandered slowly into the theater for the evening's program, and during this interlude Milvoy Robosky enlivened the scene by exhibiting a most interesting specimen of wood that was apparently in the process of petrification. It was a large piece of conifer that he had found up on the Quinault Indian Reservation in Washington, and it induced a considerable amount of speculation.

Congregated in the theater, with Drs. Jones and Howell for song leaders, we sang the old familiar songs until it was dark enough to view the three Swedish films that constituted the evening's program. At Emily Moltzner's request we sang the first verse of Ach Du Lieber Augustine, and the most priceless moment of the evening came when Dr. Jones charmed us by singing a solo encore of the same in German. By this time it was dark enough to see the pictures lent us by the Swedish Film Center in New York through the courtesy of the Swedish Consul here in Portland, negotiated by our Program Chairman, Mrs. Thora Baker.

These films were all excellent documentaries skillfully conceived and beautifully photographed. The first, The Bridge, concerned the Swedish steel industry, and though we thought it lacked continuity, perhaps continuity was not intended. The second film, Linnaeus, was the jewel of the evening -- a biographical profile of the great Swedish scientist about whom too many of us know too little -- whose famous Systema Naturae is the basis of our botanical classification; whose Species Plantarum is the foundation of modern botanical nomenclature. The third film, Kiruna, was about the world's northernmost mining town, far inside the Arctic Circle. This place has surprisingly developed into a great Swedish summer resort.

At the conclusion of the last film, it was time to sing Auld Lang Syne and Good-night Ladies, and thus ended another memorable picnic.

W. M. F.

RIVER GORGES LIMITED

Our old friend, SUNSET TOURS, is offering an exciting two-day excursion up the Columbia and Snake River Gorges to Lewiston, Idaho. Leaving the old North Bank Station at 8:00 A. M. on Saturday, September 28th, the excursion train will run on the trackage of three different railroads in three states through spectacular geology and past the Columbia and Snake River dams and dam-sites. Accommodations overnight in Lewiston at the historic Lewis and Clark Hotel, and return via the same route on Sunday. Tickets may be obtained from the Northern Pacific downtown ticket office at SW 6th and Washington or by mail from Sunset Tours, 2765 SW 119th Avenue, Beaverton, Ore., 97005. Cost, covering trip and all accommodations is \$34.85; children under twelve, \$26.50.

THIS AND THAT IN THE PRESS

Notice of relocation of railroads and highways above John Day Dam, leads to speculation that the new cuts should uncover much of geologic interest.

A team of scientists from Rhodesia's University College say that North Magnetic Pole was once in Saudi Arabia. Their findings are based on study of fossil magnetism in rocks of that area.

Mt. Jefferson primitive area again is in the news. This time it is up for enlarging from 86,700 acres to 96,944 acres, after new studies by the Forest Service.

Two giant skulls of triceratops, a plant-eating dinosaur, have been found near Glasgow, Montana. One of the skulls, which was almost complete, is believed to be largest ever found.

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OBJECTIVES OF THE SOCIETY

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 the better acquaintance and closer association among those engaged in the above activities.

Persons desiring to become members should contact the Secretary.

Regular annual dues, single or family memberships, are \$5 for residents of Multnomah and adjacent counties (Clackamas, Columbia, Hood River, and Washington Counties of Oregon; Clark and Skamania Counties of Washington). Single or family memberships are \$3.50 for residents living outside of the above counties. Junior memberships are \$2.00.

Payments should be made out to the GEOLOGICAL SOCIETY OF THE OREGON COUNTRY.

* The "Oregon Country" is a loose term generally considered, as in the early days, to embrace the states of Oregon, Washington, Idaho, western Montana, and southwestern Wyoming.

ACTIVITIES OF THE SOCIETY

See calendar of the month for details.

| | |
|----------------|---|
| Luncheons: | Every Thursday noon |
| Field Trips: | Usually one field trip per month via private car caravan or chartered bus. Occasional two-day trips with overnight camping. |
| Lectures: | Illustrated talks on geology or related subjects. Two lecture meetings, the second and fourth Fridays, of each month. |
| Library Night: | The third Tuesday evening of each month. |
| Publication: | The <u>Geological News Letter</u> , published once each month, is the official publication of the Society. |

CALENDAR FOR OCTOBER 1963

Note: All scheduled activities of the Geological Society will meet on Pacific Daylight Savings Time through the 27th of October 1963.

- Every Thursday LUNCHEON - Y. M. C. A. , 831 S. W. 6th Avenue (Use Taylor Street entrance).
12:00 Noon - YMCA Cafeteria (average cost of lunch is one dollar).
The luncheon is held in the Mountain Room adjacent to the main cafeteria. Society members and guests have an opportunity to examine and discuss specimens and publications as well as to listen to occasional short talks on geology and related subjects.
For more information call the Luncheons Chairman, Mr. Leo Simon, at 236-0549 (residence) or 223-0300 (business).
- October 11 Friday LECTURE - Public Library (room A), 801 S. W. 10th Avenue.
7:30 P. M. - Mr. Norman Peterson, geologist with the Grants Pass Office of the State Department of Geology and Mineral Industries will present a lecture on the High Lava Plains. Mr. Peterson's talk is one of a series being presented by the Geological Society on the Physiographic Provinces of Oregon.
- October 15 Tuesday LIBRARY NIGHT - Lewis and Clark College, S. W. Palatine Hill Road.
7:30 P. M. - A work party is scheduled for the first Library Night of the season. The group will meet at Peebles Hall (the biology building) for the purpose of moving the G. S. C. C. Library to new quarters.
- October 20 Sunday FIELD TRIP - Short Sands Beach on the Oregon Coast via private car.
All Day - The group will meet in the picnic area at Short Sands Beach in Oswald West State Park. Arrival time is optional since field trippers will be spending the entire day here. Trip leader Al Kenney promises a full day of fossil finding, structure studying, pebble picking, and surf staring.
Come prepared with the usual equipment such as geology picks, cameras, lunch, and rain gear in the event of inclement weather. For more information call Al Kenney at 775-5697.
- October 25 Friday LECTURE - Public Library (room A), 801 S. W. 10th Avenue.
7:30 P. M. - Dr. Paul W. Howell, geologist with the U. S. Army Corps of Engineers, will present a lecture on the Western Cascades. Dr. Howell's talk is also part of the series on the Physiographic Provinces of Oregon being presented by the Society.

ADVANCE CALENDAR FOR NOVEMBER 1963

- Every Thursday LUNCHEON - As usual at the YMCA. See current calendar for details.
- November 8 Friday LECTURE - Speaker and topic to be announced.
- November 19 Tuesday LIBRARY NIGHT - Program and meeting place to be announced.
- November 22 Friday LECTURE - Speaker and topic to be announced.

NEWS OF MEMBERS

By Emily Moltzner

HOLLIS DOLE, Director, State of Oregon Dept. of Geology and Mineral Industries, spoke Sept. 18 at the convention of the American Mining Congress, Los Angeles, on "Strategic Minerals" . . . BOB WILBUR is spending October visiting relatives in Lincoln, Nebr., and Little Rock, Ark., and searching for geological specimens when time permits . . . MRS. ELIZABETH GILLIAM has been promoted to Chairman of our Social Committee, succeeding GREG HANSON who is spending the school year as a cultural exchange student in Japan. She is charmingly qualified to fill this important assignment . . . MR. and MRS. LEO SIMON have a new great grandson, born Sept. 12 to MR. and MRS. SIDNEY LANDIS of John Day, grand daughter of Mrs. Calypso Mitzi (Simon) Cage of Portland . . . MR. and MRS. OSCAR K. (WILMA) BERG are reminiscing enthusiastically over their trip to Canada, their visit to the Lake of the Woods with its 14,000 surveyed islands, and the very outstanding exhibit of wildlife in the Museum of Natural History at Regina . . . The cover on the July issue of PHOTOGRAMMETRIC ENGINEERING, official publication of the Amer. Soc. of Photogrammetry, is a spectacular aerial shot of HOLE IN THE GROUND -- a 300-foot deep volcanic subsidence in Lake County, Ore. -- made by LEONARD DELANO, president of the Society's Columbia River Section.

Making the Sunset Tours 370 mile River Gorges Limited junket from Portland up the Columbia and Snake River gorges to Lewiston, Idaho, were GSOCers MR. and MRS. BRUCE SCHMINKY, CLARA BARTHLOMAY, JACK POLLARD, SHIRLEY O'DELL, FRANK MERRIMAN, HUGH OWEN, AND PAUL HOWELL. They report an excellent trip.

MARRIED: KENNEY-SHOEMAKER

At Wilshire Methodist Church, Portland, September 21st, ALBERT R. KENNEY, JR., son of our President Albert R. Kenney and Mrs. Kenney, to CECELIA KAY SHOEMAKER, daughter of Mr. and Mrs. Rex C. Shoemaker of Sand Point, Ohio. Mr. Kenney is a senior in civil engineering at Portland State College and Mrs. Kenney is employed as a secretary. They are living in a duplex at NE 53rd and Davis. We extend our felicitations to them.

IN MEMORIAM

WILLIAM F. (BILL) CLARK, who was president of our society in 1955, passed away July 27th. Brief graveside services were held at Willamette National Cemetery. During his presidency, RUDOLPH ERICKSON persuaded the Oregon State Highway Comm. to designate the area surrounding the BELLEVUE ERRATIC near Sheridan, Ore., a State Park. (An asphalt paved trail now leads up to it). Another important event was the joint visit by the Salem Geological Soc. and ours to the Rehab. Inst. of Oregon, at the invitation and arrangements of DR. and MRS. ARTHUR C. JONES, assisted by RAY BALDWIN. We extend sympathy to his widow Catharine T., his daughter Mrs. Robt. L. Bothwell of Portland, and son Wm. P. Clark of the U.S. Air Force.

MEMBERSHIP ROSTER

| name | address | city and state | telephone |
|-------------------------------|-----------------------------|---------------------|-----------|
| NEW MEMBERS | | | |
| Moffitt, Mr. & Mrs. Donald C. | Post Office Box 382 | Waldport, Oregon | 563-4900 |
| ADDRESS CHANGE | | | |
| Ohmart, Mr. Reynolds | 1748 "B" Street, N. E. | Salem, Oregon | |
| Elliott, Mrs. Lyla L. | Post Office Box 135 | McMinnville, Oregon | |
| Hitchcock, Mr. & Mrs. David | 255 S. W. California Street | Portland 19, Oregon | |

REFLECTIONS OF THE PRESIDENT'S ANNUAL CAMPOUT
(The Human Interest Side)
By Laurette Kenney

Mother Earth busied herself in Mio-Pliocene times preparing for a visit of the Geological Society of the Oregon Country on its First Annual President's Campout. She tossed and fluffed her southeastern Oregon "feather" bed, running her hand down the ticking making the creases of the Alvord desert, Catlow and Warner Lake basins and causing in turn the billowing and rising of the Steens, Pueblo and Hart mountains. In her energetic efforts, she broke an occasional hole at the ends of the mattress which spewed feathers. Having tired, she put her hands on her hips and sighed, "I will just let the guests pick them up when they come". This they did, and called them "Obsidian" and "Lava". They called the apertures from whence they came "calderas" and the magnificent mountains and basins "Horsts and grabens" -- graphic terms taken from the German language--horst, resembling a sawhorse, and graben or grave.

It was a new and daring venture, the first of its kind in the society. The society had taken a trip into the Wallowas in its infancy, but this one presented greater and magnificent distances, limited water and desert heat which presented problems, problems that could have been catastrophic had one undertaken the trip alone. This seventeen-car caravan was like the wagon trains of yore. EVERYONE in the group, according to his talents, made major contributions to meet these problems, many driving miles out of their way to accommodate others. Errors were made and accidents happened, but there were no quitters nor grippers. EVERYONE, including those suffering injuries, the veteran and the novice, completed their scheduled trip and lauded it a SUCCESS.

President Albert R. Kenney, his wife, Laurette, and Gwen Helm arrived at Glass Buttes a day early to prepare the camp. There the organization's flag, made by the Kennes, was flown for the first time. As the members arrived the next day, they were taken in approximate groups of six to visit the cinnabar mine owned by Mr. Verne Ryan who so graciously gave his consent for the visit to Al Kenney and Truman Murphy when they scouted the trip in the spring. This mine was unique in that it was a contrast to most mines. Instead of being dark and gloomy, the pearly-white walls of opalite reflected the glow of the carbide and gas lanterns like marble halls. The white opalite was interspersed with bandings of red of practically pure cinnabar, to the beautiful coral-pink hues, a blend of cinnabar and opalite. Interesting were the funguses growing in the mine--fine, white feathery wisps hanging from the ceiling, some glittering with beads of water and resembling the prisms of a chandelier. Other funguses were spur-like, about an inch and a half long, resembling brass-capped cow horns, and there were funguses resembling the bloom of the dog wood.

The group later visited the obsidian fields where float pieces of the material could be gathered. Each piece was an adventure. There were pure blacks, patterned pieces of reddish-brown and black which the rockhounds call "Mahogany" and the coveted silver sheen.

Those who had arrived early enough to set up camp before dark, had a campfire at which Jack Pollard entertained with "canned" popular music, and songs of Indians and Eskimos taped during his recent visit to Alaska.

After a good night's rest the group moved on to Fish Lake, via Frenchglen, stopping enroute to visit the Buena Vista station of the Malheur Wildlife Refuge where Mr. Joe Mazzoni, assistant manager of the refuge, gave an interesting talk on the problems and accomplishments of their service. On waiting for Mazzoni's arrival, the group lunched, visited the lookout point and some scouted the immediate area and found Indian artifacts within a 500 feet range of the station. Besides fragments found by several, Esther Hammond found a perfect arrowhead of basalt and Walter Bruckert a spearhead. Enroute to Fishglen the caravan stopped at a spot that was a "natural" for a hunting ground of the Indians to look for arrowheads. The hunt was interrupted by a hail storm, violent in its short life, that freshened the air and dampened the ground enough so that the artifacts could be readily seen. It was then that Cathy Fagan found a perfect obsidian bird point.

After a brief visit at Frenchglen for food and gas, the party proceeded to Fish Lake in the Steens to camp. Again nature went out of her way to entertain the group by an extravaganza of color over the lake put on by the setting sun. A pleasant campfire was enjoyed that evening with President Kenney giving the geology of the area and the plans for the

President's Annual Camp Out

next day.

It was a sharp contrast to the balmy mornings of Glass Buttes, fragrant with juniper and sage. The group woke to a morning, sharp and cold enough to snap the step, and make one want to hug the campfires and appreciate a hot mug of coffee. The day quickly warmed and the party proceeded to the glacial-grooved mountain to view the most dramatic spectacle of the whole trip. Looking down from approximately 9500 foot elevation, they saw the Alvord desert for the first time. Kiger gorge was too breathtaking to be described. Cameras clicked. There were those who only took snaps and those, such as Dr. Hopson and Bob Wilbur, who sat up tripods and made studies. Paul and Mae Dunn, while wandering about some rocks, discovered what was apparently an old camping ground of the Indians. The ground was strewn with fragments of arrowhead making materials and portions of arrowheads--Indians, too, "goofed" in their work. Returning to camp exhausted and happy the group enjoyed another campfire, but retired early against the trek of the next day.

Morning found them prepared to move and they were soon under way. After a stop at Frenchglen, long enough for those to see, who had not been able to do so before, the Ker Pruitt's polyglot of heirlooms and artifacts, everything from branding irons, barbed dog collars, old wheels, etc. to priceless treasures of 9000 year old prehistoric sandals and matting. Enroute to Fields, along the wave-cut terraces superimposed on saw-tooth blocks of the low Steens bordering the Catlow Basin, were many caves. Seeing these, one could not help but dream of exploring them for more remnants of perhistoric man. Of this portion of the trip, will be remembered the first sand dunes, the munching of fresh, crisp, water cress and stopping on the first view of the misty, blue Pueblo mountains, an apropos spot to eat lunch.

In Fields was a fount of information, a desert eccentric pumping gas. Mr. I. A. Hollis, 52 years a resident of the area, told of Charlie Fields taking a 150 acre homestead in the area, and of Pete French's cattle drives. On enquiry of the borax industry, he told the most fascinating story of the West--the story of Oregon's borax industry which antedated the one of Death Valley. This industry was started before the turn of the century by a Mr. C. S. Owingard. He employed twenty Chinese, who built and lived in sod houses and were completely self-sufficient in this desert area. His operation closed down in 1911 because the price of borax dropped to three cents a pound. The raw material was carted by wagon with "loose bottoms" from the richest deposit which was east of Hot Lake, where it was mined with a "scoop shovel". A new question cascaded upon each answer. At last, in desperate politeness, he said, "Lady, I could talk all day, but I can't pump gas and talk too". Thus ended a fascinating interview.

The terminal of this trip was the Wild Horse Ranch at Andrews, Oregon, owned by Mr. and Mrs. Marvin Berrington, who generously gave permission last spring to camp on their property. The caravan was greeted by Mr. and Mrs. Berrington and their four children, Nancy, Stevey, David and Gary. Here was a classic example of a young and enterprising family operating a successful ranch under modern methods. By contrast, was the camping ground, an old, picturesque "Grandma Moses" home and orchard, complete with spring house and "facilities". Fruit of the orchard was offered and it was gathered. An occasional sheep, cow and horse wandered about. Many will remember this camp with nostalgia--it was beautiful and it was tranquil. Having established camp early in the day, some chose to go to the "hot lake" and swim and to examine the sod house, a remnant of the borax works. Others chose to rest and enjoy the quiet pleasantness of the farm yard. The evening was spent visiting back and forth in the camp. The next day a trip was taken to the Alvord desert. On stopping to take pictures at a vantage point and wandering over the terrain, grisly remains of bones in a trap were found-- some predator had lost his paw and later his life. Lizards were photographed and sample rocks were gathered. The Alvord desert was a startling surprise. Instead of the expected sand, the desert presented a dry, hard, shiny, egg-shell colored surface, finely cracked in approximately two-inch squares, just as drying mud would crack. This was too much for Johanna Simon and Laurette. In exuberance they danced a polka on it. In the spirit of the moment, John Hammond started to call a square dance and all fell in and danced a square. Later the group climbed a portion of the east slope of the Steens near the Alvord Ranch to examine the terrain. It was here that Bob Wilbur killed the only rattler seen. Some, late on leaving, had the pleasure of meeting a

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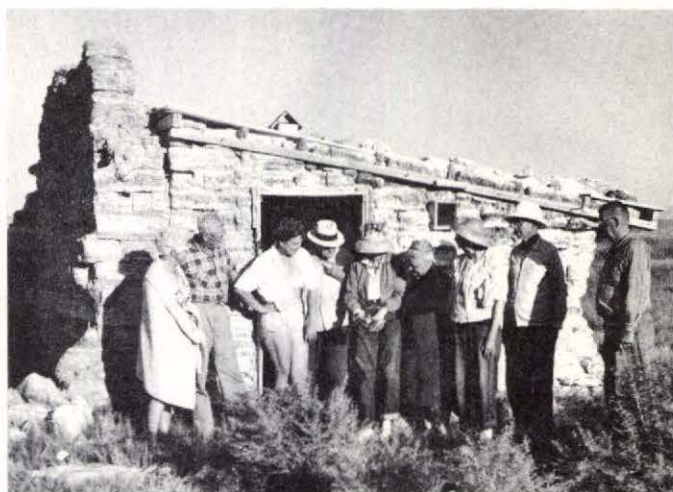
31 august
to
8 september
1963



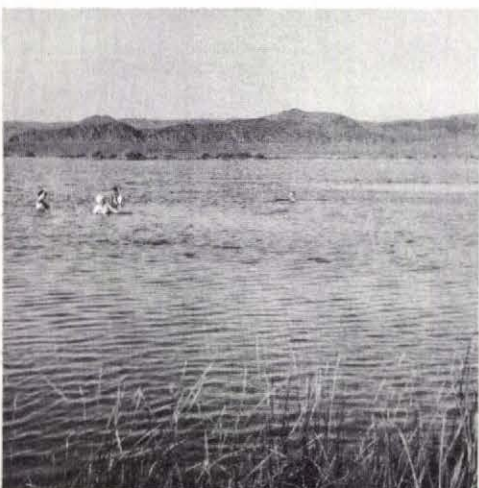
Kiger Gorge in Southeastern Oregon from the air.
(Photo by Delano Photographics.)



GSOC'er caravan lines up at
Frenchglen. (Photo by Delano
Photographics.)



GSOC'ers inspect an old shoe left in sod hut
near borax works in Alvord Valley.
(Photo by Delano Photographics.)



GSOC'ers relax in Hot Lake at
borax mine. (Photo by Delano
Photographics.)



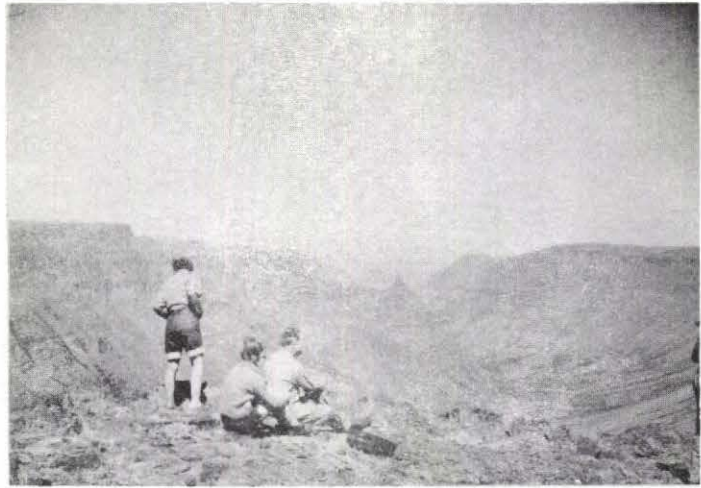
GSOC'ers breaking camp at Fish Lake. Shown
from left to right are Mr. Richard Fagan, Pres-
ident Al Kenney, Dr. Ruth E. Hopson, Miss
Fagan, Mrs. Gwen Helm, and Mrs. Kenney
happily cleaning last utensil.
(Photo by Delano Photographics.)

G. S. O. C.
PRESIDENT'S ANNUAL CAMPOUT

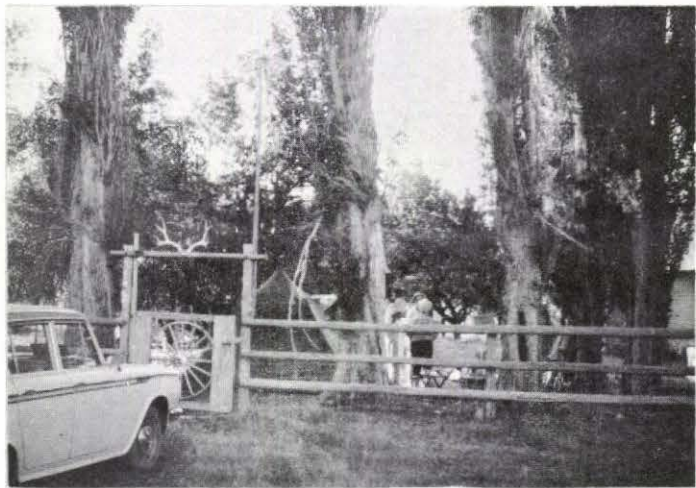
31 August to 8 September 1963



GSOC flag flies at camp.



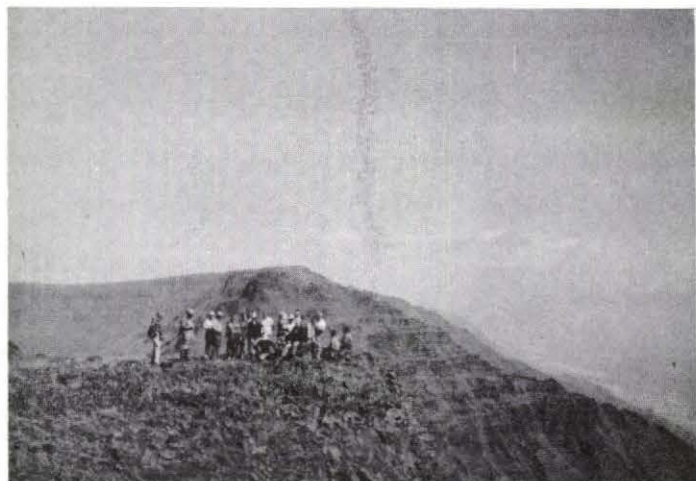
GSOC'ers at Kiger Gorge.



GSOC'ers camp at Berrington Ranch.



GSOC'ers camp at Hart Mountain.



GSOC'ers in the Steens Mountains
looking over rim into Alvord Desert.

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local miner, Lester Rhoads, colorful against the background of his "shack" and rock piles. Every time the people moved in their visiting about his place, his dog, very patiently followed, dug himself a hole on the edge of the circle and crawled in. Interesting was Mr. Rhoad's Uraninite pile. He told of people visiting and sitting on it, believing it had therapeutic powers.

The afternoon was free--each to do as he liked. Some returned to the lake for a swim, others climbed into Wild Horse Canyon, while others relaxed around the camp.

In the evening the campers had the unexpected pleasure of an invitation from a neighboring rancher, Mr. Rube Blair, to visit his home and view his heirlooms and artifacts. Again, there was an interesting home--an ancient, log building of hand-hewn juniper, cut with broadaxe and adz by a Swedish immigrant and fitted water-tight so that there was no need of chinking. The furnishings fit the setting, each article was of interest. He had an immense collection of arrowheads and other Indian artifacts. He also showed with pride his rifle used in the Modoc War and a "Peacemaker" used in the Cimarron. He showed a bit of mercury he had distilled in a small homemade retort. Interesting was his mammalian fossils, large but too fragmentary for identification. (Finding highly vesicular basalts with the vesicles filled with pectolites and zeolites in Wild Horse canyon, there could be an eocene outcropping there). Later in the evening he and his friend, Harry Alexander, joined the society to hear Jack Pollard's recording of Dr. John Allen's lecture on the area, while his dog moved from one to the next in the circle, extending his affection and greeting.

Breakup of camp the next day was early against the grueling trip through northern Nevada to the Hart mountains. A brief stop in Denio for gas and a short stop in Nevada to eat lunch was made. After gassing again at Adel, the group visited the Crump geysers, mid-afternoon. The participants of the caravan, a little tired and extremely dusty, pulled to a stop beyond the geyser and walked back. The posted big geyser was ignored, but curiosity, characteristic of those who seek, bested caution. All approached the little, insignificant hole, framed in a two-foot square box, to look. Charlie Crump's baby geyser, as all small fry are apt to, performed in the most embarrassing way at the most unexpected time. Without warning, it shot a forceful stream of scalding hot water approximately twenty-five feet into the air and sent all flying. Paul Dunn and Hazel Zimmer suffered scalds and were taken to Lakeview for treatment, but being the troupers they are, rejoined the group the next day and completed the tour.

Weary and a little disheartened, the group arrived late at Hart Mountain Antelope Refuge and was greeted by Benjamin Hazeltine, manager of the refuge, who invited them to visit the headquarters in the evening for a picture-slide talk by their biologist, Oscar Demming. Although extremely tired, this was too much to miss. All were adequately compensated by one of the most educational talks they have heard in a long time, put on by an absolute enthusiast for his work. It was interesting to learn that the pronghorn is not a true antelope but came from a common ancestor. He told of extensive studies to improve the grazing conditions of the area, and of his experiment in putting cattle with the pronghorn to simulate the grazing conditions of the pronghorn and the buffalo.

Returning late to camp, all rose late the next morning. A leisurely day was spent visiting scenic points, photographing the Warner Lake Basin, and groups bathing in turn, in the hot springs' natural bathtub. What luxury taking off those layers of grime, basking in the sun, exchanging intimacies (Rome had nothing better) and on leaving, carefully avoiding distracting Mr. Bull from his serenade to the surrounding cows.

In the evening, Jack Pollard put on a slide program of his trip in Alaska at the headquarters. As all good programs, it was heralded by music, Rowena Hoven piped a tune on her flute. An interesting and charming Canadian, Mr. Wolfgang P. Loops, on vacation in the States, joined the group. He told interesting tales of his escape from East Germany and of political situations there, of his naturalization in Canada, and his great appreciation of democracy. An electric storm threatened that evening but bypassed the area, cooling the air, however, and contributing to a good night's rest.

The next morning after a good breakfast, dragging our feet, being a little reluctant to have our vacation come to an end, all bid each other adieu and departed individually to

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return home according to schedule.

What made the trip a success? For every trainmaster, there has to be those who must ride shotgun. Sanford Errett, Fred Miller and John Hammond gave unstintingly here. For hurts that come about enroute, those with the most medical knowledge must function -- John Hammond and Bob Wilbur came to rescue. In the hot climates, there are vapor locks, malfunctioning engines. The tubeless tire does not perform as well as the old tube-and-tire that the locals still use. George Hall, Kenney and others had to see that the cars would move. That the rest might know, Fagan, Brogan, and Freer (at home) reported the events and Delano and Pollard did the news photography. President Kenney expressed his joy over the trailer and camper owners, they were road-wise and therefore helpful in many ways. The Dunns, Hammonds and Bob Wilbur drove miles out of their way to clear the problems of some of the emergencies. Truman Murphy helped scout the trip and gave limitless time arranging rides and writing individuals along the route advising them of the visit so that they could make adequate preparations. Each host, without exception, responded graciously. Truman Murphy and Emily Moltzner compiled a history of the area to be used on the trip. OMSI graciously offered a bus should it be needed. Apologies are offered to the many others who contributed who were missed--the human mind cannot record absolute. Last but not least, the contribution of pluck and courage of those who suffered injuries. Along with Paul Dunn and Hazel Zimmer, Leo Simon suffered an accident, losing the tip of the index finger on his left hand just prior to joining the group while helping a garageman fix his tire.

Everyone in the society should view the next one or two of the series of "Wagontrain" on television, and then say, "They were a courageous lot, but we, too, 'got what it takes'".

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GEOLOGY OF THE COLUMBIA BASIN

After a brief August vacation the Friday evening library lectures were resumed on September 13th, when Dr. David Rahm, Assistant Professor of Geology at Washington State University at Pullman spoke to the membership on the "Geology of the Columbia Basin." Dr. Rahm, who is a geomorphologist, came elegantly equipped with beautiful colored slides -- many of them taken from the air; all of them excellent illustrations of the subject at hand. The lecture, general at first, gradually evolved, as it almost inevitably must, to the phenomenal cataclysm of the Missoula Flood; its cause, but mostly its effect.

In July of last year, Mr. Richard Clem, who is an Assistant Professor of Geology at Whitman College in Walla Walla, spoke to us on "Palouse and Snake River Geology" at the home of Dr. John Allen, and it is extremely interesting to compare these two fine lectures, in part about the same areas. Where Mr. Clem was specific in a limited area, Dr. Rahm was more general over a wider range of country, and each lecture compliments the other beautifully.

Once again, but from a different viewpoint, we saw and heard about the islands in the scablands; the giant gravel bars with the giant ripple marks; the gravel bars whose bedding planes decline in the upstream direction; the great areas of loess; all illustrated with those beautiful slides. The Society is highly appreciative of Dr. Rahm's excellent exposition -- one of the best of the year -- and of Mrs. Thora Baker's successful efforts in getting him for us. Mrs. Baker is our Program Chairman.

It was interesting to learn that Dr. Rahm, who pilots his own aircraft, flew his family-- Mrs. Rahm and Steve and Brian--down to Seaside the day before, to Portland on Friday, and after the lecture, back to Pullman on Friday night. Paradoxically, the most exciting part of the trip for them was driving from the airport into town through Portland traffic.

W. M. F.

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HART MOUNTAIN NATIONAL ANTELOPE REFUGE is featured in an article and five photographs in Parade (magazine supplement) in Sunday, Sept. 22, 1963 Oregonian, by Sid Ross, and details not only the fun stressed by the Order of the Antelope, but also its serious purpose of endowing scholarships for conservation students doing research on the antelope, and to preserve Hart Mtn. as a wilderness. . . .

-- E. M.

FROM THE EDITOR

It was once our intention to publish in the NEWSLETTER a small introductory paragraph greeting each new member of the Society. For a short time we did this, but unfortunately the man who writes the introductions got behind. The other day when we asked him how far behind he was he informed us that he was just beginning to write his New Year's resolutions . . . The only bright spot in this dismal situation was that he told us that one of the resolutions was that he would try to do better by the NEWSLETTER, of which we naturally took a dim view. Nevertheless, in the mail the other day we received these little profiles.

WE ARE DELIGHTED TO INTRODUCE --

MR. and MRS. RICHARD W. FAGAN, and CATHIE, BILL, CAROLYN, PAT AND MIKE, even though it puts us in the difficult position of having to introduce a man who needs no introduction; a situation we have always dreaded and have heretofore successfully avoided. If the Membership doesn't object, or think that we are taking the coward's way out, it will make our task easier if we make this introduction just as though Dick did need one . . . We all know him from afar; an Associate Editor of the Oregon Journal, the instigator of Mill Ends Park (the smallest park in town), and now its superintendent, and conductor of the popular column in the Journal of the same name -- Mill Ends -- in which he writes enchanting stories about how ladies lose their white gloves -- and perhaps sometimes retrieve them -- and all the scandal in Mill Ends Park (the smallest park in town). Dick and Cathie went on the Steens Mountains trip, where Cathie, who goes to Portland State, found a nearly perfect bird-point arrowhead, and Dick devoted six Mill Ends columns to the trip -- the nicest publicity we've ever had.

Born in Glockamorra, Dick's parents were leprechauns -- or at least his grandparents were -- and lest he develop too much Irish whimsy he was early transported to the University of Iowa, where he took his degree in journalism in 1935, not long thereafter arriving in Portland where he practically snatched Catherine right out of Marylhurst, the good judgment of which is now obvious in their charming family from Cathie, who is twenty, right on down the line to Mike, who is ten. We hope to see more of them as occasion permits, but in the meantime Dick has left us many identifying marks, for every time we see a lady who has lost her gloves, or a leprechaun selling crab apples in Mill Ends Park (the smallest park in town) we think of Dick Fagan.

WE WANT YOU TO KNOW --

MR. JOHN BIGGERSTAFF, teacher of mathematics, who has recently joined the Society. John took his B. A. at Reed in 1924 -- where he and Ruth Prentiss were campusmates -- and his M. S. at the University of Washington; has been on the faculties of Stanford University, the State College of Washington, Rensselaer Polytechnic Institute, and the Drexel Institute of Technology. Though John retired early to enjoy the fruits of the contemplative life, he still takes a lively interest in some of his favorite branches of mathematics; the Theory of Numbers, Symbolic Logic, Dynamics, Elliptic Functions, the Calculus of Variations, Real Variables, etc. However, for an evening of light entertainment there is nothing he relishes more than to repair to the golden age that was the glory of Greece and read in the original the dramas of Euripides, or Aeschylus, or Sophocles; to saunter through ancient academic groves absorbing Aristotelean philosophy; to hobnob with his old friend, Pythagoras -- or to ponder the vagaries of Greek verbs, or to trace the inexorable course of evolution of the language from Classical to Modern Greek.

Now, if someone will hand us that amphora of Samian wine we will pour a libation to John for being, we will wager, the only classical scholar in the Society.

WE WELCOME --

MRS. LEA SHRADER, who has come to us recently. Lea, a native Oregonian born in Glenwood, is the office manager of Burdick Forest Products. She likes hiking and swimming, and is interested in photography. Besides that she is so extremely modest that we know scarcely anything about her except for her obvious good judgment and nice discernment in seeking in the Society intellectual companionship in a wholesome, congenial atmosphere. Both Lea and the Society are to be congratulated on her new membership.

FOLDING MONEY TEA FOR CAMASSIA AREA

At MARJORIE FESSENDEN'S home Sunday, Sept. 22, many guests were generous with folding money toward re-payment of a loan to its Oregon Chapter from THE NATURE CONSERVANCY, Washington, D. C., who have purchased this area near West Linn, Clackamas County. MURRAY MILLER exhibited 75 color slides of its native plants, a blue bellied lizard, a baby night owl, and replica of the Willamette Meteorite found by Ellis Hughes in 1902 near West Linn, to date the largest discovered in the United States. Color photographs of wild flowers by DR. JOHN HAMMOND were beautifully mounted and lettered by BOB and DARLENE LANDSBURG. SHIRLEY O'DELL poured, while GWEN HELM, JOHANNA SIMON and AGNES MILLER kept plates filled with home-made cookies. It is hoped many others will follow Marjorie with money-raising projects to pay for this unique botanical and geological property. A total of eighty-eight dollars was realized from the folding money tea and the sale of cookies.

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COMMITTEE CHAIRMEN APPOINTED

President Al Kenney announces the appointment of Mrs. Elizabeth A. Gilliam as Chairman of the Social Committee.

Also appointed were Mrs. Murray Miller and Miss Marie Wagner who will serve jointly as co-chairmen of the Library.

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1962 NEWS LETTER INDEX PREPARED

The annual subject-author index for the Geological News Letter (1962) has been compiled by Miss Margaret L. Steere, geologist with the State Department of Geology and Mineral Industries.

Barring the unforeseen, this index will be published and included with the November 1963 issue of the News Letter. Upon receipt, the index should be placed with Volume 28 (1962).

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THE GEOMORPHIC DIVISIONS OF OREGON

Enclosed with this issue of the Geological News Letter is a reprint of pages 101 and 102 of the October 1959 issue of the ORE. -BIN published by the State Department of Geology and Mineral Industries. It was felt that this sheet entitled "GEOMORPHIC DIVISIONS OF OREGON" would be of interest to GSOC'ers as the current series of lectures on the Physiographic Provinces of Oregon is presented.

* * * * *

-- Ed.

INFORMATION FOR FIELD TRIP TO SHORT SANDS BEACH

Sunday, October 20th, the field trip will be to Short Sands Beach in Oswald West State Park on Highway 101 about 20 miles south of the Seaside or Cannon Beach junction. Distance from Portland is about 100 miles. This is one of the scenic masterpieces of Oregon's 300 miles of coast and is one of the best equipped parks. In massive timber the picnic and camping area looks right out on a sheltered cove and beach. Ample driftwood makes a beach fire attractive. Bring your axe but preferably a saw. Gas camp stoves may use the park tables but the usual park fireplaces are also provided.

Visitors will park cars in large parking area provided on highway on south side of creek bridge. Warning: the parking area on north side of bridge leads only to picnic area adjacent and the beach cannot be reached from this area. At the end of the car-parking area the sign, To The Beach, leads by paved path under the bridge, through giant cedars, hemlocks and Douglas firs, through salal and Oregon grape and by the gurgling mountain stream to the beach, perhaps a short half-mile distant. Wheel barrows are provided but there are seldom enough to go around so be prepared to carry your gear or send a few nimble fellows ahead to bring back a few wheel barrows.

Trippers may schedule their arrival any time from 10 a. m. to noon. Come early. There is lots to see and do. Outstanding examples of orogeny, sedimentary rocks, land sliding and coast erosion make this especially interesting geologically. Leader, Al Kenney, has lived on the coast and knows this area intimately.

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-- C. T. L. M.

GEOLOGICAL NEWS LETTER

OFFICIAL PUBLICATION OF THE



PORTLAND, OREGON

GEOLOGICAL NEWS-LETTER

Official Publication of the

Geological Society of the Oregon Country

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State of Oregon
Dept. of Geology & Mineral Industries
1069 State Office Bldg.
Portland 1, Oregon

GEOLOGICAL SOCIETY OF THE OREGON COUNTRY

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| Editor: | Mr. Irving G. Ewen | 4128 N. E. 76th Avenue, Portland 18 | 281-7098 |
| Asst. Editor: | Mr. William M. Freer | 2405 S. E. Taylor St., Portland 14 | 232-9601 |
| News of Members: | Mrs. Emily Moltzner | 7032 S. E. Stark Street, Portland 16 | 254-2362 |
| Art Advisor: | Mr. Robert B. Anderson | 303 Wilcox Building, Portland 4 | 222-7095 |
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OBJECTIVES OF THE SOCIETY

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 the better acquaintance and closer association among those engaged in the above activities.

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Payments should be made out to the GEOLOGICAL SOCIETY OF THE OREGON COUNTRY.

* The "Oregon Country" is a loose term generally considered, as in the early days, to embrace the states of Oregon, Washington, Idaho, western Montana, and southwestern Wyoming.

ACTIVITIES OF THE SOCIETY

See calendar of the month for details.

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| Luncheons: | Every Thursday noon |
| Field Trips: | Usually one field trip per month via private car caravan or chartered bus. Occasional two-day trips with overnight camping. |
| Lectures: | Illustrated talks on geology or related subjects. Two lecture meetings, the second and fourth Fridays, of each month. |
| Library Night: | The third Tuesday evening of each month. |
| Publication: | The <u>Geological News Letter</u> , published once each month, is the official publication of the Society. |

CALENDAR FOR NOVEMBER 1963

- Every Thursday LUNCHEON - Y. M. C. A. , 831 S. W. 6th Avenue (use Taylor St. entrance).
12:00 Noon - Purchase desired food items in the cafeteria. (No minimum price for lunch as all selections are ala carte.) Dine in the Mountain Room adjacent to the main cafeteria. Specimens and publications are examined and discussed. Occasionally short talks, slides, or movies are presented on geology and related subjects.
For further information call the Luncheons Chairman, Mr. Leo Simon, at 236-0549 (home) or 223-0300 (office).
- November 8 Friday LECTURE - Public Library, Main Branch, 801 S. W. 10th Avenue.
7:30 P. M. - Mr. Leonard Delano, immediate past president of the Society, will present an interesting program on Photogrammetry -- the Cascades. Mr. Delano, an excellent aerial photographer by profession, will include many of his superb pictures in the presentation.
- November 19 Tuesday LIBRARY NIGHT - Lewis and Clark College, S. W. Palatine Hill Road.
7:30 P. M. - Another work party is scheduled for the second Library Night meeting to complete the setting up of the GSOC Library in the new location. Meet at Peebles Hall (Biology Building) on the Lewis and Clark College Campus.
For more information call Mr. Murray Miller, project supervisor, at 656-6724.
- November 22 Friday LECTURE - Public Library, Main Branch, 801 S. W. 10th Avenue.
7:30 P. M. - Dr. Ewart M. Baldwin, Professor of Geology at the University of Oregon, will lecture on The Coast Range. This presentation is one of a series on the Physiographic Provinces of Oregon being presented by the Geological Society.
- November 24 Sunday FIELD TRIP - Tour of Sauvie's Island via private car caravan.
10:00 A. M. - Assembly Point will be at the east end of the Sauvie's Island Bridge in a large gravelled parking area. The itinerary will include many historic points of interest as well as geologic features.
Bring lunch, camera, geology pick, etc. and proper clothing in the event of inclement weather. For more information call the field trip leader, Mr. Leo Simon, at 236-0549 (home) or 223-0300 (office).

ADVANCE CALENDAR FOR DECEMBER 1963

- Every Thursday LUNCHEON - As usual at the Y. M. C. A. See November Calendar above for details.
- December 13 Friday LECTURE - Dr. John V. Byrne, Professor of Oceanography at Oregon State University, will lecture on The Continental Shelf, Abyssal Plain, and Coastline of Oregon.
- December 17 Tuesday LIBRARY NIGHT - Lewis and Clark College. Details to be announced.
- December 27 Friday LECTURE - No lecture scheduled due to the Holiday Season.
FIELD TRIP - To Be Announced.

NEWS OF MEMBERS

By Emily Moltzner

STAUFFERS IN MEXICO

DR. JAMES STAUFFER, Prof. of Biology at Lewis and Clark College, is in Mexico City, where he will supervise two adult assistants and the 24 students taking the 5-months study tours there, under the overseas study program of the college. The Spanish language and Mexico's culture and customs are featured. Some geological field trips are scheduled under Dr. Stauffer's leadership. We'll miss him and PAULA, his wife, and their faithful work to make our "library nights" at the college the success they are, and will welcome them on their return about March 1st.

GREG HANSON REPORTS

From aboard ship enroute to Japan, his letter postmarked Honolulu Cct. 19th, states in part: "Hope you're all as hale and hearty as I." . . . Except for more than a few cases of seasickness the journey was uneventful till the 17th, when an oil tanker made an emergency transfer of a sick mariner, there being no doctor on his ship. We had been plagued with heavy seas and a squall all day, but as the transfer took place the seas calmed and the rain ceased, only to re-commence with added fury as the oiler plowed off and we put all ahead again. Our vessel has a cosmopolitan passenger list. So far I've met an Englishman, a Dane, several Japanese students and teachers, a couple of Mexicans, a few Chinese and a Philipino. Enough for now. (Signed): Odysseus' heir, Greg. H. (Note); Greg is among 43 Lewis and Clark students in its overseas study program.

PHIL BROGAN RECEIVES DISTINGUISHED
SERVICE AWARD

On Oct. 16th the University of Oregon gave him this award for "his research and scholarship on Oregon's historical past" . . . He is Pacific NW director of the American Meteor Society and Chairman of the Oregon Geographic Names Board. We look forward eagerly to his articles in The Oregonian every Sunday. Our congratulations, Phil, and appreciation of the many courtesies you and your wife extend when our members barge in on you at Bend.

MR. and MRS. HUGH MILLER are visiting relatives and friends in Pontiac, Mich., Grand Junction, Iowa, Belvedere Ill., and Hampton, Virginia, planning to return around Thanksgiving via California . . . AVA CROWE sailed Oct. 24th on a freighter for China via the Canal Zone, to the Philippines, Bangkok, Hong Kong, Kobe and Tokyo. Particularly, she hopes to see Japan's famous mountain, Fujiyame before returning about Feb. 1st . . . CLAIR E. PENSE, Multnomah County Surveyor, is the newly elected chairman of the Oregon Section of the American Congress on Surveying and Mapping.

TRUMAN MURPHY FINDS TRILOBITE in the walls of his brother-in-law's stone-faced residence at Lincoln, Nebr., a fine-grained limestone said to have come from Arkansas, a very few brachiopods were seen. "Suddenly I came face to face with a trilobite tail. I was tickled to find my first trilobite!" (From his letter of Sept. 26th, postmarked Harvey, Ill.)

HUNTING SAFARI GREAT SUCCESS (for everything but bagging deer and Chukar pheasants). However, BERT and DELLA MICHEL, MILVOY ROBOSKY and EMILY MOLTZNER were amply compensated by a brief visit to CLARENCE and EDNA SCHONBERGER'S John Day Valley Museum at Kimberly with its many identified fossils, and a brief look at the immense collection of MR. and MRS. FRANK WILLIAMS at Fossil, where a rockhound would become dizzy with delight choosing material for his lapidary. They were fascinated by the castle-like buff and rose colored cliffs west of Monument and hope to return to the area next year.

THE STEENS AND SOUTHEASTERN OREGON CAMPOUT
(From the Leader's Viewpoint)
By Albert R. Kenney, Sr. *

After leaving Bend and the recent volcanism of Pilot Butte, the lava flats to the east with their junipers, pressure ridges and evidence of flow upon flow, the first major feature to be seen is the magnificent, if short, canyon cut through the basalts by the drainage waters of the ancient lake that occupied the basin where the small settlements of Millican, Brothers, and Hampton are located. This drainage canyon was apparently cut at a time when the lake waters were at their highest in late Pleistocene and recent times. The overflow from the lake made a deep, rapid cut and poured its drainage waters into the Columbia drainage pattern while at the same time the lake probably drained also to the south. The southern drainage may well have reached either the Sacramento River basin or the basin currently occupied by Great Salt Lake.

After crossing a portion of the old lake basin our first camp was at Glass Buttes. The buttes are a relic of volcanic action. Possibly contemporaneous with the Newberry Caldera action. The formations here consist of beds of rhyolite, obsidian and opalite. The opalite is more prominent at the east edge of the buttes where it was deposited in thick layers. These layers were subsequently fractured and faulted, and cinnabar was deposited by hydrothermal action.

The route then was eastward to Burns, then south into an area of immense lake basins. These basins at one time were quite likely connected with each other and formed a part of the immense lake system that was so typical of the basin and range province of southeastern Oregon. These lakes are now dry for the most part or have remnants in the bottoms of the basins during wet cycles. Semi-permanent relic lakes now occupy the Harney and Malheur basins.

Continuing on to the south, the route was through typical horst and graben topography. The Jackass mountains to the west and the Steens mountains to the east are immense fault blocks that have been tipped and raised. The group then ascended the gently sloping west side of the Steens fault block to the summit of the higher fault block where the evidences of glacial action are displayed in a manner unsurpassed anywhere else. The glaciers of the area were of the montane type and produced such typical forms as "U" shaped valleys, tarns, cirques, moraines, and other minor forms. The Steens mountains section is composed of a basal member known as the Alvord Creek formation, a tuffaceous sediment approximately 800 feet thick. These are overlain by the Pike Creek volcanic series of perhaps 1000 to 1500 feet of assorted acidic volcanics. The main bulk of the Steens is then composed of two more major-flow series of basalts and andesites of about 4000 feet in thickness. Prominent in the basalt portions are large feldspars not usually found in rocks of that type.

From the Steens mountains the route led south through the magnificent Catlow Basin and crossed the pass between the lower Steens and the Pueblo mountains and into the Alvord Basin at Fields. The Pueblo mountains appear to be structurally similar to the Steens with well-developed escarpments, fault blocks tipped to the west but not so severely glaciated as the Steens.

The Alvord Basin is deeply alluviated with playa and remnant lakes. Saline deposits, hot springs, and salt flats were the prominent features here with a magnificent view of the east escarpment of the Steens and Pueblo Mountains to the west.

From the Alvord Basin the trip then led us through northern Nevada and southeastern Oregon across a group of very impressive faults and again the borsts, grabens, and lake basins that are so well-developed here. The route then went north along the west edge of the basins occupied by the Warner Lakes and up the fault face of the western side of the Hart mountain fault block. Here again was a good display of the Steens basalts with their large feldspars and contact zones between flows. It has been estimated that this face displays well over 90 successive flows of basalts.

For our trip, the Warner Lake basin was filled better than average with water, but old shore lines, plainly visible, show that during late Pleistocene these lakes were filled to levels of about 300 to 350 feet higher than they are now.

*President, Geological Society of the Oregon Country.

STEENS & SOUTHEASTERN OREGON CAMPOUT - cont'd

To put a finale on this trip, the route back to Bend via Valley Falls gave an unforgettable view of the Abert Rim, Abert Lake, and the lake basins extending north and west to the Summer Lake area and the Fort Rock basin.

To sum it all up, a good look was had at an area, the major topographical features of which are controlled by natural forces one can read about but not appreciate until they are actually seen and experienced. These forces--vulcanism, faulting, folding, subsidence and wind, water and ice erosion--have resulted in landscapes that are almost unbelievable even after seeing them on this trip.

As leader of this jaunt, I feel very fortunate to have had such a willing, competent, and sociable group and can only express my appreciation to one and all, and express the hope that the experience can be repeated with an equally enjoyable group at some time in the future.

THE DESCHUTES AND UMATILLA PLATEAU

The September 27th Friday evening lecture at the Central Library was given by Dr. Paul Howell on "The Deschutes and Umatilla Plateau", another one in the fine series of talks we have been having this year on the Physiographic Provinces of Oregon.

He told us that this province consists of a broad, open, structural basin -- the Golden-dale-Umatilla Basin -- cut by interior thrust faults and bounded on the east by a major over-thrust fault. The rocks consist of gently sloping Miocene basalts overlain conformably by Pliocene lake-beds -- the Shutler Formation -- and Pleistocene basin fillings. Much of this latter is of "Missoula Flood" origin. All streams tributary to the Columbia River appear to be consequent on the main structural surface, but were super-imposed on or antecedent to some local structures. The meander patterns appear to have been developed during a pause in down-cutting, and were entrenched from broad valleys developed below the main structural surface.

Dr. Howell illustrated his talk with a topographic map of his own construction, colored slides of typical examples, and a series of aerial photos flown by Leonard Delano. One particularly impressive photo that we can't forget dramatically revealed the scour pattern of the Missoula Flood.

W. M. F.

THE WESTERN CASCADES

"The Western Cascades," another lecture in the continuing series on the Physiographic Provinces of Oregon, was presented by Dr. Paul Howell on the evening of Friday, October 25th, at the Central Library.

This province, stretching from Northern California up to Mt. Rainier, consists of a maturely dissected, westward-tilted block of mildly deformed tuffs and lavas with locally included marine sediments that are largely of Oligocene-Miocene age. Prior to uplift and tilting the block had been eroded to a late mature surface of hills and broad open valleys which truncated the prior folds. This erosion occurred in late Miocene-early Pliocene time. Older stream development crosses geologic structures indiscriminately, indicating superimposition, but younger streams show fairly strong structural control.

Illustrated with sketches and colored aerial obliques, Dr. Howell gave the usual excellent presentation we have come to expect from him; gave us a more intimate feeling for the Western Cascades.

W. M. F.

INDEX FOR 1962 NEWS LETTER PREPARED

Somehow or other, last year's News Letter (Vol. 28, 1962) never got an index. But finally one has been compiled and is published in this issue. Its format deviates from earlier indexing procedures in that it combines subject and author headings into one alphabetical arrangement. Names of authors are underlined to differentiate from subject titles. It is urged that you remove the index and insert it with your 1962 issues of the News Letter (Volume 28) for more convenient reference, particularly if you intend to have the volume bound.

WE ARE HAPPY TO PRESENT --

MR. AND MRS. ROBERT WAISTE, JR. -- Bob and Dorothy -- recent additions to our membership. Bob, who is the Assistant Chief of the Office Service Branch of the Portland District of the U. S. Army Corps of Engineers, leads a precarious, nervewracking existence. It is among his tasks to oil the squeaky people, replace their blown fuses, to generally keep the ponderous but intricate machinery of the District Office running smoothly and efficiently. Undoubtedly one of his most sensitive assignments is that of directing the activities of the District Stenographic Pool. The Stenographic Pool is composed of a gurgle of glamorous girls, all eager and anxious to do whatever Bob wants them to do-- or perhaps we should say -- whatever Bob tells them to do. Actually, there is no water in the Pool -- just the girls, and they do not wear bathing suits.

In off-duty hours Bob is the Secretary of Local 7 of the National Federation of Federal Employees, and as if this weren't enough he is also the Secretary of Federal Employees Incorporated, and goodness knows what else. In fact, Bob is the secretary of so many things that he has to have a secretary of his own to keep himself straight, who conveniently turns out to be Dorothy, who is popularly known as the Secretary's Secretary. From this ingenious arrangement many advantages accrue, such as immediate reference, being able to correct the minutes in bed, etc.

These complications notwithstanding, Bob leads a happy, wholesome life. Carefree and debonaire, you will like his cheerful badinage, his gay insouciance. His resemblance to anyone living or dead -- and particularly to Sgt. Bilco -- is purely coincidental. But despite his bright exterior clouds often overcast his path in the form of frequent crises in making the serious decisions that beset his life. Decisions! Decisions! Decisions! Whether to go duck hunting on Sauvie Island, or salmon fishing at Tillamook; whether to go rock hunting in Eastern Oregon, or to their chateau at Lapine where they are making a Garden of Eden out of two and a half acres of Waisteland. In making these decisions, Dorothy is of great assistance to Bob -- perhaps more than he sometimes realizes. As for Dorothy, when the going gets too tough, she finds solace in a hobby unique, we think, in one so dainty. She builds retaining walls. Just finished a beautiful one of red cinder rock that they imported from east of the mountains. You should see it --

* * * * *

MEMBERSHIP ROSTER

| name | address | city and state | telephone |
|--|--------------------------------|---------------------|-----------|
| <u>NEW MEMBERS</u> | | | |
| Goldsworthy, Mr. & Mrs. Robert E. (Alice) | 1930 Clise Pl. West, | Seattle 99, Wash. | AT3-7935 |
| Hallgarth, Mr. & Mrs. Donald R. | 129 Cedar Lane | Troutdale, Oregon | MO5-4473 |
| Jones, Mr. & Mrs. Marion W. (Elisabeth) | 3728 N. E. 114th St. | Portland, Oregon | 253-6766 |
| Leng, Mrs. Ellen B. | 540 So. State St. | Lake Oswego, Cre. | NE6-4006 |
| Patten, Miss Barbara | 1230 S. E. Morrison St. | Portland 14, Oregon | BE5-9409 |
| Sabin, Mr. & Mrs. Neil A. (Juanita) | 12511 SW Boones Ferry Rd. | Portland 19, Oregon | CH4-4328 |
| <u>ADDRESS CHANGE</u> | | | |
| Davenport, Miss Mary | 8308 North Interstate | Portland, Oregon | 285-9003 |
| O'Dell, Shirley M. | 4710 S. E. Stark, Apt. 7 | Portland 14, Oregon | |
| Owen, Mr. & Mrs. Hugh | 120 N. W. Trinity Pl., Apt 105 | Portland 9, Oregon | |

CORRECTION:

Add: Triol, Miss Ella, 5481 East "A" St., N. W., West Linn, Ore. OL6-4410

Resigned

Kerr, Miss Marguerite

OMSI'S BOAT TRIPS EXTREMELY POPULAR. -- Both October 6th and 27th sold out long before the dates. The geology along the Columbia River, as explained in his unique and witty manner by RALPH MASON, is a drawing card and attests the increasing general interest in the science.

-- E. M.

* * * * *

HIGH LAVA PLAINS

On the evening of October 11, Mr. Norman V. Peterson, a geologist with the State Department of Geology Field Office at Grants Pass, presented an interesting program on the High Lava Plains of Oregon. Mr. Peterson's lecture was one of a series on the Physiographic Provinces of Oregon being presented by the Society.

Mr. Peterson's informative talk covered a large part of central Oregon which is considered to be a volcanic wonderland. His very complete slide presentation included views underground, on the surface, and from the air. The group got a tour of lava tubes, spatter cones, blowouts, cinder cones, and many other unusual recent volcanic features.

Of particular interest to the group was his explanation of maar-type craters that are believed to be formed by a series of brief, violent eruptions when rising basaltic magma encounters water or water-saturated rocks near the surface. This type of feature was best portrayed by views from the air.

* * * * *

-- I. G. E.

CAMPCUT PICTURES

In the previous issue of the Geological News Letter (October 1963) two pages of pictures were included. The photos reproduced on page 79 were properly credited to Delano Photographics. However, on the overleaf (page 80) credit to Mr. Jack Pollard for the pictures was omitted.

This "error of omission" didn't come to light until recently when a small note bearing the information was discovered with material for this issue. At this time all that can be offered from an embarrassed editor is a belated apology to Mr. Pollard for the oversight.

Ed.

* * * * *

COMING EVENTS

Mrs. Thora Martin Baker, energetic Program Chairman for the Friday evening lectures of the Society, has arranged for many fine speakers during the next several months.

The first lecture in January will be a presentation by Mr. Raymond E. "Andy" Corcoran on the Blue Mountains. Andy is a geologist with the State Department of Geology Home Office in Portland.

The second lecture in January will be given by Mr. Lenin R. Ramp, also a geologist with the State Department of Geology (Grants Pass Office). Len's talk will be on the North End of the Klamath Mountains.

In February Mr. Parke D. Snavely, Jr. of the U. S. Geol. Survey will give the first lecture of the month on the Geology and Scenic Beauty of the Olympic Peninsula.

The second lecturer in February will be Dr. Norman R. Anderson, Chairman of the Department of Geology at the University of Puget Sound in Tacoma, Washington. Dr. Anderson's talk will be on the Washington Cascades.

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| Junior GSOC: | Dr. John Hammond | Publicity: | Mr. William M. Freer |
| | Dr. Paul W. Howell | Public Relat.: | Mr. Clarence Phillips |
| Library: | | Research: | Mr. Rudolph Erickson |
| Library Night: | | Social: | Mr. Robert Hart |
| Luncheon: | Mr. Leo Simon | | Mr. Greg Hanson |
| | | Telephone: | |

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12:00 Noon - Purchase lunch selections in the main cafeteria (price will vary as all food items are ala carte). Dine in the Mountain Room adjacent to the main cafeteria. Interesting programs usually develop each week which may include impromptu talks on geology or related subjects, discussion of publications, or examination of specimens.
For more information call the Luncheons Chairman Mr. Leo Simon, at 236-0549 (home) or 223-0300 (office).
- December 13 Friday LECTURE - Public Library, Main Branch, 801 S. W. 10th Avenue.
7:30 P. M. - Dr. John Byrne, Professor with the Department of Oceanography at Oregon State University, Corvallis, Oregon will present a program about "The Continental Shelf, Abyssal Plain, and Coastline of Oregon.
- December 15 Sunday FIELD TRIP - Visit to State Department of Geology & Mineral Industries.
2:00 P. M. to 4:00 P. M. - Mr. Hollis M. Dole, Director of the State of Oregon Department of Geology and Mineral Industries, will hold open house for members of the Geological Society at the Department's main office in suite 1069 of the State Office Building, 1400 S. W. 5th Avenue (between Columbia and Clay Streets), Portland, Oregon.
Several members of the staff will be on hand to guide groups through the many interesting sections of department and explain the operations.
For more information call the Field Trips Chairman, Mr. C. T. L. Murphy, at 282-2027.
- December 17 Tuesday LIBRARY NIGHT - Lewis and Clark College, S. W. Palatine Hill Road.
7:30 P. M. - Meet at Peeble's Hall (Biology Building). Program details will be announced.
- December 27 Friday LECTURE - The lecture meeting usually scheduled for the fourth Friday evening of each month has been cancelled during December because of the Holiday Season.

ADVANCE CALENDAR FOR JANUARY 1964

- January 10 Friday LECTURE - Mr. Raymond E. "Andy" Corcoran, geologist with the State Department of Geology and Mineral Industries, will present an illustrated lecture about "The Blue Mountains" of Oregon.
- January 21 Tuesday LIBRARY NIGHT - Lewis and Clark College. Details to be announced.
- January 24 Friday LECTURE - Mr. Lenin R. Ramp, geologist with the Grants Pass Field Office of the State Department of Geology and Mineral Industries will lecture about "The North End of the Klamath Mountains" of Oregon.
- Every Thursday LUNCHEON - See December Calendar for details.
FIELD TRIP - Details to be announced.

NEWS OF MEMBERS

By Emily Moltzner

THOSE TIRELESS JONESES

We can't keep up with them. DR. ARTHUR C. is the newly elected Secretary-Treasurer of the Northwest Rheumatism Society. His brother, DR. LESTER T. is contributing spectacular achievements in the fields of ophthalmology and otolarngology, with referrals from all over the country on certain eye problems. ROBERT E., a nephew, was recently appointed a Circuit Judge for Multnomah County. Biologist IRVING W. (IRV), son of DR. ARTHUR and DCRIS, has become a fearless Scuba Diver, making underwater studies and photographs of fish for the Oregon State Fish Commission.

ABOUT DICK FAGAN

We were worried about him -- hadn't seen him since our Campout trip and were shocked to hear that he and a male companion had been locked up with ten women for seven hours! Imagine our relief when we learned it was incidental to his serving on the jury throughout November. (From Fagan's "mill ends", Oregon Journal, Nov. 5)

BUSY BILL FREER

Cur Assistant Editor and Publicity Chairman, has taken on the presidency of Local No. 7, National Federation of Federal Employees. Among material he writes for our News Letter are his "We Are Happy to Present" biographical sketches of new members.

LAWRENCES IN NEW ZEALAND

DR. DONALD B. LAWRENCE and his wife are in New Zealand, near Christ Church on South Island, where he is making a ten months study of soil development processes and vegetation on retreating glaciers at Lincoln Agricultural College, under a Fulbright Award.

ALBERT J. KEEN

Is the new president of The American Federation of Mineralogical Societies, 700 of them, with a membership of 50,000. Also, for the second year, heading the American Federations HELP (Help Eliminate Litter, Please) campaign, with particular attention to roadsides, picnic areas and campgrounds.

HUGH OWEN ON TELEVISION

Nov. 11th, on Channel 10, HUGH OWEN of our City Planning Commission, talked about "Urbanism", and gave a well organized summary of accomplishments in Blackberg and Val-lingby, Sweden; London and Portland, Maine. We consider his knowledge, original ideas and experience valuable assets to our community. (Note) The foregoing was written before we had read The Oregonian's story about him in its Nov. 22nd issue, which we believe confirms our opinion. Nice picture of him, too. We're proud of you, Hugh.

DR. HOWELL ADDRESSES SURVEYORS

Nov. 23rd, DR. PAUL W. HOWELL, geologist in the Portland Office, US Army Engineers Geology Section, spoke to the Professional Land Surveyors of Oregon at their 4th annual dinner meeting. His subject: "The Engineering Geologist. What is He?"

CONVALESCING are: RUDCLPH (RUDIE) ERICKSON, who, with his wife JANE, attended our luncheon Nov. 21st and gladdened our hearts mightily . . . MAURICE ALBERTSON, who never missed a luncheon, is still absent but improving so we can hope for his presence soon again . . . MRS. ALBERT (STELLA) KEEN can have visitors and appreciates notes and cards. She is at Milwaukie Convalescent Home, 12345 Stanley, Milwaukie 22, Oregon.

THE MOST EXPENSIVE STONE IN THE WORLD

By George A. Deefeldorfer*

This is a story about stones. Not gemstones from some exotic, steamy corner of the globe, not some stones containing a new and valuable mineral, and not stones inscribed by an artisan in a language long forgotten. At first sight the stones are not very impressive, they may be, quite to the contrary, of the most common appearance. Neither their color, texture, size, hardness, durability or any of the other numerous properties possessed by stones is outstanding. Yet there they lie, on some hillside, soon to become the most expensive stones in the world.

Ever since man lived in a cave, hunted with stone-tipped weapons, and ground grain between two millstones, he has been dependent upon stones. Today man is even more dependent upon stones than ever before, although he is usually concerned with end products obtained from stones rather than the original materials themselves. The list of these stone-derived products is long and constitutes an inventory of our civilization. In addition to the commoner products such as sulfur, limestone, graphite, talc, sand and gravel, there is the long list of metals which have been wrested in one way or another from stones.

Recently there has been a marked back-to-the-cave movement--and I am not referring to the faltering fall-out shelter program either. This back-to-the-cave trend finds mankind attempting to get away from the pre-fabbed existence which has encroached steadily upon all of us since the disappearance of the buggy whip. Outdoor, or at least patio living, seems to be the popular solution--the crisp (and sometimes badly charred) retort to the makers of three-minute cereals, instant coffee, and pre-cooked biscuits. Patio living provides many soul-satisfying pleasures for the city dweller fed up with a synthetic existence indoors. Although he may not realize it, one of the most important aspects of patio living is the honest, solid reassurance he gets from walking on solid, honest, non-synthetic stone, and from preparing his meals over a blazing fire in a stone fireplace or firepit.

Hand in hand with the back-to-the-cavers we find the rapidly increasing ranks of the do-it-yourselfers. The do-it-yourselfer is a determined refugee from a civilization which basically demands only money from an individual in order for him to survive. The do-it-yourselfer gets lots of help and it is no small wonder that more of them aren't successful--at least part of the time. The power tool manufacturer supplies a bewildering variety of gadgets which may be bought or rented. The bookstores are filled with how-to-do-it books, and magazines and newspapers all have articles showing how to do most anything. As long as he sticks to building furniture, adding a room in the basement or painting something or other, the do-it-yourselfer remains relatively happy and solvent. He has revolted from a world of ready-to-wear, just plug it in, and immediate occupancy. This is wonderful, and more power tools to him!

Our cast of characters is now complete. The program notes have been perused. The house lights dim. The curtains part and the back-to-the-caver stands at stage left looking at the do-it-yourselfer at stage right. What follows is simple, graphic, and entirely predictable. Our two characters meet, discover their related fears and hopes, decide to combine forces to thwart their twin-headed dragon lurking just off stage. The back-to-the-caver wants, must have, a patio and outdoor fireplace. The do-it-yourselfer insists on helping him. Originally it was to be a simple project. A rather small patio with a fire ring and two wind wings and benches. Final plans however were more elaborate--after visits to other patios in the neighborhood. A patio they discovered is like telling a lie---better make it a whopper or remain neurotic the rest of your life. The plans prepared by the do-it-yourselfer were truly magnificent. The specifications speak for themselves: Patio, 20x40 feet, paved with flagstone; centrally located firepit five feet in diameter ringed with stone benches; a large fireplace with built-in oven, and flanked by five-foot-high stone walls and benches; a circular (to complement the firepit) table made of one piece of phonolite five feet in diameter. This indeed was grand planning. At least the sketches looked good.

*Bob S. Mason, State Mining Engineer, State Dept. of Geology and Mineral Industries

Most Expensive Stone in the World - cont'd

It was early spring when the plans were finally complete. Agreement had long since been reached that this project was to be unsullied by any outside help. No commercially purchased stone, no professional stone mason, no pre-mixed concrete. Inquiry developed the information that some good flag stone could be obtained for the taking from a quarry high up in the Cascades. On the first good weekend our pair, and their wives, and two children piled into the back-to-the-caver's station wagon and set out. Seventy miles later they arrived at the roadside quarry. A few minutes of inspection of the site revealed the first of what was to be a long series of problems. Only a small fraction of the stone, a platy andesite, was at all suitable. That which could be used was a full 100 yards from the nearest point that the station wagon could be driven to. Also they discovered, after the first chunk was carried to the car, platy andesite is very heavy. Four hours later enough stone had been pried loose from its outcrop part way up a rather steep quarry face. The slabs were just a little bit thicker than our men had wished but rather than go back empty handed they had decided to take them anyway. Besides slabs 4 inches thick would be just that much better, more honest, more reassuring to walk on. The first four feet of the return trip were uneventful. At that point the heavily loaded station wagon blew a tire on a sharp rock in the quarry floor. After unloading almost all the stone, the spare tire was removed from the tire well under the deck, and put on the car. Cut on the highway things went swimmingly all the way to the first long hill--or rather half way up it. Here the radiator boiled over, and here nearly an hour later approximately half the pay load was left piled beside the road. Late that evening, bone tired but with a certain feeling of accomplishment, our heroes unloaded nearly 800 pounds or so of stone beside the driveway. It looked wonderful! The nine irregular shaped pieces when laid side by side covered almost 16 square feet.

Summer came. The pile of rocks had grown, but at the end of seven trips it still wasn't very large. After the second trip the wives and kids had stayed home "to lighten the load". Another tire had gone the way of the first, they had left a new pick at the quarry on one trip and somebody added insult to injury by not only stealing it but taking most of the rock they had loosened and hauled down to the loading point for the next week's trip. One evening, as the pair worked on the patio, the do-it-yourselfer's wife, who had long since retreated from active participation, observed that at the rate they were going it would be five years before the first hot dog could be roasted. This touched off a predictable argument, but after Mrs. do-it-yourselfer had left, the two artisans did their first real, down-to-earth thinking about their undertaking. Seven trips and they had enough stone to cover a little more than 100 square feet of the patio. The patio plans called for 800 square feet! They were only one-eighth done with the slab, to say nothing of the fireplace, walls, table and benches! They would be lucky if they finished in 10 years.

That evening was the turning point. A little pencil work by the back-to-the-caver showed that he had already driven 980 miles, which at 10 cents a mile (for "easy figuring") came to \$98; he had ruined two tires and tubes at a cost of nearly \$50; two pairs of pants, four pairs of gloves, the lost pick and a ruined wheelbarrow which got caught under some falling rock, brought the bill up another \$45. The out-of-pocket expenses already were \$193, to say nothing of seven hard weekends and two months of evenings. To finish the patio slab alone would cost at least \$1500 just to get the stone to the job.

Fall arrived. The aroma of burning leaves permeated the urban slopes. Behind the back-to-the-caver's house the mason contractor and his two man crew was just finishing up. At one edge of a modestly sized stone slab stood a portable barbecue. At the opposite end, protruding from a two inch hole was an aluminum pole which supported a collapsible clothes line. Against a nearby bank, barely discernible beneath a floral toupee gay with fall colors could be seen some odd pieces of stone---seven loads of it to be precise.

Winter arrived. In his cozy study, surrounded by all the encircling comforts of central heating, electric lights, stereo hi-fi and foam rubber upholstery the back-from-the-caver sighs contentedly. On the wall above him is the framed set of plans for his patio. Neatly lettered in the lower left hand corner is the inscription "In memory of the most expensive stone in the world."

HOW'S YOUR CIRCULATION?

Failure to promptly notify the Secretary or the News Letter business manager of change of address often causes unnecessary delay and additional expense in delivery of the News Letter. Cards for this purpose are furnished by any postoffice or branch; or a phone call will do the trick.

Some of our newer members may be short certain back issues of the News Letter needed for completion of the current Volume 29. The GEOLOGICAL TIME CHART as published by our State Dept. of Geology & Mineral Industries is printed on the inner face of the front cover of the May issue. "Separates" are also available for this chart as well as the Roster of membership appearing in the August issue and the splendid booklet on the history of OMSI by our member, Mrs. Viola Cberson. As long as the supply lasts any of this material may be had by members on application.

Robert Wilbur, Business Mgr., News Letter

* * * * *

WE ARE DELIGHTED TO PRESENT --

MR. HUGH OWEN, a senior planner on the staff of the City Planning Commission, and new to our membership. Hugh, a Yorkshireman by birth, comes to Portland with an excitingly cosmopolitan background that has equipped him beautifully for his work with the Planning Commission.

Born in England, his family migrated to Canada in his childhood, and he attended a little, one-teacher country school; later went to high school on horseback. Orphaned while still in high school, he returned to England as a carpenter and attended night school in architecture. This interrupted by World War II and service in the Royal Welch Fusiliers, Hugh later took his degree in architecture from the Architectural Association of the School of Architecture in London, and then spent a year designing movie sets. After this he went to Switzerland, where he worked under the noted Alfred Roth in Zurich, and from there to the city planning office in Stockholm where he worked for Markelius -- one of the design consultants for the United Nations Building in New York. Coming back to Toronto, Hugh taught architecture and took his master's degree. Now a naturalized American citizen, he has been in charge of urban renewal in Portland, Maine, and the Acting Director of the County Planning Commission in Pittsburgh, Pennsylvania.

On Friday, November 22nd, the Gregonian carried an article written by Don Holm about Hugh -- with a nice two-column cut -- from which much of this profile has been shamelessly, but conveniently, lifted.

Hugh's principal interest in the Society is geomorphological, motivated by the fact that his boyhood home in Canada was built on an esker, which fascinated him. Though he has a Welch name, his antecedents were French Huguenot, Scotch, and Irish, which makes him the best type of up-and-coming Englishman, and we are happy to have him with us. Polished and urbane, we have frequently noticed people edging up to catch some of the undeniable charm of his crisp English accent, his quick dry wit, his impeccable manners.

In the November NEWSLETTER, in the changes of address, the impression is given that there is a Mrs. Owen. This is misleading, for he still enjoys the care-free independence of happy bachelorhood . . . which is always a challenge to some people . . .

GSOC'ERS ABROAD

DR. JOHN ELIOT ALLEN

Dr. Allen sends his regards from Northwest Pakistan where he has been teaching at Peshawar University. Dr. Allen's letter and an accompanying map will be printed in the January 1964 issue of the News Letter.

Correspondence should be addressed to:

Professor John Eliot Allen
APO 665, Box 1079.
New York City, New York

MR. GREGG HANSEN

Mr. Gregg Hansen, another GSOC'er abroad, is now in Sapporo, Japan (sister city to Portland). Gregg's address is as follows:

Mr. Gregg Hansen
c/o Mr. Takuya Mitsuhashi
Chief Officer General Affairs Section
Sapporo City Office
Michi 4 Chome Kiha Ijyo
Sapporo Shi, Hokkaido, Japan

0-0-0-0-0-0-0-0-0-0-0

-- Editor

MEMBERSHIP ROSTER

| name | address | city | state | telephone |
|----------------------------|-------------------------|---------------|--------|-----------|
| <u>NEW MEMBERS</u> | | | | |
| Bixby, Mr. & Mrs. DeForest | 6424 S. E. Monroe | Milwaukie 22, | Oregon | 654-1586 |
| Lewis, Mr. & Mrs. George | 3723 S. E. Rothe | Portland 22, | Oregon | 654-4707 |
| Mooney, Mr. & Mrs. Donald | G.3911 S. E. 104th Ave. | Portland, | Oregon | 775-7174 |
| Bruinier, Terry* | 2750 SW Glen Eagles Pl. | Oswego Lake, | Oregon | 636-2539 |

ADDRESS CHANGE

| | | | | |
|------------------------------|---|--------------|------------|-----------|
| Allen, Dr. & Mrs. John Eliot | Post Office Box 751 | Portland 7, | Oregon | |
| Bryan, Mrs. Gladys L. | | Crater Lake, | Oregon | |
| Elliott, Mrs. Lyla L. | 1530 N. 99W. | McMinnville, | Oregon | |
| Gregory, Dr. & Mrs. Victor | 7-D Crescent Road | Greenbelt, | Maryland | |
| Johnston, Miss Alice | 2254 NW Glisan Street Aptartment No. 106 | Portland 10, | Oregon | 228-9769' |
| Lucas, Mr. & Mrs. Fred A. | 1950 S. E. Larch | Portland 14, | Oregon | |
| Miller, Mr. & Mrs. Fred E. | 533 North "T" Street Apartment No. 2-E | Lompoc, | California | |
| Sabin, Mr. & Mrs. Neil A. | 12511 S. W. Boones Ferry Road | Lake Oswego, | Oregon | 244-4328 |

TELEPHONE NUMBER CHANGE

| | |
|------------------------|----------|
| O'Dell Miss Shirley M. | 234-2318 |
| Owen, Mr. Hugh | 227-5847 |

* Junior Member

FIELD TRIP TO TILLAMOOK COAST

On Sunday, October 20, a small but spirited group of Gesockers defied storms and rock slides to join trip leaders Al and Laurette Kenney in a fossil hunt on the coast of Tillamook County. Three areas of geologic interest were visited: 1) Short Sand Beach, 2) Tillamook Bay, and 3) Cape Mears (see accompanying map). Several areas of gas-tronomic interest (not shown on map) were also examined.

Short Sand Beach (a part of Oswald D. West State Park) is the surprise ending to a quarter-mile hike along a forest trail from the parking area on U.S. 101. The trail leads out to a small isolated bay encircled by rocky cliffs and bears the intriguing name "Smuggler Cove" on topographic maps (locality 1). The beach here lives up to its name for the sand is indeed short, particularly when the combination of a stormy sea and high tide drive the waves to the base of the cliffs. Several members of the expedition, intent on hunting for fossils, were swept out to sea, but came back in on the next wave, bravely clutching their hammers.

The geologic underpinning at Short Sand Beach is shown on the State Geologic map of western Oregon (1961) as Blakeley Formation of late Oligocene age. A small pocket of this marine sedimentary rock is surrounded by intrusions and flows of Miocene basalt, correlative with the Columbia River Basalt. The sedimentary rock, being softer is eroded landward more rapidly, thus forming a cove which is walled in at either end by high shoulders of more slowly eroded basaltic rock. The sedimentary beds in the cove dip steeply to the south and in themselves exhibit differential erosion. The thin, dark shale layers wear back faster than the more massive sandstone beds, which stand out like ribs.

Fossils are exceedingly scarce at this location, but are well worth hunting for. At least eight species of mollusks have been reported by Dr. H. E. Vokes of the U. S. Geological Survey (in USGS Oil and Gas Invest. Map 42). Of special interest among the fossils at this locality is the Echinophoria (or Galeodea), a large fat gastropod, two species of which (Echinophoria rex and E. apta), are diagnostic of late Oligocene age. Neither was encountered on this trip, but they do occasionally weather out of the dark gray shale. Gesockers found an abundance of what looked like the fillings of worm tubes or perhaps of plant stems in the massive sandstone.

Lunch was eaten that day at the parking lot on the highway, chiefly inside cars. A welcome addition to the menu came from Ruby Zimmer who donated a large box of delicious home-grown grapes.

The next lap of the trip took the group southward along the coast to Tillamook and then out along the south side of Tillamook Bay. The Sandstone cliffs beside the road are part of the Astoria Formation of middle Miocene age, lying stratigraphically above the Blakeley Formation. The Astoria sandstone crops out at various places along this road, but at one spot in particular it is especially fossiliferous (locality 2). This location is across the road from the Tillamook County dock, where heaps of fresh oyster shells make an odd contrast to the fossil shells protruding from the 20-million-year-old sandstone cliff opposite. The outer rind of the sandstone is softened by weathering so that the fossils are easily extracted, but most shells disintegrate quickly leaving either an imprint of the outside or an internal mold. The better preserved specimens are found in the harder limy concretions within the sandstone.

Among the fossils collected by Gesockers were clam types such as Pecten, Marcia, Chione, and Tellina; and snail types such as Natica, Bruclarkia and possibly Calyptraea. Al Kenney reported finding a specimen of the cephalopod Aturia on an earlier visit.

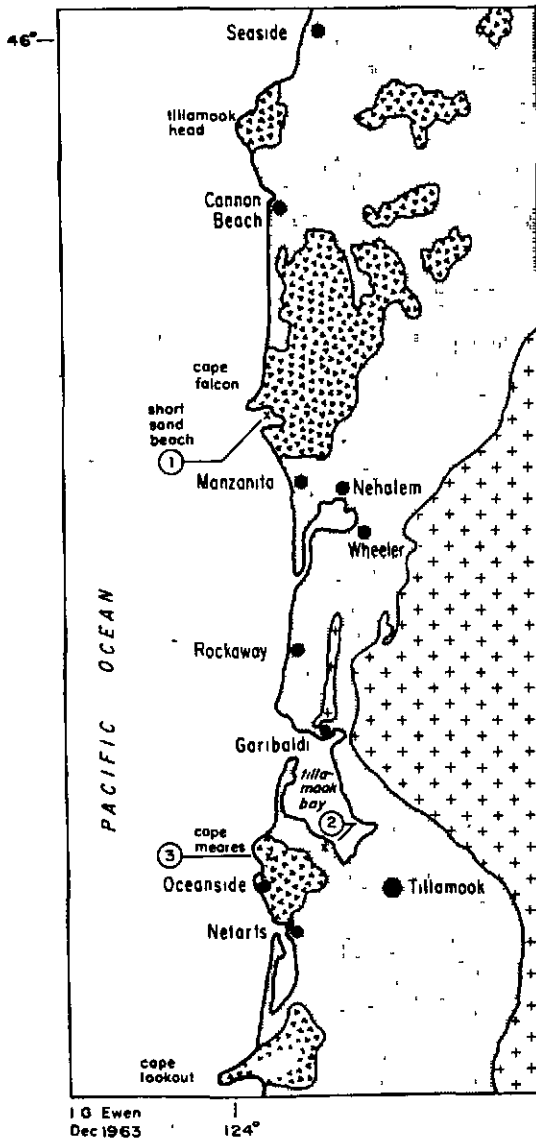
As more and more specimens of fossilized sea food were dug up and laid out for viewing, certain members of the party became very hungry and made a dash for the oyster-packing works across the road. Paul and May Dunn, on returning with their pints of fresh oysters, got the wonderful idea of inviting the sea-food gourmets to pool oysters for a feast at their home that evening. The idea was enthusiastically adopted.

Field Trip to Tillamook Coast - cont'd

Before disbanding, the Kenneys led the group a few miles southwest along the beautiful new road over Cape Meares to Oceanside. This high coastal area is underlain by Miocene basalt--a resistant rock that is responsible for most of the scenic headlands along the northern Oregon Coast, such as Tillamook Head, Cape Falcon, and Cape Lookout. It is probable that at least part of this basalt poured into the Miocene sea and that the rapid cooling of the molten lava resulted in a variety of textures ranging from glassy to coarse and full of holes. At one road cut, Gesockers collected agates which had formed by deposition of silica in vugs in the basalt (locality 3).

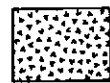
The crowning event of the day was the oyster feast at the Dunns. Those contrary members of the expedition who went home and boiled up their fossils for supper instead of dining on fresh *Cstrea*, both in stew and fried, missed out on a real treat. Many thanks to the Dunns for their hospitality and to the Kenneys for leading this interesting and very worthwhile trip.

M. L. Steere

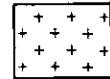


GENERALIZED GEOLOGIC MAP
PART OF NORTH OREGON COAST

VOLCANIC ROCKS



— Miocene intrusions and flows of basalt



— Eocene volcanic rocks (Tillamook Volcanics)

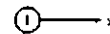
SEDIMENTARY ROCKS



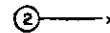
Pleistocene and Recent beach sands
(sand, silt, and gravel
on floors of larger valleys)

Eocene, Oligocene, and Miocene marine beds
(includes Astoria and Blakeley formations)

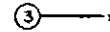
OUTCROP LOCATIONS



— Blakeley formation at Short Sand Beach



— Fossil locality in Astoria formation
at Tillamook Bay



— Agate locality in Miocene basalt
at Cape Meares

information adapted from Geologic Map of Oregon West of the
121 st Meridian, U S Geol Survey Map I-325, 1961

THE COAST RANGE

"The Coast Range" was the subject of the November 22nd Friday evening lecture at the Central Library by Dr. Ewart M. Baldwin, Professor of Geology at the University of Oregon, and of our membership. This lecture was one of the continuing series on the Physiographic Provinces of Oregon. Dr. Baldwin told us, among other things, that--

The Coast Range was built up by extensive volcanics in the early Eocene, the greatest accumulation being in early Umpqua time. The early Eocene volcanic eruptions were followed by deposition of marine formations such as the early Umpqua, the Tyee, the Coaledo and the Eastendorf. The upper two thirds of the Bastendorf are Oligocene. The only other Oligocene in the south Coast Range is the Tunnel Point Sandstone. Northern Units of the Oligocene are the Keasey, Pittsburg Bluff, and Scapoose Formations.

No Miocene strata have been found south of the Astoria Formation -- south of Yaquina Bay -- but some may be present offshore. Columbia River Basalt and its local equivalents form headlands along the northern coast and broad protective slabs adjacent to the Columbia River. Pliocene formations are restricted to the southern coastal area. Profound unconformity occurs between the Upper and Lower Umpqua. A lesser unconformity occurs between the Umpqua and the Tyee.

Tillamook and Siletz River Volcanics are comparable in age to the Lower Umpqua. Older formations are folded -- some intensely -- and the uplift eroded when streams incised the Pliocene surface.

This lecture was illustrated with excellent colored slides, most of which dramatically illustrated the subject at hand. A fine lecture, and our deep appreciation to Dr. Baldwin.

W. M. Freer

WHAT GOES ON AT GSOC LUNCHEONS?

Plenty! From Owyhee to Hawaii -- From the mountains to the sea -- The food is good to eat -- Many friends you're sure to meet -- It's a happy place to be.

November 7th there were three events:

RAY GOLDEN with his color slides of the Owyhee Country. These incredibly beautiful canyons, crags, formations and colors should be seen by everyone. All one needs is a 4-wheel drive, a boat, a camera, lots of stamina and an adventuresome spirit. Ray has all these, plus know-how with his camera, as his pictures attest.

TRUMAN MURPHY, our indefatigable Field Trips Chairman, gave a brief but enthusiastic resume of his motor trip through our North-Central United States, with specific mention of the extensive salt mine beneath Detroit, and showed a small but excellent collection of specimens.

New member GEORGE LEWIS passed around photographs of the eruption of Mt. Lassen (May 19, 1915) taken by the late IRA A. WILLIAMS while studying volcanism as a geologist with the Oregon Bureau of Mines and Geology. Mrs. Lewis is a grand-daughter of Mr. Williams.

November 14th: Guest speaker JIM ANDERSON, Naturalist with CMSI, brought with him Miss Dainty Tarantula and Mr. Dapper Whip-Tail Scorpion, comfortably housed, separately, in heavy plastic boxes. So we felt safe -- that is, 'til he reached into her box and Miss Tarantula hopped up onto his hand, while he told us she wouldn't harm us unless we frightened her. Then he set her on a folded napkin and started her 'round the table. Only Leo Simon and Gwen Helm were brave enough to shake hands with her. Mr. Scorpion followed her -- we were assured he wouldn't attack us -- but vastly relieved that no one took his box lid off! We hope Mr. Anderson, a most personable young man and thoroughly informed "Bugologist" will be around often.

November 21st: MR. and MRS. GUY DODSCN gave a good show with their color

GSOC LUNCHEONS - cont'd

slides of volcanos, geologic features and scenery of Hawaii. Makes us want to promote a trip there for GSOCers . . .

Luncheons every Thursday noon in the Mountain Room of the YMCA, SW 6th and Taylor, cafeteria style. LEO SIMON, chairman, 236-0549 (home) or 223-0300 (office).

Emily Moltzner

SOCIAL HOUR WINS FAVOR

Social hour which followed DR. EWART BALDWIN'S talk was enlivened by question and answer period. Meanwhile, table well filled with cookies was unveiled, coffee and punch were poured, and everyone made the most of the opportunity to enjoy them.

This additional hour is available by paying the Library \$5.00 to defray expense of personnel to man the front door after 9 o'clock -- people can leave but none can enter. Coffee and cups cost from \$7.50 to \$10.00, depending on quantity. Cookies and incidentals are contributed by volunteers who will be reimbursed whenever possible.

We'll have another social hour after DR. JOHN BYRNE'S talk December 13th. So -- if you like this idea -- please have your contributions ready.

Assisting ELIZABETH GILLIAM, Social Chairman, and expert cookie baker herself, were: LAURETTE KENNEY, EMILY DELANO, RUTH PRENTISS, GWEN GAVIGAN, AVERIL OLSEN, EMILY MOLTZNER, BOB WILBUR, PAUL DUNN and JESS RENTSCH.

Emily Moltzner

STATE DEPARTMENT TO HOLD OPEN HOUSE FOR GSOC'S

Many of the geologists who make up the personnel of the state department are well known to the Society, most of them being members. Mr. Hollis Dole, director, Mr. Ralph Mason and Mr. Andy Corcoran have addressed our meetings. Mrs. Margaret Steere has conducted field trips. Mr. Fay Libbey and Mr. Tom Matthews have addressed the luncheon group. These and others of the department are the people whose business it is to foster and encourage the use of the state's geological resources, to expedite and control prospecting of minerals, to develop the precious ores, exotic metals, and the lowly sands and gravels that turn the wheels of industry and provide payrolls.

The State Department of Geology and Mineral Industries will entertain the Geological Society in an open house at their main office in the State Office Building, 1400 S. W. 5th Avenue (between Columbia and Clay Streets) in Portland, on Sunday afternoon, December 15th, between the hours of 2 and 4 p. m.

C. T. L. M.

JANUARY 1964 NEWS LETTER

SAUVIES ISLAND FIELD TRIP -

The News Letter will contain a report by Mr. Emory Strong about the GSOC Field Trip on the 24th of November to Sauvies Island which was led by Mr. Leo Simon. Mr. Strong, a noted authority on Indians, is the author of the book entitled "Stone Age on the Columbia".

IMPRESSIONS OF PAKISTAN -

Being redrafted for publication is the geologic map to accompany the letter from Dr. John Eliot Allen to the Geological Society. Dr. Allen, as mentioned in "GSOC'ERS ABROAD", is teaching in Pakistan.

INDEX FOR VOLUME 29 -

The 1963 NEWS LETTER INDEX is being compiled and will, barring complications, be published and included in the January 1964 News Letter.

Editor

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Volume 29, 1963

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