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3822

If found by anyone
please return to

Professor Charles Schuchert

Peabody Museum
Yale University
New Haven, Conn.

Winter of 1926-7.

Trip to California

S.P = [illegible]

Wm Notman & Son
Montreal Canada
225-227 Peel st.

S.P Three Sisters 2036. Fairly fine
Castle Crags, Lefroy, Hazel and Lake [illegible] 3098
S.P Lake in the Clouds, Mount Lefroy and Castle Crags. [Take 4730]
Better formation 3098.
Banff Spring Hotel 3780 Fair [illegible] strata [illegible]
[illegible]
S.P. Bow Valley 4702. [illegible]
Mt. [illegible] [illegible]
Cascade Mountain 3070 Strata [illegible]
S.P Lake Louise 2066 and [illegible]. Very fine.
S.P Mt Lefroy and Victoria [illegible] 3102. [illegible]
and moraine, moraine [illegible], and [illegible]
Strata
S.P Moraine [illegible] 3807. [illegible]
S.P. Valley of Ten Peaks 3803.
S.P. Mount Stephen and Cathedral [illegible] [illegible]
S.P. Field B.C. 3821. [illegible]
Mount [illegible] 2080. [illegible]
S.P —— 4752 same, better [illegible]
The Chancellor, Leanchoil 2086. Very fine [illegible]
Strata nearly horizontal [illegible]
S.P Lower Kicking Horse Canyon, near Golden 2093.
Very fine [illegible] valley and [illegible]
Illecillewaet Glacier 4457. [illegible]
moraine and torrential [illegible]
S.P —— 4759 much closer but has not the [illegible] (only fair) [illegible]

doc135

855
25
830
396.21
433.79

Buccamau[?]

Pliocene { Saugus — Caloosahatchie
Merced

Miocene { San Pablo — { Yorktown / St Marys
Monterey
2 Temblor — Calvert
1 Vaqueros — Alum Bluff

Oligocene { San Lorenzo
Upper } Chattahoochie
Middle }
Lower — Vicksburg

Eocene { Absent — Jackson
Tejon — Claiborne
Meganos — Wilcox
Martinez — Midway

doc. 135

A journey on the C.P.R. reveals to the observer the rocks of the most ancient times the Archaeozoic and Proterozoic. It also introduces him to the names of the formations as Keewatin, Algoma, Sudbury, Laurentian etc

on

Stars are the eyes of the angels looking down from Heaven. (An ancient view, the newer one is:)

Stars are highly heated bodies of gas like the sun, which coming under the influence of a passing star, caused the [illegible] sun to give birth to the family of light planets and their [illegible] moons.

29.

December 23 1926

Started for California at one P.M. Left Penn. Station for Cincinnati at 4.05 P.M., the Cincinnati Limited. Cost, New Haven to Cincinnati $35.62 Extra fare 3.60 but as the train was one over due fare was rebated 1.20

Dec 24 - 1926

Had lunch at [illegible] House with [illegible] and we spent the afternoon at Philo. At 6.30 we were in [illegible]wood at Albert's home. Found all about as well as could be expected. Foggy and light rain all day. Got my ticket to Chicago $14.[illegible]

Dec 25 - 1926

Left [illegible]wood at 10.30 A.M. and at 11.30 [illegible] in Price Hill. Had a good time talking all [illegible] things. Rain Sleet and finally snow all the day. Was to leave at 9 P.M. for Chicago, but did not get started until 9.45 P.M. = bad weather.

Chicago Dec 26-1926. Sunday.

In spite of starting out [illegible] late, [illegible] we arrive in time at Chicago = 7.25 A.M. Got my ticket to Madison Wis (4.62), sent a telegram to Twenhofel, [illegible] had breakfast at the station. This is the new "Union" [illegible] station, a very large and sumptuous affair, no money [illegible] was saved anywhere in building it. Out to Madison [illegible] on the Milwaukee - St Paul.

Left Chicago on M. St. Paul R.R. for Madison at 8. A.M. and got to Madison at 12.30. Twenhofel with Lawson was at station, but we failed to see each other. Took a cab out to Twenhofel's house and half an hour later he arrived.

In the afternoon Twenhofel, Lawson, Hinchee and I counted the ballots of the G. S. A. As usual every one was elected. Rybee got 13 [illegible].

Lots of ice on the ground and going for cars and on foot is bad.

Found the Twenhofels all well.

Madison Dec 27-28-29 – 1926.

For these three days attended the meetings of the G.S.A. The usual program with nothing of a striking new order. Chamberlain address of some Loom on the Planetesimal Hyp. This was remarkably well done for any one and all the more so for a man over 80 years old. His mind is as bright as ever.

Saw many people and enjoyed the meetings.

The banquet was fine and Leith was toast master. He was a right good and humorous one. It was all over at 10:30; began about 7:30 P.M.

Wednesday evening Twenhofel took me and Dunbar to the Madison Club to dinner and also Prof. Kesling who later on spoke on the Gobi Desert. He spoke to the "Saturday Nighters", 18 men.

Tuesday was cold and down to zero. A light snow Monday night. Wednesday was bitter cold.

Madison – Chicago
Dec 30 – 1926

With Quinton started at 9.05 for Chicago where we arrived at 1.30 P.M. A bright warm winter day. Had a good talk together.

Bought a ticket and berth to Little Rock Arkansas (29 38/-) and rechecked my baggage. We then spent 2 hours at the Field Museum and at 6.30 P.M. I am off on the Chicago and Alton for St Louis and Little Rock; at St. Louis we go via Missouri Pacific Line.

December 31 – 1926

Enroute to Little Rock. A little snow and ice and much mud down to Newport, Ark. A clouded cool day, and the swamps everywhere replete with water. At Poplar Bluff we leave the Little Ozarkian – Beech mountain chert and [illegible] and we go over the flat Mississippi lowlands, with [illegible] and small cypress trees.

Arrived in Little Rock late. Put up at Lafayette Hotel, a new one.

December 31-1926 Little Rock

Called at the Second Presbyterian Church and ~~then~~ at the home of Reverend Hay Watson Smith, but he was out. Then walked to Capitol Hill to see the Capitol Building, built in the conventional style of capitols patterned after Washington. Built of Indiana white outside, and inside of Vermont marble which gives a monotonous and dead appearance. Not a flag, painting or any color to relieve the gray-whiteness. The House and Senate chambers are small and equally unimpressive.

Then wrote two letters. Little Rock has 45,000 people.

Later walked on Main Street and out on one of the bridges across the Arkansas River, which is crossed by two stone arched and three iron bridges. The river is deep red and at this time of year a rather impressive river. Mountain ridges some hundreds of feet high cross the river to the north of ~~the city~~. Rock outcroppings are highly tilted slates dark blue in color.

At eight P.M. Reverend Hay Watson Smith called to see me. We talked a while

and then he asked me to his study in the Second Presbyterian church. The ground cost $25000 and the two buildings $200,000. Built two years ago. His study is a splendid room with all of the walls covered with book shelves about all filled; He must have 5000 books all catalogued by his wife, and loaned to members of the church. Smith is a North Carolina man of Scotch and German ancestry. Educated in a small college of the state with one year at Columbia. A liberal church man all through, holding that the bible is not inerrant. Regards the Fundamentalists and those holding that the bible is inerrant and the direct word of God, as hopelessly wrong and at least 50 years behind the time of the Protestant Christians. He expects the Arkansas Legislature [illegible] an anti-evolution law, this winter.

Lots of noise and [illegible] and shouting out of the old year.

Little Rock, Arkansas

January First, 1927.

Reverend Smith called with his closed car at 10.30 to show me the city. Out to Country Club on the upper plateau where I had a good view of the environment. The plateau (something like 200 feet above the river) is almost dissected. The Country Club is opposite "Big Rock" on which the old fort stood and now the U.S. Barracks. The Little Rock is farther down the Arkansas river. My train is late 45 minutes. The day is beautiful, balmy and warm. The average winter temperature is about 42 degrees here at Little Rock.

One gets off at Benton to go to Hot Springs.

Reverend Hay Watson Smith, Pastor of Second Presbyterian Church corner of Third and Baines street. Home at 819 West Fourth St.

Got to Texarcana at 3.45 and had to wait until 6.40 for train to Shreveport. Walked around in this town built in Texas for an hour.

Got to Shreveport at 9.30 p.m. about on time. Mr Teas and Mr. Sproner met me and put me up at the Washington Hotel with the Teas ...

Shreveport, La. Jan 2 - 1917

Last night talked for an hour with Teas and Spooner who is working for himself. Mr. Teas is with the Tremble Co. Both are easterners Teas from New Jersey and Spooner from Baltimore.

Spent all the morning with Spooner and Teas in the former's office, talking over my maps, Harris and the geology of Guatamala and Belize visited by Spooner about a year ago. Learnt a great deal about the faulting down [illegible] Harris.

In the afternoon and evening worked over my maps and correcting the things learned in the morning. Then Spooner took me in his car [illegible] for 1 1/2 hours.

In the evening worked on my maps again.

HEAR LECTURE BY YALE MAN

Dr. Charles S. Schuchert Addresses Geological Society Monday

Dr. Charles S. Schuchert, emeritus professor of paleontology at Yale university, noted geologist and stratigrapher and foremost authority on the paleogeography of North America, addressed a large gathering of geoligists and men intercsted in the oil industry here Monday night at a meeting of the Shreveport Geographical society.

Doctor Schurchert outlined the trend on modern thought relating to the origin of petroleum deposits. He emphasized the importance of microorganisms as a source of oil.

Doctor Schurchert traced the development of the paleogeography of North America from earliest times to the present, emphasizing Llanoris, a huge ancient land mass which up to Cretaceous times, he said, occupied a large part of Mississippi, Louisiana and Texas. He pointed out how the denudation of this great mountain region supplied the great thicknesses of materials that now make up the Ouachita and Arbuckle mountains of Oklahoma and Arkansas. He brought out the probable origin and age of the Louisiana salt deposits and the influence of Llanoris upon the structural features now found in the oil fields of Arkansas, Louisiana and Texas.

Dr. Schurchert has consented to deliver another address tonight in which he will discuss the fallacies of Wegener's continental displacement theory. This theory which has recently been widely discussed by geologists, postulates the westward migration of the continents whereby the Americas have been separated from Europe and Africa and drifted westward to their present positions. In this theory Wegener endeavors to explain the origin of the Rocky mountains and the Andes mountains and many other features of the earth's geologic history.

This meeting will be held tonight at 7:30 o'clock in the city hall.

isiana — Tuesday, fair, cooler in portion; Wednesday, fair.

ansas — Tuesday, fair, somewhat r; Wednesday, fair.

t Texas—Tuesday, fair, cooler in east portion; Wednesday, fair.

CE FIVE CENTS PER COPY

SELF

POISON BOOZE FIGHT RAGES IN CONGRESS

Personal Observance of Dry Law by Members Under Attack in Talks

Washington, Jan. 3 (AP).—The controversy over deaths during the holiday season from drinking poisoned alcohol reached both the senate and house floors Monday as soon as congress reconvened. At both ends of the capitol the personal conduct of members in the observance of the dry law was questioned, and before sunset the discussion had reached the treasury, where both Secretary Mellon and Lincoln C. Andrews, the prohibition enforcement chief, issued statements.

Caustic Speeches Made.

While Representative Celler, Democrat of New York, was accusing his colleagues in the house of "drinking to excess," Senator Edwards, Democrat of New Jersey, in a lengthy speech in the senate was condemning the "hypocrisy of some representatives of the people who vote dry and drink wet."

Shreveport, La., Jan 3 - Monday.

Read various reports of the geology of N-W. La and applied the information to my maps.

At noon had lunch with about 20 geologists and met Dr. Iman who dined regularly at the Washington Hotel each Monday noon.

At 7.30 P.M. I began my address on the Evolution of Louisiana and its environment. Was given in Chamber of Commerce Hall, a small room. Hung up 22 maps. Had an audience of about 35 men. Talked about one & half hours and then discussed some questions for a half hour longer. At the hotel talked for nearly another hour with Mr. Moody a graduate of Univ. of California where I first met him in 1916 during the meeting of the A.A.A.S.

Retired at 11 P.M. Tired.

Shreveport, La. Jan 4. Tuesday

After breakfast packed up, and then called on Mr. J. L. Droz of the Pullman Corporation. See notes on separate sheet.

Had lunch with Spooner, Teas, and others. C. L. Moody of Ohio Oil Co was present, a graduate of Univ. of Cal. and a critic of worker in geology.

Then visited for two hours with Spooner, when I went back to the hotel to get ready for the evening lecture.

At 7.30 P.M. lectured in City Hall in a smaller room to about 40 geologists on the Wegener theory. Everyone was deeply interested, and about ten came forward to thank me for the lecture. Finished at 9.30 P.M. All my expenses and railway to Houston is paid for.

At 10 P.M. I am in the sleeper and at 11 the train will move on to Houston, Texas.

Houston, Texas Jan 5. Wednesday

Got here on time at 7.30 A.M. Put up as usual at Rice Hotel.

At ten o'clock called on Ray Baker and talked shop until noon time. So strongly of the opinion that the San Antonio = Capitan and Cape Fear = Delaware. The transition northward appears to be unmistakable. The Chupadera of Texas is a broad a term and includes all of the above. Had lunch with Baker.

Spent the afternoon [illegible] [illegible] looking [illegible] [illegible]. He does not at all believe that the [illegible] are in [illegible] but turns south into Gulf [illegible]; she ends the [illegible] [illegible] [illegible] as I used to have it. This on the ground that marine faunas occur with change in south into brackish water and apparently fresh water deposits.

Spent the evening at Bakers home.

Houston - Austin, Texas
January 6 - 1927.

Left Houston for Austin at 8.50 A.M. Got to Austin at 2.45 P.M. A bright and hot day. Put up again at Bakers Hotel.

Took a little walk, bought a New York Times of last Sunday Jan 2 and the Review of Reviews.

Wrote a letter to Tsvachifel and Le Vene.

Spent the evening at Lillards home and got back to the hotel at 10.30 P.M.

Of the four visiting Professors at Texas University - [illegible], Keith, Davis and Haines - I had by far the most students. Towards the last Davis had but a single student, but he made up by giving a lecture on Evolution at least five times before the town people.

Austin, Friday Jan. 7 - 1927

A bright and early day.

Packed the bags differently so that I would take but one suitcase on the Sellards' excursion starting this afternoon for the Marble Falls area and San Angelo. Mr. Plummer is to lead.

Had lunch at Sellards home and to meet Professor Hanna and his wife.

Started away at 1.30 P.M. in a Dodge car for San Saba where we arrived at 6 P.M. and dark. The private home I stayed at six years ago is to entertain about 90 geologists. If so we will all be uncomfortable. Sellards and I in one bed at the Judge's home.

Plummer took sick during his autumn S. from Fort Worth and had to give up the trip. Accordingly Sellards is to lead the first day.

San Saba, Saturday Jan 8 1927

Got up at 6.30 and at 7.45 we are off 3 miles west to a fault with a throw of at least 500 feet. Ellenburger overlain by a part of Bend described by [illegible]. Then about 10-15 feet of Barnett — the [illegible] [illegible]. The Barnett is in fault relation, upended, against the Marble Falls.

Then drove back to San Saba and to the various localities visited by me six years ago. In the Barnett saw the [illegible] fossils. Then to Rough Creek to see the Marble Falls; here the basal beds is bedded chert i.e. lower Marble Falls.

FB2599 Then onto the Smithwick shale locality beside the river, got a lot of good fossils here. The three little bags are from Bend, due to [illegible] [illegible] [illegible] we half of them.

Then stopped to Ellenburger and Upper Cambrian noting no [illegible] [illegible].

Got to Brady at 6.30 P.M. The Chamber of Commerce gave us a Banquet as a fine dinner.

San Angelo, [illegible] 9. Sunday.

Arose at Brodie at 6 A.M. [illegible] break-fast at 6.45. At 7.30 we are off to spend the day [illegible] the [illegible], [illegible] we had a flow [illegible] and [illegible] [illegible] of about 60 [illegible] and 135 people. When we caught up with the crowd it was [illegible] the [illegible] of the [illegible] [illegible]. Here [illegible] the [illegible] little [illegible] in the tip of the [illegible] [illegible] a mass of [illegible] [illegible] and small [illegible]. On top of it rests the [illegible] Wichita in which I saw no fossils.

The way Brodie runs the expedition and [illegible] [illegible] the [illegible] [illegible] nothing [illegible] of the days [illegible]. The Wichita is [illegible] red. Saw the tip [illegible] [illegible]. The [illegible] [illegible] in of red shales with a few [illegible] of a bluish-white dolomite in thickness of [illegible] [illegible]. [illegible] [illegible], in one [illegible] saw [illegible] about 3½ inches across.

Stopped at the [illegible] place where Brodie collected the nautiloids [illegible] [illegible] [illegible] [illegible].

Finally saw the San Angelo sandstone and shales (Coastal deposits) and conglomerates, [illegible] of Bronte.

Then back to Bonita where we left the expedition. Then on direct to San Angelo where we arrived at 5.30 P.M. Was put in a room with two beds having Mr. Johnson who has a quarry down there.

The day was worthless, dirty and unsatisfactory.

San Angelo – Austin, Jan 10. Monday.

It was 9 A.M. before we got started for Brady, 80 miles S.E. of San Angelo. We arrived at 11.45. Riding in the front seat of the car was much better going than yesterday. Between the two places the country is almost a continuous flat; it is only the last five miles coming into Brady that the land is undulating.

Left Brady at 12.30 to go to Mason. Distance 32 miles. Coming within 2 miles of the San Saba river came upon thin bedded material [illegible] belongs to the Wilberns = Upper Cambrian. Saw many trilobite fragments and *Billingsella coloradoensis*. Fine cliffs along San Saba river

Going out of the river valley going south to Mason we saw the next lower then bedded red shales = Upper Cambrian and finally the basal Hickory sandstone and conglomerate then [illegible] granite and finally schists farther S.E. In places near to [illegible] Mason saw Hickory sandstone and finally that the town is built on Hickory sandstone. The State map is all wrong in this matter.

From Mason to Austin it is [illegible] miles [illegible] Mason 2.00 P.M. Ten miles S. of Mason we are upon [illegible] Hickory = Upper C. Mostly gneiss and schist. At 15 miles S. more Hickory. More Hickory at 16 mi S.E. Between schist and gneiss. The schist and gneiss continues to 25 miles S of Mason where the Comanchean rests directly on these ancient complexes.

Got to Fredericksburg in due time.

Thirteen miles east of Fred. in the Pedernales river bottom we saw the Ellenburger exposed. It continues eastward far to the N.E. of Johnson City. See State Map. Comanchean overlies it.

Got to the hotel at Austin at 7.30 P.M. Great crowd here; tomorrow the State Legislature meets.

Austin, Texas, Jan 11 - Tuesday.

Wrote letters until 11 A.M. Then went to the Capitol to see the opening of the Texas Legislature. Promptly at noon the session was called to order. First prayer, then the call of all the members. When they were sworn in, the Legislature was then in working order. Then roll call, when five speeches were made for the candidate for Speaker, election of Speaker commenced, when the Temporary Chairman (a good looking and well dressed middle aged and well set lady) sworn in the Speaker who then addressed the Legislature. I left at 1.25, but the session soon came to an end.

In the afternoon worked on the Colon Mt paper and adjusted the corrections made by Philip King.

Had C.P. King to dinner and talked over Colon Mts and his work until 10.30 P.M. Nothing new came out of this discussion. He is to turn up at once this fall, and to work for his degree.

Austin, Texas Jan 12 - Wednesday

Packed up to go tomorrow to San-Antonio, and Tucson, Arizona.

Had lunch with the Texas Geological Soc. There were ten of us. Prof. Simmonds was absent.

Spent the afternoon talking with Doctors Whitney and Adkins, also Lonsdale.

In the evening called on Mrs Sellards.

Austin, Texas Jan 13 - Thursday.

Purchased ticket to Tucson, and then walked around the city for an hour.

Had to lunch at the hotel Mrs Sellards and Mr and Mrs Lonsdale.

Left Austin 4.30 P. M. (45 minutes late) for San Antonio, the day is bright but decidedly cool. Will get to S.A. at 7 P. M.

Was transferred to S.P.R.R. and then walked into the center of San Antonio to have supper at the Gunter Hotel. Here met Horton once my student of seven years ago who is just out of Mexico where he has been

doing geology for theright-of-way authorities. He says he has seen the [illegible] as much as 1500 feet in depth of arkose - with large granite boulders. Age probably Jurassic. The granite [illegible] [illegible] of an ancient granite [illegible] to the east = Cuyamaca. Said he had also seen Triassic but I must doubt this. It seemed to me that he had but little [illegible] in [illegible] in [illegible] order.

From our [illegible] at the depot [illegible] Horton my topographic maps and explained to him [illegible] and the Mexican Pala [illegible] [illegible].

Got into the [illegible] and [illegible] had an upper berth. The train [illegible] at 2 A.M.

En Route to Tucson, Jan 14. Friday.

Got up at 7 A.M. near Del Rio and in the dinner [illegible] to Devils River scenery and shortly afterwards the high bridge over the Pecos River. At 11.30 A.M. we are at Sanderson. The train moves on regularly and the [illegible] pleased [illegible]. Got to El Paso at 8.05 P.M. and here we get mountain time - 7.05 P.M. It is cold and windy here.

Had my finest view of the Marathon Basin and the [illegible] - a glorious view it was between 1 and 2 P.M.

Retired early so I got up at 4 A.M. at Tucson.

Tucson, Arizona, Jan 15 - Saturday

Got here at 4 A.M in a moonlight warm early morning. Could not get a room at the Santa Rita so went across the street to the Hotel Heustrufe(?).

Then went out to the University, and in the grounds met Garrett(?) who is wintering here at Tucson.

Then called on Dean Butler and Doctor

Ransome, Doctor Stoyanow but none were in. Finally met Boddell who showed me his Mississippian fauna collected at Jerome. Says he has nearly 100 forms, mostly new and that the time appears to be mainly Meramec. What I saw of the prints lead me rather to think of late Kinderhook - Burlington. Says there are also Ste Genevieve suggestions, but I doubt if any of these are other than long ranging forms. All in all the time is Redwall and apparently = Madison.

Then I was shown a lot of peculiar gastropods from near Jerome, and which Stoyanow was calling Ordovician because he thought he saw gastropod genera. Then Lawson walked in and it soon became apparent that he differed from Stoyanow saying they are in an undisturbed section underlain by Upper Devonian and overlain by the Mississippian. I then looked more carefully at the "genera" and saw that they are bivalves and probably of _Cypricardella?_ and _Lucina_. Clearly the fauna is Upper Devonian. A [illegible] gastropod is common that Whiteaves describes from the .

Maclagie county.

Then met Ransome, who was much agitated and soon told me that Governor Hunt is expected to fire President Marvin; probably all in the faculty standing by Marvin will also have to leave. The situation is very bad.

In the evening called on Mr and Mrs Ransome. Heard more of the University affair.

Wrote Kinley a letter saying that Ransome may soon be out of a place.

Tucson Jan 16 - Sunday

Near ten in the morning took a walk out to the University and soon met Professor Stoyanow who was to look me up. Together we then walked out to his office and he showed me a lot of his more recent collections.

The Devonian first fauna is below the regulation Lone Creek one. Considerably higher comes in the gastropod Mytilarca fauna. In the Santa Catalina Mts there are Devonian coral reefs with Cerorolaria and Pachyphyllum, not in several varieties. In these Stoyanow wants to see all sorts of strange things but to me he simply has a greater range of specific forms of the two genera mentioned.

The Mississippian fauna of O.E. Lewis is a true lower aspect of Meramecian - early Chester time. With the numerous Archimedes I wonder if it is so early in age. It probably is not Moorian as I once thought.

Over the regulation Pennsylvanian comes the Ingalls Hill fauna. It is older than Permian

but it is probably still Pennsylvanian in time. Ken owns the Kaibab fauna of the Grand Canyon and N.E. Arizona.

Stegorner is now a full Professor.

[illegible] he worked in Mexico for two months for the Doheny Co and was paid $1000. One of interesting things he told me was that the [illegible] of the Las Delicias area began [illegible] directly overlies the granite. Seemed to think that the Doheny Co. [illegible] to learn much of the [illegible] was waiting on display for his field files. Martin was also in the same [illegible] all of his work from a hotel, [illegible] Alaskan Cretaceous deposits and [illegible] it to the Cret. of Mexico. The Doheny Co are said to have had 50 cars in northern Mexico and as many geologists. Stegorner [illegible] whole northern area of Central Mexico [illegible] little chance for oil.

On rechecking my large suitcase found a large corner completely torn away leaving off the inner cloth lining. Called the attention of the baggage master to it and he gave me a d[illegible] to take to the ticket agent at the Tucson depot office describing the damage.
The latter had me write on my address as follows:
Professor Charles Schuchert, Yale University New Haven, Conn. The case was in good order at Austin when I checked it, accord[illegible] it was done from Austin to San Antonio, or the transfer in San Antonio, or on the S. P. R. R. from San Antonio to Tucson. The ticket agent handed in my complaint for damages and said he [illegible] would write me to my home address. He advised when I buy a new case to take a receipt for it and to send it to the company's office.
Got ready to leave Tucson and at 7.45 (29 mins late) the train is off for San Diego and Los Angeles. I have a lower sleeper, I go via Cantu, Calexico, El Centro to San Diego.

ANTI-EVOLUTION LAW SUSTAINED IN SCOPES CASE

But Court Refuses to Confirm Conviction, Due to Illegal Sentence.

CHARGES DISMISSED

Judges Unanimously Advise Against Continued Prosecution.

NASHVILLE, Tenn., Jan. 15 (By The Associated Press)—Tennessee's supreme court today proclaimed the fundamental soundness of the state's famous law against teaching the theory of evolution in state-supported schools. At the same time it reversed the verdict of guilty against John T. Scopes, whose case was on appeal, and then barred recourse to the United States supreme court by recommending that the case be nolle prossed instead of re-tried. This was done late today and the case dismissed.

Without a dissenting vote, the court recommended to L. D. Smith, state attorney-general, that the "peace and dignity" of the state would best be served by a nolle prosse, thus ending what the court termed "this bizarre case," ance and for all. Mr. Smith announced he would follow the recommendation and not seek a re-trial.

Says Act Uncertain

The opinion declaring the law constitutional was delivered by Chief Justice Green and concurred in by two other justices, but Justice McKinney dissented on the ground that the act's "uncertainty of meaning," rendered it invalid.

The conviction of Scopes, who was a science teacher in Dayton high school, was reversed because Judge John T. Raulston, presiding, fined him $100, when the jury failed to fix a fine. The high court held that only a jury may fix a fine of more than $50 under Tennessee law.

While obviously disappointed over the action of the court, counsel for Scopes pointed to certain features as indicating a partial victory for the opponents of the law. Expressing satisfaction with the dissenting opinion of Justice McKinney, they viewed as favorable also a part of Justice Chambliss' opinion, which differed in one phase from the majority decision.

Agrees Law Is Sound

Justice Chambliss, while agreeing with Chief Justice Green and Justice Cook, as to the organic soundness of the law, declared his belief that the act "only prohibits the teaching of the materialistic theory of evolution, which denies the hand of God in the creation of man."

Commenting on this opinion, Henry E. Cotton, attorney for the Tennessee Academy of Science, and an associate in Scopes' counsel, asserted that this view was not opposed to the known position

would best be served by a nolle prosse, thus ending what the court termed "this bizarre case," ance and for all. Mr. Smith announced he would follow the recommendation and not seek a re-trial.

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The opinion declaring the law constitutional was delivered by Chief Justice Green and concurred in by two other justices, but Justice McKinney dissented on the ground that the act's "uncertainty of meaning," rendered it invalid.

The conviction of Scopes, who was a science teacher in Dayton high school, was reversed because Judge John T. Raulston, presiding, fined him $100, when the jury failed to fix a fine. The high court held that only a jury may fix a fine of more than $50 under Tennessee law.

While obviously disappointed over the action of the court, counsel for Scopes pointed to certain features as indicating a partial victory for the opponents of the law. Expressing satisfaction with the dissenting opinion of Justice McKinney, they viewed as favorable also a part of Justice Chambliss' opinion, which differed in one phase from the majority decision.

Agrees Law Is Sound

Justice Chambliss, while agreeing with Chief Justice Green and Justice Cook, as to the organic soundness of the law, declared his belief that the act "only prohibits the teaching of the materialistic theory of evolution, which denies the hand of God in the creation of man."

Commenting on this opinion, Henry E. Cotton, attorney for the Tennessee Academy of Science, and an associate in Scopes' counsel, asserted that this view was not opposed to the known position of many recognized scientists everywhere.

SCOPES EXPRESSES DISAPPOINTMENT

CHICAGO, Jan. 15 (AP)—Disappointment tempered with the belief that the Tennessee supreme court's decision did not end the case was expressed by John Thomas Scopes, first violator of the Tennessee anti-evolution law which was upheld today as constitutional.

Scopes studying at the University of Chicago under a 2-year scholarship given him by scientists who observed him at the Dayton trial, disappeared from the college campus shortly after he made his brief statement.

DECISION A SUBTERFUGE MALONE DECLARES

NEW YORK, Jan. 15 (AP)—The decision of the Tennessee supreme court to reduce the fine of John T. Scopes to $50 and the recommendation that the case be nolle prossed rather than retried, seems to Dudley Field Malone, one of the defense counsel, a subterfuge typical of a "country court," he said today.

"It rests with the Tennessee counsel in the case to decide on the significance of the recommendation that the case be nolle prossed," Mr. Malone said. "Of course, we cannot announce whether or not an appeal to the United States supreme court will be made until we have conferred with counsel in Tennessee."

WILL CARRY CASE

TEBRUARY SHOW

rades Council to Operate Night Entertainment During Rodeo.

Wolfville, the mythical cow camp ade famous by Alfred Henry wis in his "Wolfville Days," the ght attraction during the rodeo st year, will again be a feature this year's cowboy festival. The ucson Central Trades council will ive entire charge of the affair and s secured the services of George P. und, originator of last year's uccessful show, to direct and anage the affair.

All of the features of last year's ow will be retained, together with hundred and one new attractions id cowboy stunts that will fit in ith a typical western cow camp. President Fred Steger of the ades council says that members the council will operate the en- e show and that there will be no gh-pressure" concession men id artists allowed on the grounds. "We are going to operate the ow from an educational and nusement standpoint. The 1927 ition of 'Wolfville' will be held om February 17 to the 22d, and ill be better, bigger and grander every way than last year's fa- ous show," he said.

The following members of the ades council acting as an execu- ve committee will have entire harge of the project: J. W. Hop- ins, chairman; W. C. Milsap, Fred teger, Harry DeFord, Tom On- ott and L. E. Brewer.

In the Legislature

PHOENIX, Ariz., Jan. 15 (AP).— he ease with which Mulford Win- or of Yuma wields the gavel as resident of the senate, aided and betted by caustic repartee, re- inds the old-timers in the press allery of Speaker Tom Reed in the ational house of representatives ome 30 years ago.

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Major Kelly, state historian; illy Spear, editor of the Arizona epublican, and Ned Creighton, ean of the active reporters, daily ccupy the press galleries of the egislature. Never has a legisla- ure met without the presence of his editorial trio. Major Kelly in- ists he comes in only as an on- looker and that he is "through" as hr nicler of current events. Mr. pear takes copious notes and ap- ears as intensely interested as he regular reporters. Ned Creigh- on daily dispenses legislative doings to the press of the state.

Bob Caples, 69-year-old reporter, itizen of the world and, in his own words, a connecting link between he dim past and the present, is daily on the job in the press gal- ery for a Miami newspaper. Bob hows the activity of a cub re- orter and the enthusiasm of youth n his daily ramble for news. Forty- ive years ago Bob was editor of a ewspaper in Tucson, and he re- alls with gusto that only through evenues from saloon and gambling ouse advertisements was the aper able to meet the Saturday ayroll.

Ward Sutter's sense of humor often is exhibited on the floor of the senate. A senator had arisen several times, and in emphasizing his objections to a bill, had repeat- ed himself so often that he at- tracted the attention of every one in the chamber—a signal ac-

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The senator from Cochise very formally addressed the chair and asked permission to address a question to his colleague who had the floor at the moment. "Is the senator starting a new speech or continuing the first speech he started?" Sutter asked with his best seriousness.

VACANT HOUSE IS DAMAGED IN FIRE

A small fire in a vacant house called the fire department to the corner of Church and Franklin street early yesterday morning, and the blaze was extinguished before any serious damage re- sulted.

Yesterday afternoon the depart- ment answered an alarm turned in from North Main street, only to find out that it was a false alarm, thought to have been turned in by boys playing in the neighborhood. Police officers were unable to check exactly who was

buildings ... tered ... ures in ... the major disturbance two we... ago." Several of the recurrent tremors were of sufficient force to shake down loose bricks and rattle dishes.

EVOLUTION CASE REHEARING ASKED

(Associated Press)

NASHVILLE, Tenn., Jan. 16.—Holding up the formal dismissal of the Scopes evolution case by agreement today, attorneys for the defense announced that they would file a motion for a rehearing at once. Another movement was getting under way to ask the present legislature to repeal the famous statute.

This coup of the defense, executed by agreement with L. D. Smith, state attorney general, was made possible because actual dismissal of the case, although requested by the attorney general and agreed to by the state supreme court, had not been placed formally on the minutes of the tribunal at Knoxville, from which grand division point the case was transferred.

The court held yesterday that the anti-evolution law was constitutional, but reversed the case and recommended that it be nolle prossed.

FIND CAPTAIN'S

a[illegible]
would [illegible]
said moth[illegible]

And there's [illegible] He is big and hearty and loves to send thrills down other folk's backs. How would they know he was strong he-man stuff if he didn't tell them so? He gets the children about him and tells them ghost stories, blood curdling ghost stories. "And a long bony arm without body or even the shadow of body reached out of the darkness and clutched him. He couldn't push it off. His hand slipped right through it, yet it clutched with icy fingers on his throat. Slowly, slowly."

"Bill," calls mother half laughing, half protesting, "Don't frighten those children with your awful stories. You know there's not a word of truth in them. They're awful."

"He isn't scaring us, mom. We aren't afraid. Go on, Uncle Bill. What happened then? Did he choke him or what?"

And Uncle Bill pleased by the applause goes on with his thrilling tale, right on to the frozen end. The children draw a long breath and stretch themselves and draw closer to the fireside. The youngest boy gets close to his mother in the circle of lamp light. "No, I'm not scared, mother. Ghosts don't really happen, do they?"

And that night he cannot sleep and

AUNT HET

By ROBERT QUILLEN

San Diego and Arizona Railway

INFORMATION

SHORTEST LINE---FASTEST TIME EAST

Do not throw Lighted Cigarettes, Cigars or Matches from Train

1. The San Diego and Arizona Railway, completed December 1, 1919, forms in connection with the Southern Pacific and its eastern connections, a new transcontinental route between San Diego and the East. Through Pullman cars are operated between San Diego and Chicago on Golden State Limited in connection with the Southern Pacific and Rock Island Lines, and between San Diego and New Orleans on Sunset Limited in connection with Southern Pacific. It is the terminal railroad of the shortest line between Kansas City and the Pacific Ocean and between New Orleans and the Pacific Ocean.

2. Distance between San Diego and El Centro, 148 miles; (Between San Diego and Yuma, 220 miles).

3. Elevation at Hipass, highest point on line, 3,660 feet; at El Centro, lowest point on line, 49 feet below sea level.

4. Grades: Maximum grade Westbound, 2.2%; Eastbound, 1.4%.

5. Cost of San Diego and Arizona Railway, $19,000,000. and is owned one-half by the J. D. and A. B. Spreckels Securities Company, and one-half by the Southern Pacific Company.

6. Railroad crosses United States-Mexico International Boundary Line at Tijuana and Lindero. Boundary at Lindero is crossed in Tunnel No. 4, 26 feet from the west end. Runs 44 miles through Mexico, known as Lower California. Ten miles is the greatest distance into Mexico from the International Boundary line.

7. There are 21 tunnels on the San Diego and Arizona Railway, one partly in Mexico and partly in the United States. Cost of tunnels, $1,760,200. The longest tunnel, No. 14, is 2,597 feet, and the shortest tunnel, No. 1, is 187 feet. The total length of all tunnels is 2.98 miles.

When passing through the tunnels, notice that you are not bothered with objectionable fumes and smoke from locomotives, as is usual when trains are operated through tunnels. This is due to the large bore of tunnels, exceptionally light atmosphere, and a slight draft continually passing through Carriso Gorge.

8. Distance through Carriso Gorge is 11 miles, and cost for construction, $3,939,000.00. Depth of Gorge from railroad, 900 feet.

Carriso Gorge takes its name from the grass in its depths, which is used by Indians in basket work. Mountains are southerly extension of the Sierra Nevada Range.

Notice the 22 fan leaf palms and spring at bottom of Gorge between Tunnels 20 and 21.

9. Campo Creek Viaduct, 77 miles from San Diego. Length, 600 feet. Height, 185 feet. Cost, $115,700.00.

10. The San Diego and Arizona Railway is the only railroad that received permission from the United States Government to continue construction during the entire period of the world war because of the importance of reaching the port of San Diego, where the United States Government maintains an extensive Naval Base.

11. One feature of importance, from the viewpoint of our Government, is that the completion of the San Diego and Arizona forms, in connection with the Southern Pacific, a railroad direct along the Mexican Boundary from the Pacific Coast to the Gulf of Mexico.

12. Tijuana is noted as a Mexican sight-seeing place for tourists. The Lower California Jockey Club holds a 100-day or longer racing meet at Tijuana once each year, which has a large attendance from all over the world. Opening date, Thanksgiving Day.

13. Notice when approaching Redondo westbound or leaving Redondo eastbound, the horseshoe curve where the track can be seen on the mountain side, three different locations at one time.

14. Imperial Valley: A desert waste in 1900. Today is an agricultural empire of 531,674 acres under irrigation on the American side, with more than 200,000 acres on the Mexican side. Population, 50,000 in 1923. Shipped in 1923 about 50,000 carloads of products by freight of a value of nearly $50,000,000, including 14,000 carloads of canteloupes and melons, 8,000 carloads of lettuce and vegetables, 125,000 bales of cotton, and 7,000,000 pounds of dairy products. The valley is irrigated from Colorado River, and is perhaps the richest producing farm area in the world.

15. Desert Plant Life: After leaving Coyote Wells westbound, and continuing up through Carriso Gorge, the desert is covered with many species of desert plants, including many varieties of cacti. In the spring of the year many of these plants are in full bloom, which adds to their beauty. Pictures, together with the names of some of the principal plants, are shown on the reverse side of this sheet.

16. Jacumba Hot Springs: Summer and winter resort 92 miles from San Diego. Altitude, 2,835 feet; hot and cold artesian mineral water; large outdoor swimming pool; hotel, tent houses, cottages and auditorium.

17. On the "Golden State Route," between San Diego and Yuma, the Inter-California Railway, a part of the Southern Pacific System, is used between Mexicali and Algodones, operating a distance of 52 miles through Mexico.

18. Yuma, on Southern Pacific: Near Yuma is located the Laguna Dam for diverting water from the Colorado River for irrigating purposes. There are 50,000 acres in Arizona irrigated from the Laguna Diversion Dam at this time. Project under way to irrigate 6,400 additional acres of Mesa land within the next year, and eventually there will be 120,000 acres of land under irrigation in the vicinity of Yuma. Climatic conditions provide for the growing of some of the most delicious fruits that are grown anywhere in the world.

19. Ask the conductor, brakeman or observation porter for time that train crosses the International border and passes points of interest. Additional copies of this circular may be had upon application to porter.

For information regarding freight rates, passenger fares, tickets, baggage and Pullman reservations, address

SAN DIEGO AND ARIZONA RAILWAY

602 Spreckels Building, San Diego

F. B. DORSEY
Traffic Manager

A. D. HAGAMAN
Asst. Gen. Freight and Passenger Agent

(OVER)

FISH HOOK CACTUS
Mamillaria Tetrancestra

SO
mmunis

WILD CENTURY
PLANT
Agave Deserti

San Diego, Cal. Jan 17. Monday

The train lost more time during the night and at day-break we are two hours late. I awoke in the Imperial Valley to the west of Yuma. Here some 30,000 acres are under cultivation being irrigated by Colorado water. The land is a fine silt, below sea-level (0–50 below sea level) and as flat as a table. Of beauty there is none, neither the farmers houses (tiny affairs) nor the brick ones of the city. It is truly the frontier in a state of settlement.

As the train gets to about three miles of the Mts the silt begins to have pebbles, and the land gullied with many small mounds bearing woody plants that holds the wind blown silt and sand. Nearer the Mts all irrigation falls away, the land is replete with rocks and deep gullies and many washes. Everywhere the bajadas run into the Mts and slope gradually into the Imperial Valley. Recently there have been heavy rains and the track is washed out in many places. At Christmas time there

were no trains for ten days

As we get near the mts I see it like a fault scarp of volcanic [?] rocks, then schists and rapidly schistose granite. The latter continues for a great many miles — to about the station Redondo. Rapidly the R.R. ascends the fault face and through several short tunnels and then a long one when we are in the Carriso Gorge, which is 11 miles long, at the up end of the train climbs and through 21 tunnels to the railway divide at an elevation of 3600 feet above the sea. All has long been granite and it goes W. to about Redondo. Here the granite for some miles is exceedingly [?] full of [?] many dark inclusions. Everywhere the granite weathers readily [?] and the whole country is one of white boulders. The eastern ascent is rather quick with abrupt V-shaped valleys and the western slope is a long gentle one with more and more open wide valleys. To the west of the high granite are some lower ones of lava flows [?], and apparently of much younger age.

As we come out to the Pacific coast we [?]

East of Tijuana the mt spurs show distinct sea cut cliffs, one terrace after another rising inland.

The coastal shelf appeared to me very narrow.

From Yuma it is 220 miles to San Diego — across the Imperial Valley and the Mts. = extensions of the Sierra Nevada.

Put up at Hotel Maryland.

Went out to the California Building in Balboa Park to see the [illegible] Library. The lady Librarian — a college graduate — showed me the two large alcoves, and the manner of its work. Just how complete the library is in regard to West Coast geology I do not yet know.

The Librarian is Miss Barlow.

Looking E. from Balboa Park one sees far to the E. high mts from far in the S. (Mexico) to [illegible] the mts. [illegible] on the [illegible] [illegible] [illegible] [illegible] Mts. All in peaks, there is no flat sky-line.

San Diego, Tuesday Jan 18.

Worked all day in the top des Library of the Natural History Museum. Looked through many Cal. Reports but [illegible] little that was strikingly new.

Wednesday Jan 19

Continued the work of yesterday. Read mainly Fairbanks on Coast Ranges, and with the criticisms by Lawson made some progress toward a better physiography. At night fixed up some of the maps.

Thursday Jan. 20.

Continued reading California geology. Cloudy and raining in the late p. m.

Friday, Jan 21.

More or less sick with a cold contracted the first day in the Museum, beside a radiator and feet on a cement floor. Continued reading new articles, but there was no spirit in it at all.

Saturday Jan 22. San Diego

Read all day the various U.S.G.S. Folios of California, to get considerable [illegible] and especially about a land over Nevada during [illegible]. Lindgren appears to have originated this idea and it is followed by Turner, Ransome and Hiller. On looking the matter up in my maps found that I had not [illegible] it but not as it should be.

In the present [illegible] finding that the "Basement Complex" of the Coast Ranges is rather Pre-Paleozoic than Paleozoic. Even if Paleozoic it will not cause much change in my maps.

[illegible] in the Paleozoic formations [illegible] is extraordinary. What it all means [illegible] a [illegible] plain. There is also much [illegible] in the Paleo-[illegible].

Was glad to learn the time of [illegible] at the close of the Paleozoic [illegible] Upper Triassic time. The movement appears to have been in Cascadia, i.e. N.E. Cal. and Central Oregon and so on N.W.

Sunday, Jan 23, San Diego

Was quiet all day. At ten concluded [illegible] to La Jolla. The bus takes about 40 minutes to traverse the 15 miles to the N.W.

La Jolla is a beautiful sea-side resort. The day was bright and warm and I enjoyed the air, sea waves and the sea birds.

The Scripps Institute is about 3 miles to the N., but [illegible] can get buses every hour from Diego to the Institute. Will go on another day.

Monday Jan 24 - 1927

Reading all day California geology.

Tuesday - Wed. - Thursday Jan 25-26-27

Finished reading West Coast geology.

Professor Fairchild was at the Museum on Tuesday and called to see me. He and his wife are visiting here.

San Diego, Jan 28 - Friday

Took the nine A.M. bus for Los Angeles and got off at the Scripps Institute of Oceanography about two miles N-W of La Jolla, or 16 miles N.W of San Diego. Intended to see Vaughan but he had gone to Los Angeles. Looked a little over the Institute. There are two larger building sheds and a wharf besides about two dozen smaller houses used as residences. There is also a little aquarium, a museum and a good library. Lots of land around the place, I believe 640 acres.

[illegible] called on Professor Coe who is working on worms here at the Institute, and who is living in house 29. Later he took me to Crown Point (Mission Bay) ^ just off Pacific Beach to see the ? Pliocene Pleistocene shell bed that in places is full of sand dollars. Got a few loose ones and then Coe dug out for me a large slab which he will send on to Yale. In the afternoon he took me to the top of the general Mesa and to "[illegible] Canyon" the only place about here where Pinus Torreyana grows. The mesa is some

miles wide, probably 300 to 400 feet high but is considerably dissected. Further inland is another mesa some hundreds of feet higher and beyond begin the high mts. From Pacific coast it is 60 miles by air line to the edge of the Colton desert and 10 miles more to the sea or lake.

All of the Eucalyptus trees about here are introduced from Australia where there are about 140 kinds; here in Cal. only about 100 kinds have been introduced.

On the mesas one sees no trees, mostly chapparal among which are sage brushes. The roots of some of these are dug up for fire wood.

In Dec. of three was a terrible storm here, but the usual thing is rainy December. At these times the whole hill sides wash down where the roads become impassable.

Everywhere here is evidence of wildcat real estate speculation. Great excitement is produced and many buy lots to hold for the future rise. It is a great game to catch those that believe Cal. is Paradise.

San Diego, Jan 29. Saturday

Spent the morning at Mission Gardens on the top of the city mesa and the edge of Mission Canyon that opens into Mission Bay. There one has a splendid view out west of the mesa to the top of the Mt. The little dry river in the canyon could never have cut that mile wide valley. It must have been done when there was more water. From here the same view I had yesterday, only more of it and better.

In the afternoon collecting Pleistocene shells and sand dollars at Crown Point of Mission Bay. The variety is not at all large, about 95% of the fauna is made up of about half a dozen species of bivalves. All are washed together in the sand that has floated and been mixed. Except the sand dollars, saw three small gast., and pieces of two larger ones. Also one Dentalium. Some interesting worm tubes, but not a sign of bryozoa.

San Diego, Jan 30. Sunday

Spent the greater part of the day on the beach at La Jolla, bathing in the sun and seeing the great waves breaking on the shore. La Jolla is a fine sea side resort, but little bathing is done here and only by the very young.

San Diego, Jan 31 - Monday

Spent the day at the Scripps Institute of Oceanography with Director Vaughan. First talked about Borderlands off California to which he agreed. Devoted remainder of the time to discussing the probable lands in the Antillean region during the Paleozoic. See the two last pages of notes described there. In general we agreed very well though he would unite Florida to the Bahamas with a geosyncline between them and the greater Antilles.

Will now get ready to go to Los Angeles tomorrow.

San Diego, Feb 1 - Tuesday

Packed up and shipped a small box of goods by Parcel Post. Then said good-bye to the people at the Museum & there.

Left at 2 P.M. for Los Angeles. Got here at 6 P.M. Put up at Hotel Stowell.

Los Angeles Feb 2 - Wednesday.

To-day took the electric cars for Pomona College at Claremont to see A. Alfred Oswald Woodford, a geologist. It is 33 miles to the east of Los Angeles. Found Mr. Woodford in his laboratory in the basement of the Chemical Build. Talked Borderland Geology and he gave me a copy of his paper treating of it. Had lunch with him at the College Dining, and we talked over the maps. Returned at 3.48 and got to the hotel at 5.30 P.M. What I learned from Woodford is solid [illegible].

Los Angeles, Feb. 3, Tuesday

Before 9 A.M. I was on my way by electric car to Pasadena to see the [illegible] of the Cal. Inst. of Technology. [illegible] Buwalda [illegible] Prof. [illegible] to lunch at the College [illegible] [illegible] where we sat with students. Then at 3.45 [illegible] 20 minutes to [illegible] [illegible] of my visit to California.

After [illegible] Buwalda [illegible] the possibility of a Borderland of the Precambrian will be one of the [illegible]. So very little is known of these rocks that all is uncertainty and guessing. In general [illegible] I believe with [illegible] Smith that the Basement complex is of late Paleozoic age. What evidence there is [illegible] assumption. [illegible] seem [illegible] of a great [illegible] and may be [illegible] [illegible]. The granites here appear to be of Jurassic and of late Paleozoic age.

Buwalda took me to the Seismologic Station of the Carnegie Inst. and Cal. Inst. of Technology. The machines are six in number all set on

granite metamorphic underground having a uniform temperature throughout the year. Three instruments record minor and three major earthquakes, and each instrument registers only one movement either vertically or laterally. The record is made by a beam of light falling on a self recording drum having a sensitized paper. It is without much doubt the best seismological station in the world.

We visited the workshops and computing offices of the Mount Wilson Observatory. Here 70 men are working on all apparatus, and the astronomic staff doing their office work. All live in Pasadena. By auto they go up to the Observatory to make observations. There is no Observatory so well equipped as this one.

Pasadena is an immense place of pretty homes of the wealthy of the U.S. who have made their pile and retired to this balmy climate. From the Inst. it is 5 miles to the base of the San Gabriel Mts and all is somewhat filled with homes, and even up the mt. side.

Los Angeles, Feb 4, Friday

It rained all the night and very hard all the morning. Remained in my room and worked on my paleographic paper.

In the afternoon called up the Univ. of Cal, Southern Branch and landed in finding the Univ. of Southern Cal. Had to go back to the centre of the city and then [illegible] to the Univ. of Cal., Southern Branch. They are now between terms and the second one begins on next Monday. [illegible] while found the Office of the Col. [illegible], and first C. H. Crickmay, and then Dr. J. Miller. The latter [illegible] are [illegible] (see [illegible] for [illegible]), and also Crickmay did so. Of the latter [illegible] little but I asked him to dinner on Sunday at the hotel at 12.30 P.M.

Spent the evening reading.

Los Angeles, Saturday, Feb 5

Spent most of the day with Buwalda showing him my Paleogeographic maps. A few changes were made, but upon the whole he had little to object to or correct. Back of the Cretaceous he had little at first hand. Had lunch at his home, and then a drive around Pasadena.

Los Angeles, Sunday, Feb 6.

A [illegible] day. [illegible] in the morning to Exhibition grounds and walked around the Museum.

Had C. [illegible] Criekmay to dinner at the Stowell Hotel and then we talked Paleogeography until 5:30 P.M. He made many changes in my maps of Jurassic and Cretaceous time. Also gave me the faunal zones based mainly on ammonites, Trigonia and Aucella. He has these two faunas of the West Coast well in hand. I urged him to get out a preliminary statement for publication, and to send it to me in April.

Corrected my maps as far as Jurassic.

At 8.27 P.M. while I was sitting studying my maps, I heard a rumble and then a sharp short shock followed by a slighter one about one second apart. As my bureau glass shook the shock was N. and S. Nothing [illegible] about it, but that [illegible] decided it was an earthquake shock. The next day the Japan [illegible] nothing about it at all, but the elevator man asked me if I felt it, and when I asked him how often they occur he said once or twice a [illegible]. This shows plainly that Coastal California is in constant motion.

[illegible] told me [illegible] was [illegible] the Chairman of the Board of [illegible] [illegible] called on [illegible] [illegible] and [illegible] [illegible] each [illegible] by the [illegible] [illegible] stopped! [illegible] and [illegible] were called and the [illegible] then gave the [illegible] [illegible] and said it was then [illegible] [illegible] or that the proper precaution would be taken in building the houses in the proper manner.

Los Angeles, Sunday Feb 7.

Walked around the city, and then visited the very large City Library just finished. Curious architecture, all in one story, break of spaces more for show than for books. Was not impressed at all with the value of the Library. It takes in an entire square and is set terrace like on top of the hill, surrounded by a very large gardens. If they have a book stack I did not see it. The idea appears to be to give everyone free library to the shelves and pick out what impresses them. All the books I saw are arranged flat against the walls. No alcoves anywhere. The Geology [illegible] may have had 100 books, but [illegible] main Economic Geology and Petroleum.

Then visited the Los Angeles Art and Nat. Hist. Museum in the old exposition grounds. Then [illegible] collection of armour wonderful. Also the [illegible] (ivory) of Africa and North America. See my notes [illegible].

In the afternoon took electric car to Santa Monica, Oceanside and Venice. Saw little of interest, and no one bathing. Very few on the beach. On the piers fishing is the most popular pastime.

A. T. Weil called to see me but I missed him.

<u>Los Angeles, Thursday Feb 8.</u>

Weil telephoned me before breakfast and an hour later he called and we talked all for a half hour.

I went out to Pasadena to get my mail. The book contracts had arrived, and in the afternoon returned them to Le Bone with my comments. Some parts I did not like, and one clause I rejected, namely that I would not write a similar book. The other clauses I left to Le Bone to accept or reject since they had to do with the royalty.

Had dinner with Hill at the University Club, a rather swell club. Hill told me of his Geologic work he is doing in California, and some of his archeologic studies. Makes out that the Mayan civilization came to America from India, partly by way of the Pacific. Think, American was found hundreds times before Columbus. Partly by the Pacific, and then [illegible]

Paul P. Goudkoff, Ph. D., who has specialized in foraminifera work, after three years with the Hammond interests in California, has opened consulting offices at 635 Petroleum Securities Bldg., Los Angeles, for mining and oil examinations and the microscopic correlation of oil formations.

Nearly all of the large oil companies have been carrying on extensive experiments of microscopic correlation of oil formations, and many special departments for this work have been established through which remarkable results have been attained.

Mr. Koupkóff was professor of Economic Geology since 1907 at Tomsk Institute of Technology, Siberia, and was also director of the Siberian Geology Committee, which corresponds to the U. S. G. S.

Los Angeles, Wednesday Feb 9

Felt tired all the morning. Read a while at the city library, sat in the park, and then read in my room.

In the afternoon called to see Mr. J. E. Eaton, 628 Petroleum Building, and talked Miocene and the Fillmore local geology. Then called on Dr. E. F. Davis, chief geologist of the Shell Co. of Cal., Higgins Building, Cor. Second and Main St. See notes elsewhere.

In the evening called on R. T. Hill, and showed him my paleogeographic maps.

What I learned from Eaton and Davis is recorded on separate sheets.

Los Angeles, Thursday Feb 10

Took the 9 A.M. electric car to go to the Mount Lowe Tavern. The cars go through Pasadena, and Altadena and stop at Rubio Canyon where the altitude is about 1445 feet. Then up an inclined plane 1235 higher where one takes another electric car that winds and winds around the mountain side up to the Mt Lowe Tavern that stands at 4420 feet. It took about 2.15 hours to get here. Then walked N.E. 1/2 mile to Inspiration Point and back to the hotel where I had lunch. Then tried to ascend by walking to the top of Mt Lowe along a bridal path. It took 1 1/2 hours to climb up to 1230 to 5650', but the general view was not good on account of the fogs and clouds. Could hardly see Pasadena about 10 miles south. Still the trip was worth while. [illegible] of the mts are a white diorite but a [illegible] almost [illegible] as a very light pink granite. It has many [illegible] inclusions and often great bedded masses of schist thoroughly worked and interbedded with the diorite.

Saw plans the building of the Observatory

on Mt Wilson that is six miles by path to the N.E., but as the crow flies is not more than two miles.

Mount Lowe is one of the peaks of the San Gabriel Range, and it rises sharply (fault scarp) out of the valley only Altadena near the foothill face. To the S.W. are the Santa Monica [illegible] mts and between lies an hilly plain made up of Pliocene - Pleistocene strata. To the south of the Santa Monica Mts lies the Los Angeles plain of the same strata but of another sea way.

These E-W Mts are all fault blocks that arose (? little) in the Miocene and made the two sea ways mentioned. Most of the elevation appears to [illegible] taken place during the Pleistocene but may have begun during the Pliocene. Some of the peaks in the San Bernardino Mts must be nearly 9000 feet higher.

While on the top [illegible] [illegible] [illegible] it showed a little. Directly the wind changed from the east and the skies began to clear [illegible] [illegible] once.

Los Angeles, Friday Feb 11 -

It rained a little during the night.
[illegible] preparatory to leaving for Santa Barbara.

Then spent two hours at the Library reading Johnstone [illegible]. Both [illegible] are mighty interesting reading. His "The Study of [illegible]." [illegible] from library [illegible] have so much of a [illegible] graphic nature [illegible] to.

Left on the Southern Pacific at 3.15 [illegible]. Got here at 6.30 P.M.

Los Angeles in the business part, the city is about as much congested as in New York City, [illegible] and Boston [illegible]. The buildings have a [illegible] line and [illegible] beyond 13 [illegible] stories. The [illegible] features of L.A. is advertisement and [illegible] (in the [illegible]) faith in themselves. [illegible] the great numbers of old people [illegible]. It is the climate that draws and [illegible] (Colorado River) L.A.

will become a second New York City. Fruit and petroleum are its chief natural resources.
Put up at the Carrillo Hotel.

Santa Barbara, Saturday Feb 12.

This town of 2[illegible],000 people is 2/3 in Spanish Mission style of architecture. One and two story houses predominate and all in light bright colors — white yellow and orange in [illegible] tints. With the introduced plants of palms, [illegible], canes, one gets the impression [illegible] [illegible] [illegible] [illegible] [illegible] at a [illegible], [illegible] rather the [illegible] of Spain. However all is rather appearance [illegible] in concrete and cement and rarely is any of it in substantial stone. There is [illegible] hard [illegible] sandstone of a light [illegible] color.

One sees almost no effect of the last earthquake. Here and there one sees [illegible] along the arches that may be of the earthquake or settling. The hotel room is [illegible] very little [illegible] [illegible]

[illegible] sandstone.

[illegible] down to the ocean point and just at the [illegible] of the Bath House (?) between the Coal [illegible] (? Miocene) sandstone [illegible] and [illegible] millerea, I [illegible] a small lot. [illegible] are sandstone with [illegible] of well rolled boulders up to 2 [illegible]; occasionally [illegible] [illegible]. At the [illegible] of the beach (a little head land) [illegible] a curious sandstone with layers as if [illegible]. I can interpret this only as a small delta, [illegible] sandstone [illegible]. The shore must [illegible].

All [illegible] [illegible], [illegible] [illegible] folded, there is also some [illegible] [illegible] [illegible] [illegible] [illegible].

[illegible] [illegible] local [illegible] [illegible] [illegible] a small [illegible] [illegible] [illegible].

mostly birds, and small mammals, mostly in modern and well mounted. This all done by Norton Stuart, a self made museum curator formerly an architect. His whole life is devoted to the museum mounting.

Santa Barbara, Sunday Feb 13

Set out to the Clements home at 10.30 A.M. and was there until 9 P.M. Talked all day about general biologic problems. Clements is an independent thinker and holds that a positive answer cannot be given until experimentally worked. Has a mine of information, but because of his classical knowledge has a decided tendency to coin new words covering ascertained facts or conclusions. Is therefore exceedingly difficult to follow. I talked to him about my difficulties and urged his getting out a Popular Account of his results and conclusions. He could do it in three months, and said he would consider

the suggestion. I urged it all the more because he would become a teacher of teachers — a much wider audience than Ecologists for whom he is writing. He dislikes taking on new jobs because he has so many experiments going on in many places that he hardly has the time to take on such a book. Nevertheless I urged his doing this book since it is the best thing he could do to make his work count most.

Rained all day and night.

In the evening he gave me a dinner and invited in a retired surgeon having a practice and his wife, and architect Hoffmann and his wife. The latter gave a room at [illegible] [illegible] his [illegible]. He will rent [illegible] Commencement.

The Clements expect to visit [illegible] via [illegible] auto next autumn, when I must look after them.

Santa Barbara, Monday Feb 14

Raining hard this morning and all the streams muddy in flood.

Will leave at 11.30 A.M. to go to Palo Alto or Stanford University. Got to Ramona Hotel at 10.15 P.M.

At San Luis Obispo the railway climbs from about sea-level to over 1000 feet, and soon one begins to see highly metamorphic rocks - largely serpentine, and volcanic ones - and they continue for a long distance to the north. Evidently these are the San Franciscan series, Jurassic time. The Mts are not high here, probably less than 3000 feet.

South of Obispo the railway goes along the sea-shore, but northward we move inland and follows for a long time a river (= Salinas River) that goes into Monterey Bay. In this valley to the north, San Miguel one sees fine river terraces!

Palo Alto, Tuesday Feb 15

About 9.45 called on Professor James P. Smith who was waiting for me. Soon began to talk Paleogeography and later in this discussion we were joined by Prof. Tollman and Hubert Schenck. Got a great deal of detail, some of it is noted elsewhere and other facts marked directly on maps. Tollman knew the Coast Range, front and Baja California, Schenck northern California and southern Oregon, while Smith [illegible] the paleontology of all the formations well in hand – has a big memory.

Smith was joined at noon by the Geol. Faculty and together we had lunch at the Students Union, a rather large and good looking place.

[illegible] talked paleogeography until 3.30 P.M. when [illegible] [illegible]. Got back to the Hotel at [illegible] [illegible].

Am to lecture tomorrow at 2 P.M. on the [illegible] Theory of Continental Displacement.

Adjusted my notes and maps at the hotel.

Palo Alto, Wednesday, Feb 16.

Studied all morning my notes for the lecture at 2 P.M. Then for one hour spoke on Wegener's theory. It seemed to take very well.

Then visited Prof. Blackwelder's office and he showed me some fine samples of sand boring and sand blasting of granitic rocks, grain on which the garnets etc. have left on pedestals, and the sample had the [illegible] standing out.

He showed me a picture of granite faulted over [illegible] shale [illegible] planed across to a general level. So getting data how far back the present topography can be traced. So far none goes back of the Miocene.

Had dinner at Prof. Smith's home and met his wife and two sons. His daughter is in Europe.

Then attended a lecture on the Millikan rays by the President Professor Brown.

Palo Alto, Thursday Feb 17.

Visited the Leland Stanford Junior Museum a little, if anything, and not much of anything other than [illegible] mementoes of the Stanfords. The best are the paintings, several very large ones of western American mountain [illegible] — Yosemite, [illegible] and Alaska. These are wonderful pieces of realistic art.

Also looked over the [illegible] Collection of [illegible] mollusca of California, a large, fine collection [illegible] as it could have been gotten by a hard collector.

[illegible] the afternoon with Prof. Smith.

Had dinner in the evening at Mr. Robert Anderson's house. We used to know him in Washington [illegible]. He has traveled all over the world [illegible] doing private [illegible] at the [illegible]. His father [illegible] at Leland Stanford [illegible].

Rained most of the day and night.

San Francisco, Friday Feb 10.

A bright cool morning and at 9.05 A.M. train up to San Francisco. Arrived at 10.15 and transferred to the Ferry building where checked my baggage so that I could see the city [illegible] my train [illegible] [illegible].

In the Ferry building is an immense relief model (north to south 600 feet long) of California [illegible] from the [illegible] Ranges. Tried to get a picture of it but none [illegible]. Then visited the State Mining Museum devoted to minerals and economic [illegible] [illegible] geology [illegible] [illegible] [illegible].

The [illegible] at [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] afternoons. [illegible] [illegible] [illegible].

Then visited the Art Museum (M. H. de Young Memorial Museum) [illegible] and the [illegible] [illegible] on the Golden Gate Park. [illegible] [illegible] [illegible] and art. Aquarium, [illegible] closed. Exhibition [illegible] [illegible] in geology (Mammals and birds). [illegible] [illegible] attempt [illegible]. One long narrow hall in [illegible] 1900.

San Francisco, Friday Feb 18.

The Steinhart Aquarium is a building especially built for the purpose and is the second greatest one in America. Have a great array of fresh water and marine fishes, but nothing of marine invertebrates. Make a speciality of little aquaria — "balanced aquaria" — for home use and show about all the kinds of small fish that live in these confined quarters. All have lots of plants but just enough to supply the oxygen needed by the fishes.

The Zoological (Mammals and Birds) exhibition collection of the Cal. Acad. of Sci. is very fine and is modern [illegible] at its best. The accessories and painted background [illegible] These are [illegible] The case exhibits on the floor are a little of everything and nothing in special. Rather to please than to instruct.

Got to Berkeley at 5 P.M. Put up at the Carlton Hotel, a rooming house.

Berkeley, Saturday [illegible]et 19.

Spent the greater part of the day with Prof. Bruce Clark trying to talk paleogeography, but he insisted to tell me of what he is doing in structural geology and tectonics. All of which is detailed [illegible] mountain structure, but of a special sort [illegible] understand. [illegible] all [illegible] [illegible] [illegible] looked over [illegible] there [illegible]. Have [illegible] to the Cretaceous and [illegible]. Finally [illegible] laid out and [illegible], but not [illegible] a single one of my maps. [illegible] at some [illegible] day. [illegible] a [illegible] [illegible] the tectonics, [illegible] [illegible] their [illegible] to understand better what he tried to tell me.

Had lunch with [illegible] at the Faculty Club and [illegible] and bread.

Late in the afternoon read the many letters awaiting here at Bruce Clark and answered 3 of them before retiring.

Raining all day.

Berkeley, Sunday Feb 20

Cool and rainy.

After breakfast wrote a long letter to Mrs LeVere, and [illegible] repacked all my baggage.

Good dinner at Bruce Clark's home.

Wrote letters to Emma, Mrs Thomas, Clements [illegible] and J. P. Smith, in the evening.

No rain in afternoon but this evening it is at it again.

Berkeley, Monday Feb 21.

Prepared for and at 10 A.M. gave a lecture to [illegible] class (about 35 men, 1 girl) on Black shales and iron pyritization.

[illegible] and 4 P.M. gave a lecture to Dr. Bruce Clark's class of about 15 men and 1 girl on the Devonian.

In the evening heard a rather [illegible] movie on Dawson's trip to Antarctic. [illegible] 2 hours [illegible] minutes. Pictures good. Those of penguins especially interesting.

Berkeley, Tuesday, Feb 22

George Washington's birthday, and a bright day it is, though some mist is in the air coming in from the Pacific.

Worked all day with Clark on my paleogeographic maps. They are talking on a changed world and especially in the vanishing of the borderland. Will finish tomorrow. See notes elsewhere.

At 3.30 Clark took me in his Ford over the Berkeley Hills to see two of the fault valleys and several of the faults there. All of the strata are much folded and often crumpled irregularly due to their being near, or in, the fault zones. Saw Franciscan, Cretaceous and much of Tertiary. The ruggedness of the hills is. They are fault scarps.

These hills are filling with houses and many splendid homes. No one is paying attention to the nature of the ground and many houses are built on a fault zone that many years ago moved 17 feet. The most fashionable

filled in built on or very near the fault
zone. Some day there is going to be a fearful
holocaust here of earthquake, fire and death.
It is a crime that the City Engineers do
not warn the builders when they take out
building permits as to where the fault lines
are. Then if the builders go ahead it is
their fault.

Willis and Wood are predicting a de-
cided earthquake for the Los Angeles area
within the next few years. Lawson says
Willis is sensational, and further that no
one can with present data predict when the
major movements will take place. They come
too irregularly. But Lawson is gathering
the data and studying it to see what the
nature of the periodicity is. Maybe then
Insurance Companies can then do business
on a fairly secure business.

Berkeley, Wednesday Feb 23.

Worked most of the day with B. Clark on my paleogeographic maps. His corrections relate mainly to Cal. from Early Jurassic time to the close of the Cenozoic. My Pliocene map must be changed to three maps of this time to bring out the changes. Better have him send me three maps of California alone, that I will publish in my book.

West Coast geology, initially ever since the Pal. and certainly since the Jurassic must be interpreted in the light of Block [illegible] structure, and not at all in the light of fold mts like the Appalachians. Probably that type of mts will prove to be the one for the Pacific coasts of N. and S. America, and [illegible] for the entire Pacific ocean. It will be many years yet before the Cal. structures are fully understood and can be described in simple language. Bruce Clark is hardly the man to even describe them in simple and good English, but he may be the man that will do most of the field work to elucidate them.

Dr. F. M. Anderson called on Clark and I was introduced to him. He is a gentleman, about 65 years old, wealthy and mostly about 20 years on West Coast Mollusca. His collections and work all goes into the Cal. Acad of Sciences in Golden Gate Park.

Raining again in the afternoon.

Spent the evening reading Springers Crinoid work on the Silurian forms.

Berkeley, Thursday Feb 24

Spent the [illegible] part of morning with [illegible]. Talked over his proposed publication on the Tectonics and History of the [illegible]. Started in on a few small matters as the use of positive and negative blocks (= relatively(?) rising and sinking blocks) and the use of Restoration(?). Then urged him not carrying these [illegible] much of the Acadian(?) Orogeny. He is inclined to carry them back to the

Paleozoic. Finally he asked me if he had made matters clear, and I practically told him that his style and enthusiasm did not present matters in the best form. He took all in good spirit, though he naturally wants objections and with his impetuous manner of [illegible] tries all the more to talk one into his views.

At noon Clark got 12 of the Geological Department together for lunch at the Faculty Club. Lawson and I were the old ones, Mead of middle age, and the rest young men mostly instructors. Louderback and [illegible] were not present.

The [illegible] to the top of [illegible] Capuchin [illegible] of the Geol. Hall (= Bacon Hall). Walked down to see the Invertebrate and Vertebrate Fossil Collection. They have in the various places very large collections and especially of the Cenozoic formations.

Called on President Campbell the astronomer

Berkeley, Friday Feb 25.

Prepared most of the day to give a lecture this afternoon on How Paleogeographic Maps are Made.

The day is dark but without rain.

At 4 P.M. gave the lecture to about 40 men & ladies.

Went to the movies after supper.

[illegible] Feb 26.

A cold clear windy morning, the first fair day in two weeks. Wind north.

Got my railway ticket and then went up [illegible] to see once more the [illegible] San Francisco—Oakland—Berkeley. A vast field of houses around a very [illegible] bay—a drowned river valley. [illegible] a community of large and [illegible] people are [illegible] very optimistic [illegible], but one that comes but once or twice in a life time.

At [illegible] attended the meeting [illegible] [illegible] Sci[illegible] [illegible] of Berkeley and Stanford Univ. Rogers spoke on the [illegible] wash near [illegible] trench and concluded its origin as [illegible] due to a plunging [illegible] meteorite. [illegible] [illegible] [illegible] climatic change during the [illegible] [illegible] of the West coast. [illegible] [illegible] [illegible] [illegible] Redwood flora [illegible] more restricted [illegible] [illegible] of about 60 miles [illegible] the [illegible] [illegible]. [illegible] [illegible] (about 200 miles wide) [illegible] [illegible] in Pliocene time by a drier climate [illegible] of hardwoods [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] the [illegible] of Mexico and the Great Plains. Then Thomson spoke on the [illegible] [illegible] of [illegible]. It was [illegible] presentation, [illegible] [illegible] [illegible] [illegible] [illegible] service of the Weather Bureau (S.F.). [illegible] [illegible] [illegible] of [illegible] [illegible] [illegible] fame.

At 6.30 P.M. we all sat down to a

Dinner at the Faculty Club. Then as usual Jones called meeting to order. I spoke for 45 minutes on the paleogeographic work I am doing along the west coast. Then a brief general talk on the Wegener Theory and why paleontologists object decidedly to it. The meeting adjourned at 8.30 P.M.

Wade called me over at the hotel at about 9 and stayed an hour, talked Philippines etc.

Berkeley, Sunday Feb 27.
At 9 A.M. [illegible] called at the hotel with [illegible] and Mr. Fry, and we are off to see the structure [illegible] Mt. [illegible]. He has been [illegible] for 15 years and has it fairly in hand. The fault mapped by Lawson through his students is in fact quite [illegible].

There is a major thrust of the Mt. [illegible] mass of Franciscan rocks with outlying parts of [illegible] and Cenozoic, from the N.E. to the S.W. There is imbrication or shingle structure and is in fact still in motion. The movement started [illegible] the Pliocene. It includes "closed valley structure", i.e. as erosion intervenes and valleys thrust and [illegible] the whole [illegible] the western mass [illegible] to the western end at the same [illegible] around to the north. [illegible] is still [illegible] is seen in that the alluvium with the under-lying strata are thrown into slight and [illegible] [illegible]. All [illegible] the whole [illegible] to the N.E.

of Lemley is a most difficult area to unravel. [illegible] not only because of the faulting and [illegible] and folding, but all the more so because the [illegible] have [illegible] all through [illegible]. [illegible] of [illegible] [illegible] [illegible] and Pebble [illegible] closed tightly together.

[illegible] layers of [illegible], [illegible] and [illegible] of [illegible]. The [illegible] [illegible], all well [illegible] [illegible]. This layer [illegible] [illegible], and the [illegible] [illegible] occur [illegible], [illegible] [illegible] they are restricted [illegible]. This layer [illegible] [illegible] [illegible] same.

[illegible] [illegible] shales [illegible] of the [illegible], muddy coarse [illegible] mica. [illegible] all layers [illegible] [illegible] [illegible] [illegible] de-position.

[illegible] of [illegible] at [illegible].

Berkeley, Feb 28 - Monday

At 9 A.M. started over to see once more the great city of San Francisco. Crossed on the Southern Pacific Ferry and then on by trolley to Cliff House the southern side of the Golden Gate, the grand view a la ... to San Francisco harbor. Had some sand [illegible] at the Cliff House. Here a great deal of the San Franciscan series is to be seen. It is a highly folded and crumpled series, much jointed over veins and more or less metamorphosed. It is not altered enough to be Proterozoic in age, but [illegible] may well be Paleozoic in age. However the present view is it ... [illegible] and Triassic.

The Sutro Museum near Cliff House is an [illegible] museum and of no [illegible]. Is connected with Sutro Baths.

Then walked through [illegible] and bought three drinks for 3 [illegible]!

Returned to Berkeley and in Carlton Hotel at 4 P.M. Packed up and then read until train time. Left at 8.19 P.M. for Oregon.

Eugene, Oregon Tuesday March 1

Left Berkeley, Cal, last night at 8:19 on the Southern Pacific for Eugene, Oregon. Got up at 7:15 a.m. and [illegible] still in California, near [illegible] in the Shasta Valley at an elevation of about 2[illegible] feet. All of the [illegible] tops are white under a new snow. A little farther north it comes down to 3100' above the sea. All is now snow covered and we are in fine conifer forests. At 10:[illegible] a.m. we cross the summit at Siskiyou at 4100'. The strata are largely metamorphosed mostly dark [illegible] shales with [illegible] of [illegible] bedded sandstone. [illegible] at low angles, and appear to [illegible] Paleozoic. Gazelle is I believe Diller's [illegible] [illegible]. There [illegible] much [illegible] [illegible]. [illegible] may be to 6000' [illegible] [illegible]. To Ashland at 1[illegible] [illegible], but up in [illegible] it rain and [illegible] early some [illegible] Medford farther north. Here we are in a [illegible] valley at 1400' above sea.

South of Glendale we are again climbing the

ants and the rocks look like Franciscan. Great serpentine masses in crumpled shales.

A light rain all the way.

Got to Eugene, Oregon about one hour late at 7.30 P.M.

Put up at the new hotel Eugene. Eugene is a town of 18,000 and the shops have windows dressed in the most progressive style. That it is a University town is noticeable in the number of young people about the theatres and ice cream parlors. The latter are elaborate affairs here.

Eugene, Oregon Wednesday March 2.

Papers say that Oregon has had more rain by far than is usual. It is again clear today.

Talked paleogeography most of the day with Professors Packard and Hodge. Had lunch with them and Prof. Smith. Spent the evening at dinner at Packard's home with Mr and Mrs Smith and Hodge. Retired at 10 P.M.

Eugene, Oregon March 3. Thursday

Spent most of the morning correcting my paleo-geographic maps.

Cashed my check for $200.

Spent a part of the afternoon with Packard and Dodge talking over paleogeography.

Prof Smith gave me a lot of pamphlets mostly on Physiography and Geography of Oregon and these I looked through during the evening.

Eugene Oregon March 4. Friday

The geology of Oregon is still very little known, but what is known shows that its structure as far as tecl faulting is concerned is not much like California. All earthquakes noted are ones of a minor order showing that the vibrations come from elsewhere.

Made more changes in my maps and at 11.10 A.M. started on the S.P. R.R. for Portland.

The day is bright and I had a good sunny trip north through the Willamette Valley to Portland. At first out of Eugene and about half way north the valley is wide and flat as a Table. To the west are the Coast Mts and to the east the Cascades with their various volcanoes. I may have seen the Three Sisters east of Eugene, but soon one fails to see the far away Mts. To the west only one mt had a snow top.

The flatness of the Willamette and the lying horizontally against the side hills shows that a lake or a bottom or sea may once [?] in this valley as held by Condon. If so it would be proved by the shells in the deposits above the upturned tilted older Cenozoic deposits.

Put up at the Multnomah Hotel, a very large hotel but evidently one built some years ago

Portland, Oregon, March 5, Saturday.

Intended to take Multnomah car to see the gorge of the Columbia River, but it began to rain before the car started. Then walked to City Library and read a little in Condnos "Fort Islands". until 1 afternoon, and was transferred to the depot and 1 P.M. train left for Seattle.

Portland is not beside the great Columbia River, but the Willamette River. It is about ten miles out the latter to the Columbia river. We first go down the Willamette about 4 miles and then through a long tunnel over low lands and then across the mighty Columbia, a river as large as the Ohio when in flood. Just now it is about as dirty as the Ohio or Missouri rivers. We then go north along the east side of the Columbia river and finally leave it, going through pine forest. Finally we come out on Puget Sound and at nearly 6 P.M. get to Tacoma. Then on in the dark to Seattle.

Stopping at the Waldorf Hotel.

Seattle, Washington, Sunday March 6

Dark morning but by noon the sun got out.

Took a short morning walk and then read until noon. After lunch took a car to Volunteer Park to get a broad view of the environs. Seattle is built on several hills all separated by narrow water ways. The Capitol is on one of the highest, and the State University is several miles to the north of the center of Seattle. The newer architecture is pleasing of buildings of high class and considerable stories.

Spent the evening at the City Library, the largest one on the whole [illegible] country [illegible]. Los Angeles has a larger building but has not the books and magazines of this library of Seattle.

Seattle, Monday March 7

It rained all day.

At 9.30 A.M. I called on Professor Weaver and found him with gray hair. Said it came on with his South American travels having contracted dysentery and malaria. Even now his health is not good.

We talked paleogeography all day but so far as I know I am able to make use of the N.W.-S-E. strikes of northern Washington. Weaver thinks these strikes are very old — maybe even Pre-Paleozoic and certainly not younger than [illegible].

Met his trusted students Mr. Waters and Mr. Etherington.

Had lunch at the Faculty Club on the Univ. Campus.

Seattle, Tuesday March 8

Fairly bright day. Saw a little of the Olympic and more of the Cascade Mts.

Was with Professor Weaver the greater part of day. Finished the paleogeography with him. Told me he was planning to put his collections to sale in case he leaves the Univ. of Washington which appears probable. This would mean a place to work up his collections and as his private income is about $2500 per year, he would have to have an honorarium. Outside of $1000 to 1200 like Huntington with the title of Research Associate and the rank of Professor. In this case he would also offer a course in Mesozoic and Cenozoic Stratigraphy. Weaver is now 47 years old and certainly ought to be serviceable for 20 years more.

In the evening read Washington geology but got little of direct paleogeographic value.

Seattle, March 9, Wednesday

For a while in the morning read Ward. reports and then made some adjustments on my paleogeographic maps.

Walked down town and equired about railway return fare to New Haven.

Then prepared for a lecture on the Wegener theory, this I gave to about 50 men and women at 4 P.M. Spoke one hour and a half.

Came prepared for a talk to some of the Faculty interested in Research. This I will give tomorrow.

[illegible] met Mr and Mrs Weaver and [illegible] [illegible] and finally [illegible].

[illegible] at 11 P.M.

[illegible] most of the day, but rained again at night.

Seattle, March 10 - Thursday

Prepared for my talk at 11 A.M. on Universities and Research. It was at the Faculty Club of Washington University and I finished at noon. Present about 20 Instructors mostly Professors and all doing research work. Then had lunch with about eight of them.

After lunch had Professor Weaver tell me was of his South American work. His collections are both of the Jurassic and Lower and Upper Cretaceous. Each of the Andes [illegible] ex-peditions south for 400 miles. He is [illegible] in detail and all is so recorded into the actual conditions of the field that no [illegible] and [illegible] working. He was seven years in doing the work, and most of the time had four field assistants all college graduates. All was paid for by the Standard Oil Co., and a detailed stratigraphic report is in their hands. The paleontology and its relation to the stratigraphy is still to be done, and it may take him more than five years to do.

Then he has a Cretaceous collection made

in Honduras. These collections are in 225 standard drawers.

In addition Beaver has 100 drawers of Washington Cenozoic fossils made while he was working for the State Survey. This collection has about 100 type specimens.

He wants to present all of this material to Peabody Museum in consideration for an adequate place to work and to use the University facilities. Of course some official title should be given him as, for instance, Research Associate. He has an income of $3000 per year but this is probably not enough for him and his wife to live on. He wants me to find out whether we can live on at New Haven, or in the country on an acre or two of land. Both the Beavers do not care for society, she will do all their home work, and they want to live modestly.

He says he does not care to teach but is willing to do a limited amount of it, along Inorganic and Cenozoic lines. Some hon-

oranium should pay him, and at least enough to make it possible for him to live modestly comfortably at New Haven.

I will try hard to bring him on to New Haven and have him placed in the Peabody Museum. As both the Greavers are modest I believe it will be easily possible to live with them. She runs a motor car but he does not like to run one and will leave it to her.

His capital is what he saved out of his D.C. work. His salary was around $1200 per year and he must have invested by his hand in it something like $10,000.

Got my ticket from Seattle to New Haven via C.P.R.R. It reads from Vancouver to Montreal - Springfield to New Haven.

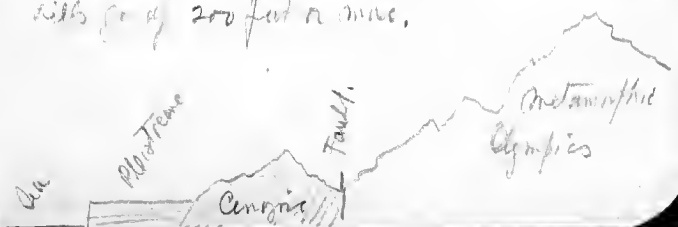
Friday
Vancouver, British Columbia, March 11

Left Seattle on the C.P.R.R. steamer Princess Victoria at 9 A.M. for Vancouver British Columbia. Distance 80 miles. It is a fine medium sized steamer used for winter travel. During the summer the travel is 10-15 times greater and then they put on a much larger steamer. Arrived on time at [illegible] P.M. Had a miserable experience with the Custom Officers about my bundle of maps. These they could not understand suspecting they were building plans which are dutiable. The Chief Officer dressed me down and said if I wanted to make a great deal of trouble for myself that he would turn me over to the [illegible]. Such are the damnable laws among neighboring nations. The trouble of course was all due [illegible] to the minor Officer, and he [illegible] just what he is a numskull.

[illegible] had a splendid view of the Olympics in the clouds and all deeply snow covered. They [illegible] very [illegible] and [illegible] [illegible] [illegible] the Straits of Juan de Fuca.

The steamer stopped at the capital City of British Columbia at 11:15 and we had a chance to go ashore for an hour. This is Victoria and here I visited the Parliament Building a rather pleasing grey stone large structure standing back on a lawn facing the sea wards. Next by is the C.P.R. large Victoria Hotel. We walked along one of the main streets to see the stores. These are very much like our own.

The Olympics are all of metamorphic rocks, and to the north of them are the upturned Cenozoic formations in fault relations to the mts. To the north of these are low hills, mainly of little land of elevated horizontal sands. The sedimentary strata must be of marine origin. These lower hills go up 200 feet or more.



Vancouver Island appears to be all or mainly of metamorphic formations. Around Victoria the land is not rugged, but as we steamed north along its eastern side we sees mts pretty 2000 feet high. The view was very poor.

Had a few dark views of the higher mts of the Cascades. Too far away and too dark to make anything out of them.

These waters of Puget Sound during the delightful months of summer must be a joy to be ever remembered. Birds are plentiful and the water is clear & a dark blue under the fog clouds of today.

Most of the passengers looked like Canadians, a plain unassuming crowd. The men are fond of games and jawbreakers.

Put up at the Grosvenor Hotel at the recommendation of Williams.

Vancouver, March 12 - Saturday

At 9 A.M. started out for the Univ. of Brit. of Columbia and found it was 5 or 6 miles out from the center of the city. First street car to city limits and then bus to the University. After going into three buildings found Professor Williams. Later Mr Scofield came in and then I must call on President Klinck, formerly from German a Dutch Stroll. He is a biologist interested in agriculture.

Then to the country club for lunch and finally a long drive to the east and the mainland to see the Coast Range and the highly elevated Jurassic batholith of granodiorite. The drive was into the Capilano canyon and gorge. Upon the granodiorite rests the great eastern Eocene deposit with small coal beds — these now have an undulating dip towards Puget Sound of about 20 degrees. Unconformably overlying these are the Pleistocene deposits now elevated about 600 feet above sea-level.

Had dinner with the Williams family

Later on E. C. Andrews called and we talked until eleven P.M. about his Silliman lecture course. He is doing all the research work during his travels having no time at home to prepare a [illegible] for the book or lectures. As he attended the Pan-Pacific Congress in Japan he has constantly these lectures in mind and gathered structural relationships in Japan, Philippines and the East Indies through Sumatra. I am somewhat fearful that his conclusions are too easily attained, but upon the whole he will not be very different from the advanced knowledge of the structure of the Pacific known to the followers of Eduard Suess. My work of 1900 and my Presidential Address is in a large measure his starting point. As I found geosynclines around the Canadian Shield so he finds the same sort of things in other parts of the world, and clearly in Australia.

Learned nothing directly bearing upon paleogeography.

Vancouver March 13 - Sunday

At 10 A.M. Prof. Andrews called and then we walked nearly five miles through the Stanley Park and its primeval forest of great trees, Douglas First, White Cedars, (15 feet at base) some of which were about 6 feet at the base and towered 200 feet high. He then asked me to lunch at the C.P.R.R. Hotel - Vancouver - We parted at 2 P.M.

At 4 P.M. Greta Gatfield called with her son and wife and with Andrews we went to Greta Williams' home to a reception in our honor. The President of the Univ - Klinck was there with his wife and about a dozen couples more all of the University. The reception came to an end at 6 P.M. Andrews and I remained and at 9 P.M. we had a light supper. By this time I was so tired out and bored by the incessant talk - even if interesting - that I had to finally admit that I was tired out and wanted to retire. Got back to Grosvenor Hotel at 11 P.M.

Vancouver March 14 - Monday

Williams called for me at 9.20 A.M. and we are off for the University. He has a bad throat and finds it painful to speak. So I volunteer to take his class in Hist. Geol, and the subject in course was the Cretaceous. Spoke 45 min.

Then Williams, Schofield and I took up the paleogeographic maps. Schofield is especially well posted on the geology of British Columbia. He wanted to extend the Cordilleran geosyncline to progressively more its western shore line to the west and beneath Vancouver Island and the Queen Charlottes. Finally I showed him that there was another and independent geosyncline to the west, and he finally agreed to this. He holds there was all [illegible] the [illegible]. Moreover [illegible] to the [illegible] a Borderland and from which the sediments of the western geosyncline got its coarsened sediments. Then or another borderland he holds must have [illegible], the Aleutian islands and Alaska only a geosyncline inside of it.

Later in the afternoon prepared to give a

long lecture in the evening to the Fraser M. Daw-
son Geological Club. The meeting was held at Mr
Kidd's home and later tea and lunch was
served. Present about 20 young men and one
girl, all undergraduates interested in geology.
Got back to the hotel at 11 P.M.

The first sunny day in a long time. The day
is cool and during the early morning it sleeted.
The Coast Range stood out majestically, all
shining with fresh snow. Got to see the highest
one - Crown Mt - to the north of Capilano Canyon
but the top was usually covered in clouds.

The Fraser River and estuary separates the
various parts of Vancouver, and on both banks there
are well preserved terraces, one continuous in-
clined plane but to the east rising to over 600 feet.
The environment of Vancouver on sunny days
is fascinating with scenery.

Had my R.R. ticket extended one day.

Also saw the two closely adjacent peaks back of North Vancouver
named by Kipling the Guarding Lions of Vancouver.

Vancouver March 15 – Tuesday

Worked most of the morning adjusting my paleographic maps. Then walked 1½ hours in Stanley Park, covered about 5 miles.

Spent the afternoon at the University and for dinner Williams and his wife took me to the University Club.

Later on packed up so that I can make an early start in the morning.

Cool but a sunny day. At 9 P.M. it's raining again.

CANADIAN PACIFIC

FACTS AND FEATURES

Over 20,000 miles of track owned and controlled. Owns and operates 13 highest class hotels across Canada. Owns and operates over 120,000 miles of Telegraph System. 30 Ocean Steamships on Atlantic and Pacific Oceans.

STEAMSHIP SERVICES

Montreal, Quebec, St. John, N.B. and *Southampton, Liverpool, London, Glasgow, Cherbourg, Hamburg, Antwerp.*

Vancouver, Victoria and *Yokohama, Kobe, Nagasaki, Shanghai, Manila, Hongkong.*

26 Coastal Steamships 5 Great Lakes Steamships
15 Inland Water Steamships

600 miles of marvellous scenery through the Canadian Pacific Rockies. Constructs and operates its own sleeping, parlor and dining cars and all passenger equipment. One management, Europe to China, via Canada, over 12,000 miles.

Irrigated lands for sale. Vast areas of agricultural land for settlement.

Operates its own—Natural Resources Agricultural and Industrial Departments
Telegraph and Cable Service to all the world.

Vancouver, March 16, Wednesday

The day starts in dark and raining.

I leave on the Grosvenor Hotel-bus and the C. P. R.R train starts promptly at 8.30 A.M. We go for about 12 miles up the Burrard Inlet on which is situated the city of Vancouver, and 12 miles more over the delta of the Fraser River before we come upon the river itself. This delta beneath is usually not higher than 50 feet and considerable part is settled and farmed. Then near up to 400 feet. All of this in about [illegible] years.

The Coast Range [illegible] and [illegible] is much dissected and the main [illegible] back to early Cenozoic time. The small valleys on all sides are U shaped [illegible] the [illegible].

In the first [illegible] feet.

[illegible] feet above sea.

The little [illegible] in the Coast Ranges is on the [illegible] Fraser River and has a romantic surrounding of [illegible] Paleozoic [illegible] near by.

At Hope which is [illegible] miles E of Vancouver we are off the delta and in narrows of the Fraser River, we are about 210 feet above the sea. The valley soon becomes

in into a V shaped one and then takes on a gorge character between walls of rocks up to about 2000 feet. This continues to about China Bar = 120 miles E. of Vancouver. In these canyons the granodiorite becomes a green and noticeably jointed in places and all shot through with dikes. By the time we got to North Bend (6 miles farther east) the valley of the Fraser again widens out, suggesting that there has been stream capture here. The mts. above appear to be considerably lower, but later I see higher ones back of them.

There is no rain in the heart of the Coast Range but the day is dark and it may be snowing at higher levels.

At Keefers there is a great development of sed. rocks. The C.P.R. is on the northern side of the river while the new Northern R. is on the south bank and exposes a big area of the sedimentary formations. If there are any fossils in these rocks, here is a fine chance to reveal their structural geology.

The Fraser valley opens even more all the way to Lytton where the C.P.R. leaves it and goes on up the Thompson River. Many river terraces are

now in view, all a boulder conglomerate and sand. The forest on the rocks and in the river valley is of small trees, and the ... showing that we are approaching the semi-desert of the Interior Plateaus. The water of the Thompson is an emerald green, and the river is deeply incised in a canyon. The Fraser continues N. and the C.P.R. goes E. up the Thompson.

All the rocks E. of Lytton up the Thompson river are crumbling down at a great rate, and rock flows are common. These rocks are all igneous of Tertiary time.

The Thompson river goes through a wide valley made up of alluvium into which the river has cut itself some hundreds of feet and often exposing the Cache Creek and Cretaceous rocks. The Cret. has some black argillites or shales, well seen in Black Canyon.

Ashcroft is one of the largest villages so far seen. Trees are gone, and the ground is covered with sage bushes. We are in the desert flora.

At 8.30 P.M. we have come 291 miles = 24 miles per hour.

En Route Home, Thursday March 17.

Was up at day break and had breakfast before getting to Field at 8.15. The day is clear and the mts are gleaming brilliantly in their snow covered dress. To the north of Field is Burgess is not and oh how brilliant it is in the morning sun. All the mts are of stratified rocks and of Cambrian and Ordovician age with the Silurian also.

Farther east and close to the north stands grand Mt. Stephen and the strata are [illegible] in an anticline or in [illegible] relation. To the south are Mt Ogden and Cathedral Mountain, and in turn the R. R. turnes and ascends.

[illegible] (up to 8.30 A.M.) we have come 21 K miles and have risen from 1288' to 4075 = or a rise of 2787 feet. This is why we are making only about 18 miles per hour. We keep on rising to the station Kicking Horse Pass at Mt Stephen at 5332. Here is the continental divide and the boundary between British Columbia and Alberta. The waters go to the Pacific and Hudson Bay. [illegible] The [illegible] is at 5050 but the hotel farther [illegible] is at 5670. All is in deep snow and the steam snow shovels have been along clearing the track.

The scenery is very grand.

I am sitting in the observation car all the way from Field to Radnor (the last station in the Rockies), a distance of 114 miles, and I see the Rocky Mts one after another from which the distance as I go east. What a grand sight it all is to observe these enormous stratified rocks without any igneous masses, and ranging from the basal Cambrian into the Cretaceous. In places the strata are almost horizontal and done up in grand arches and hollows and again almost vertical (Saw-back). In all my life I have never seen folded mountain structures so clearly revealed. Here in a way the formations are of comparatively few formations. It is the other extreme of the Grand Canyon of the Colorado with its horizontal and deeply incised strata. And today the grandeur is greater because of the sunny day with all the mts covered with snow at [illegible] majestic silence and the dark green of the coniferous woods, [illegible]. The mountains [illegible] called, and [illegible] to read the geological history of the Canadian Rocky [illegible] [illegible]. The geologist who [illegible] these mts must be an alpine climber, and no palaeontologist [illegible]. But what a wonderful time a young palaeontologist could make here in working out in detail the stratigraphic succession.

As I look back from the plains near Radnor the mts. are all gone, buried in the atmosphere condensing against the wet. In the mts. themselves there was [illegible] which is fleecy mass up above the higher parts [illegible] and [illegible] to the high peaks. They melted away into the glory of the heavens and God, but the [illegible] there was revealed here and there [illegible] in the valley and slowly rising mists.

And now I am seeing the western rugged plains, the evidences of [illegible] and poor looking [illegible]. Along the small stream courses are some small conifers. Lastly about here one would dream of the majesty immediately [illegible] but in [illegible] in the distant mist. Adieu!

East of Calgary the country is as level as a [illegible], [illegible] snow everywhere. The glare is hard to stand.

Calgary is only about 42 years old, and now a [illegible] 75,000 people. The greatest building is the [illegible] C.P.R. — the upbuilder of all this country.

All the afternoon we see only the flat plains and the grain fields with here and there bunches of

dorses, No trees to be seen anywhere, but there is only sage brush. Towns are few and far apart and all are very small. Farmers houses are also few and usually of the smallest kind. Barns are a rarity at least they are mas. No wonder no one cares to take up farming here, because better places can be had elsewhere.

However it is very comfortable in board the train, the table is excellent and the white waiters are very kind.

At 7 P.M. a very light snow is falling.

At 8.15 P.M. we are at Medicine Hat, a town of some size and importance. Probably also a shift of train crews since we stop here 20 minutes.

I retire shortly afterwards.

All afternoon I read Daly's Report in Guide Book of the Canadian Geological Congress, 1913. There is much of great importance in it, and I must study my paleogeographic maps in the light of this report of the entire Cordillera by Daly, Allan and Drysdale.

En Route Home, Friday March 18

A bright sunny morning, but cold. My world is a plain all covered lightly with snow of last week's storm. Early morning in Saskatchewan and at noon all in Manitoba where there is less snow. Manitoba is Canada's great wheat field. The country is full of "sloughs" that the snow will sink. [illegible] the [illegible] country. Farm houses and villages are now more common and larger. Also of [illegible] are sand dunes and [illegible] [illegible].

[illegible] come [illegible] the world [illegible] [illegible] = 40 years ago (and [illegible]) [illegible] D.

[illegible] to [illegible] the Rev. Darwin the [illegible] Church who started [illegible] in [illegible] the [illegible] C.P.R. was building. And he [illegible] the Church in Winnipeg to [illegible].

All day I see clusters of little [illegible] trees [illegible] 15' tall. Very rarely do I see a few conifers 8' tall.

Off and on there are snow flurries of exceedingly small flakes, [illegible] [illegible] [illegible] clouds.

We are on time at Winnipeg and I leave the train at 5.45 P.M. and finally go to the [illegible] of the Royal Alexandra Hotel of the C.P.R. Get a room without bath, for $2.00 — it is large and well outfitted.

For something like the last 110 miles we come over the exceedingly flat lands of former Lake Agassiz. There is not an elevation to be seen five feet above the ground level. To the south of the railway is Assiniboine River and to the north are the large lakes Manitoba and Winnipeg.

Spent the evening reading and retired at 10 P.M.

doc. 135

arsenic, asbestos, coal, feldspar, fluorspar, gypsum, lepidolite (lithia mica), magnesite, mica, mineral pigments (ochres), peat, natural gas, petroleum, phosphate, pyrites, quartz, salt, talc, cement, clay lime, sand, gravel, slate, stone, etc.

5. Of the three prairie Provinces, Manitoba is the most abundantly endowed with water power resources. More than 5,000,000 h.p. is available in the water powers of the Winnipeg and Nelson rivers. Plants of 250,000 h.p. capacity are now in operation.

6. Western Canada is a new and wealthy market, offering the manufacturer unrivalled opportunities for present profits and substantial future growth.

THE WESTERN MARKET

485,642,698 Acres — **2,067,682 People**

	Area		Population
Manitoba	161,172,298	acres	639,056
Saskatchewan	161,088,000	"	821,042
Alberta	163,382,400	"	607,584

7. Alberta has 81 million acres of land suitable for agriculture, of which only 11 million acres are cultivated. It has a population of 607,000; could sustain a population of 3,750,000.

Saskatchewan has 73 million acres suitable for cultivation, of which 20 millions are being cultivated. It has a population of about 821,000; could support one of 2,320,000.

Manitoba has 25 million acres suitable for cultivation, of which only 8 million acres are being cultivated. Its population is a little over 639,000; could sustain 1,950,000.

(Continued on Page 4.)

WINNIPEG
AT A GLANCE

Capital of the Province of Manitoba.

Altitude—760 ft. above seaboard.

Area—15,961 acres; 24.9 sq. miles.

Population—295,000.

Streets—500 miles.

Street Railway—112 miles.

Parks—674 acres; 31 Parks.

Rivers—2; Water area 422 acres.

Schools—66 . .

Colleges—5.

Retail Stores—2,500.

Water Rate—$1.75 to $3.15 per quarter.

Electric Light Rate—3c per k.w.h.

Electric Power Rate—½c per k.w.h. up.

Telephone Rate—Business, $78; Residence, $38 per year.

Industrial Output—Over $100,000,000 annually.

Wholesale Turnover—$250,000,000 annually.

Bank Clearings exceed $2,500,000,000 annually.

Postal Receipts exceed $2,800,000 annually.

Customs Receipts exceed $12,000,000 annually.

Issued by
Industrial Development Board of Manitoba
Confederation Life Building
Winnipeg

Write for General Industrial Report of Winnipeg and List of Industrial Opportunities.

What's Behind Winnipeg ?

1. Manitoba stands out pre-eminently among the Provinces of Canada as a field for exploitation. Rich in undeveloped fisheries, in mineral areas, especially in agricultural wealth, it extends, not only to the aspiring and intelligent settler the means of useful independence, but to the capitalist unlimited opportunity for economic gain.

2. Manitoba's area is 251,832 square miles. This is more than double the area of the British Isles and is greater than the area of Germany, of Spain or of France. It exceeds the combined areas of the states of North Dakota, South Dakota and Minnesota. The water area of the province covers 15,500 square miles and includes one of the largest inland fisheries in the world.

3. Although Manitoba is world-famed as a prairie agricultural Province, over 75% of its area is wooded. There are over 137,000 square miles of forest land in the Province. There is estimated to be 8,400,000,000 cubic feet of pulp and fuel wood in these areas, including over 28,000,000 cords of poplar, 20,000,000 cords of jackpine and 18,000,000 of spruce.

4. Manitoba is fast assuming the role of a mining Province. Her resources include antimony, cobalt, copper, gold, iron, lead, molybdenum, nickel, platinum and palladian, silver, tin, tungsten, zinc,

(Continued on Page 3.)

THE MAIN ELEMENTS GOVERNING INDUSTRIAL LOCATION

Showing How They Are Met By

WINNIPEG RESOURCES AND FACILITIES

THE FOUR MAIN ELEMENTS

Power Supply

1. 5,000,000 h.p. available in Manitoba. Over 250,000 h.p. in operation. Lowest power rates in America. Canada's greatest coal supply next door to the Province. **Power in abundance.**

Labor Supply

2. A Cosmopolitan City that has attracted artisans of every trade from the world over. Labor supply centre for the West. **Ample, contented labor.**

Natural Resources

3. Immense resources in timber, fish, fur, game, gold, copper, cobalt, iron, lead, zinc, tungsten, cement, clays, silica sand, etc., etc. Served by lakes, rivers and railways. 75% of Manitoba's area is wooded and mineralized. **Unlimited resources.**

Transportation Facilities

4. Greatest transportation centre in Canada; 27 lines in all directions. Two rivers linking network of lakes and rivers in 250,000 square miles of territory. Inter-urban street railway and bus service. **Good transportation facilities.**

OTHER ESSENTIAL FACTORS

Present Industrial Development

5. 490 factories; $100,000,000 output; $17,000,000 payroll, 59 prosperous and growing groups of industries, making more than 400 commodities. **A growing manufacturing centre.**

Local Attitude Toward Industries

6. Constant support of home products and keen desire to foster local manufacturing. Backed by "Made-in-Manitoba" campaign, conducted the year round in both city and country. **A receptive market.**

Accessable Markets

7. Local market of 300,000. Provincial, 639,056. Western, 2,067,682. Wealthy, fast-growing and loyal to Western industries. Covered by network of railways radiating from Winnipeg. **World's Fastest Growing Market.**

Sites for Industries

8. Scores of ideal sites or space for industrial purposes, at a reasonable cost. 120 miles of sidings in the business field. Connection with two Transcontinental railways. River sites. **Good locations at low cost.**

Community Spirit

9. A hustling Western city, developed from trading post of 215 in 50 years. Famed for Community consciousness and progressiveness. A city where men are looking ***FORWARD.*** **Winnipeg never marks time.**

Laws and Taxation

10. Sound and reasonable legislation for industry. Low taxation and generally favorable attitude toward legitimate business. **Wholehearted co-operation with manufacturers.**

Cost of Living

11. Living costs as low as any Canadian city. Centre of agricultural, dairy and cattle country. Immense retail stores. Low rates for light, water, teiephone, etc. **Saving in operating and living costs.**

Health and Climate

12. One of world's healthiest cities. Lower death rate from tuberculosis than anywhere in America. Low infantile mortality. Model hospitals and institutions for children. **Canada's sunniest city.**

Public Improvements

13. Central steam heating in business area. Abundant pure, soft water. Efficient street railway service. Wide streets. Excellent schools and colleges. Centre of Western education, art and music. **Comfort and culture.**

Social and Living Conditions

14. 674 acres of parks. 20 golf courses. Magnificent theatres. 70 minute service to lake resorts. Leading sport centre. Fine homes, clubs and churches. No slums. **A clean, spacious, well-equipped home city.**

Winnipeg, Manitoba, Saturday March 19.

The day starts in bright and not very cold.

After breakfast I walked around the town for about three-quarters of an hour. It is not an impressive city and just now it is very dirty, the snow is all black. There are many large buildings but still in all the city of 200,000 is not more impressive than the average of American cities.

We start at 10 A.M. for Montreal. From the train [illegible] river a rather large and muddy stream. Its flow is very slow, and has incised in the Lake Agassiz plain about 15 feet. The Lake Agassiz flats are [illegible] to [illegible] side of Rainy Lake. Thirty-five miles [illegible] Winnipeg the forest begins and much of it is a small [illegible] growth — a few [illegible] of birches and pines.

[illegible] than 2 hours east of Winnipeg we are on granite, a red granite in low hills, altitude about 1000 feet. Up to Keewatin all is red, pink and grey granite, in low hills studded by innumerable small lakes. The glacial drift is very thin, hardly noticeable but in places the granite boulders are common. As we get towards Keewatin the rocks are

dark to black and break in blocks. Evidently there are the Keewatin lavas of basalt like material, Keewatin is at 1080 elevation, there is also schist here. We are now at the north end of the Lake of the Woods.

Then we appear to get out of the granites for I see not often cuts along the R.R. Drift is far more common, but the endless succession of lakes continues. It is fine in the Observation car to see how we snake through the country and the track rushes off into the background. Houses are few and far between and farms there are almost none. When the train stops the town is a small one or a railroad junction. This land of the Shield is for geologists and miners and loggers to investigate, but the average man finds it hard to make a living out of it. Even the C.P.R. does not advertise it as it does all the western country.

There is more snow this afternoon than anywhere else on the trip and it is new snow — of last week. I retire at 9 P.M.

En Route Home Sunday March 20

In spite of all the covering I froze some last night. The sun was out at day break and the sky is without clouds. So all day.

The land and scenery is as of yesterday, a thinly clad forested hill country (none 200 feet high) abounding in lakes with a general absence of farms. As we leave the north shore of Lake Superior (altitude 682') we again rise to 1440 (Borran River).

I am very tired of the trip. The scenery of hills pleasing remains the same all the way from Winnipeg. All the rocks are ancient and mainly granite. Terrible surroundings for a paleontologist and a paleogeographer!

I retire before 9 P.M.

Montreal, Quebec, Monday, March 21

I got up at 7 A.M. and [illegible] (still in Ontario) [illegible] the day [illegible] met fine snow a falling, which I judge to be a typical winter day in Eastern Canada. It snowed hard all day.

Had a good breakfast on the [illegible], and I must say that the dinners on the C. P. R. are all they are advertised to be. The train is on time and we arrive at Montreal at 8.05 P.M.

I have now come 2855 miles on the C.P.R. The mileage of my entire trip [illegible] [illegible]

New Haven to Cincinnati, Ohio	[illegible]
Cincinnati to Madison, Wisconsin	[illegible]0
Madison to Little Rock, Arkansas	6[illegible]
Little Rock to Houston, Texas	[illegible]
Houston to Austin "	[illegible]
Austin to Tucson, Arizona	[illegible]
Tucson to San Diego, California	[illegible]
San Diego to Vancouver, B.C.	1[illegible]15
Vancouver to Montreal, Quebec	2855
Montreal to New Haven, Conn.	[illegible]0
Total mileage	[illegible]

Called on Wm. Notman and Son, 225-227 Peel St. and purchased 12 photos of the Rocky Mts. on the C.P.R.R. They are to be silver prints and will be mailed to me. I have a list of these and of others that I did not purchase.

Then wrote postals to Emma, Le Fevre, Phil, Albert and Stanton. At the grand hotel Mount Royal.

Hello Sweet — lunch at noon.

Went the late afternoon at the Canadian Pacific R.R. station and had supper here with red wine at $1.60. The wine was poor, and the supper not much better. As usual the Canadian French are poor cooks. Oh what a come down this is from the hand somness of the Canadian Pacific. A Roman came in for supper, crossed himself before and after, and the waitress spoke to him by voice and gesture in full sympathy. How nice when you are in the system and know no better.

Montreal was as different from the western Provinces as can be, and if I would give five cents

for Quebec as a people to expect by those of them I would give 50 cents for my people of the west beginning with Toronto. This is Canada, but Quebec is not – it is a degenerate France. Again I have to the same conclusion as on former trips.

I got aboard my train at 7.55 P.M. and at 8.10 I am off for the United States, Connecticut, Lake and home.

It continues to snow up to the time of my leaving.

After my trip I came in 1903 this has been the most satisfactory trip. With the various electric car trips I now travel in the last three months about 9000 m. ly.

The American Revenue Inspectors inspected my baggage on the train. Have nothing to declare.

Home, March 22 - Tuesday
Arrived in time at 6.35 A.M.

Started with 150 / 80 / 350 } = 580. { Drawn at Seattle cashed check for $75 }
75
Later in Fit sat 200 = 200
855.

Dec 23 – 1926	N. Haven to Cincinnati	35.62
" 23	Extra fare	2.40
" 24	Cin. to Chicago	14.01
" 26	Chicago to Madison	4.62
" 30	Madison to Chicago	2.31
" 30	Chicago to Little Rock 23.00 and 6.38	29.38
Jan 1 – 1927	L. Rock to Shreveport, La.	7.85
" 4	Shreveport to Houston and Sleeper	12.13
" 6	Houston to Austin	7.93
" 13	Austin to Tucson 36.95 and Sleeper 8.10	45.05
" 16	Tucson to San Diego	24.12
Feb 1	San Diego to Los Angeles	4.55
" 11	Santa Barbara from Los Angeles	3.76
" 14	To Palo Alto	12.58
" 18	To Berkeley, Cal.	1.56
" 27	To Eugene, Oregon	28.89
March 4	To Portland	3.81
" 5	To Seattle Washington	6.58
" 10	Seattle to New Haven R.R. (C.P.R.)	107.91
" 10	" " Montreal – Sleeper	25.60
		380.46
" 21	Sleeper Montreal to New Haven	3.75
		384.21

Lodge $55.00. Returned with $25.00

R.R. - Pullman fare one way to Seattle	$246.95
R.R. - Pullman return fare to Hoquiam -	137.26
Total R.R.	$384.21
In hotels etc	433.79
Postman for 12 days	12.00
Total cost of trip.	$830.00

$133.57.

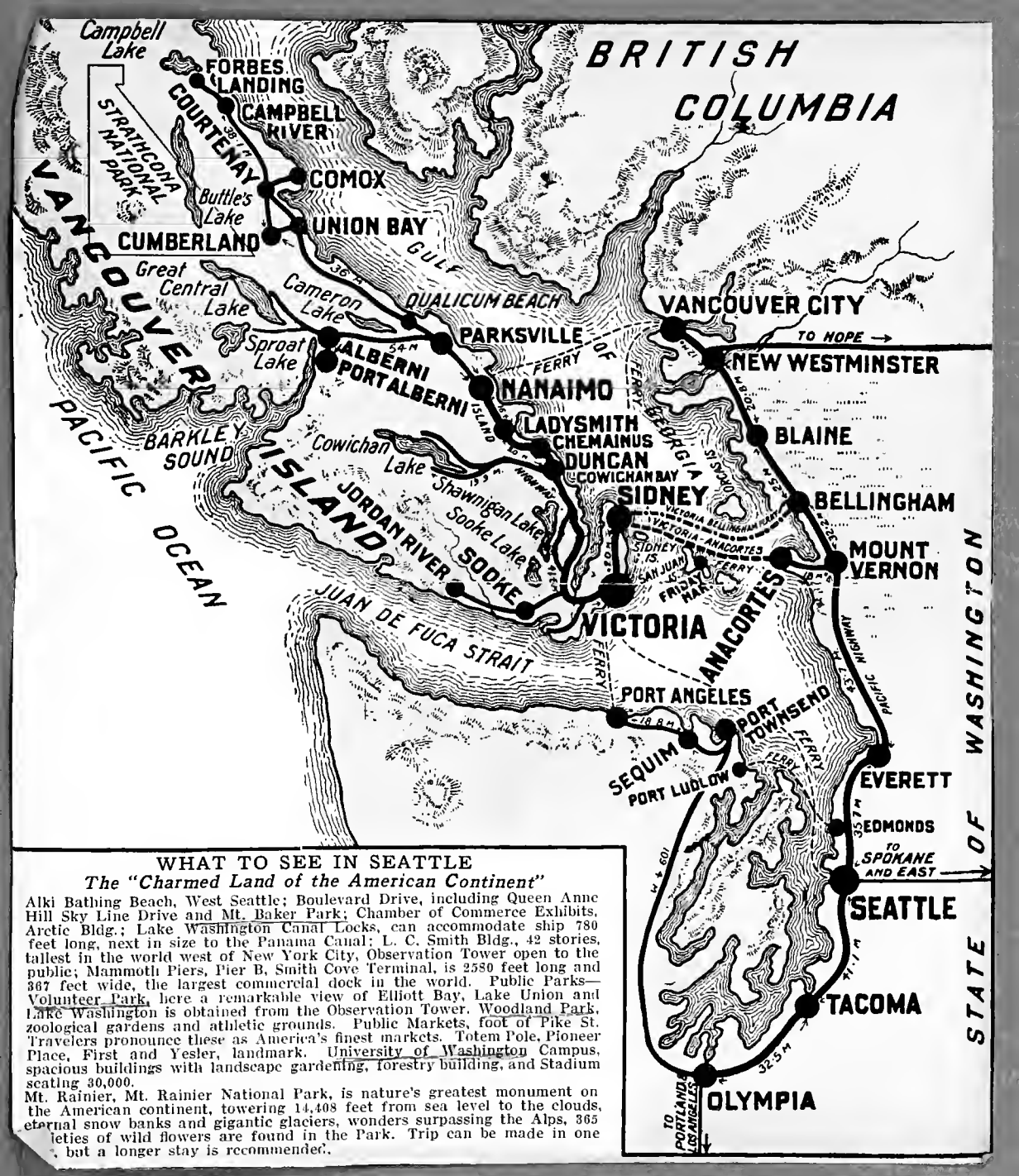
Standard Memorandum Book

No.	Size	Side Opening Ruled	No. of Leaves
483	6 x 3¾	Faint	72
485	"	$ and Cts.	72
487	"	Quadrille	72
489	6¾ x 4¼	Faint	72
491	"	$ and Cts.	72
493	"	Quadrille	72
495	7¾ x 5¼	Faint	72
497	"	$ and Cts.	72
501	8½ x 5½	Faint	72
503	"	$ and Cts.	72

Specify by Number the Book desired

Made in U. S. A.

Hotman. Wm and Jno
225-227 Peel st



WHAT TO SEE IN SEATTLE

The "Charmed Land of the American Continent"

Alki Bathing Beach, West Seattle; Boulevard Drive, including Queen Anne Hill Sky Line Drive and Mt. Baker Park; Chamber of Commerce Exhibits, Arctic Bldg.; Lake Washington Canal Locks, can accommodate ship 780 feet long, next in size to the Panama Canal; L. C. Smith Bldg., 42 stories, tallest in the world west of New York City, Observation Tower open to the public; Mammoth Piers, Pier B, Smith Cove Terminal, is 2580 feet long and 367 feet wide, the largest commercial dock in the world. Public Parks—Volunteer Park, here a remarkable view of Elliott Bay, Lake Union and Lake Washington is obtained from the Observation Tower. Woodland Park, zoological gardens and athletic grounds. Public Markets, foot of Pike St. Travelers pronounce these as America's finest markets. Totem Pole, Pioneer Place, First and Yesler, landmark. University of Washington Campus, spacious buildings with landscape gardening, forestry building, and Stadium seating 30,000.

Mt. Rainier, Mt. Rainier National Park, is nature's greatest monument on the American continent, towering 14,408 feet from sea level to the clouds, eternal snow banks and gigantic glaciers, wonders surpassing the Alps, 365 ieties of wild flowers are found in the Park. Trip can be made in one , but a longer stay is recommended.

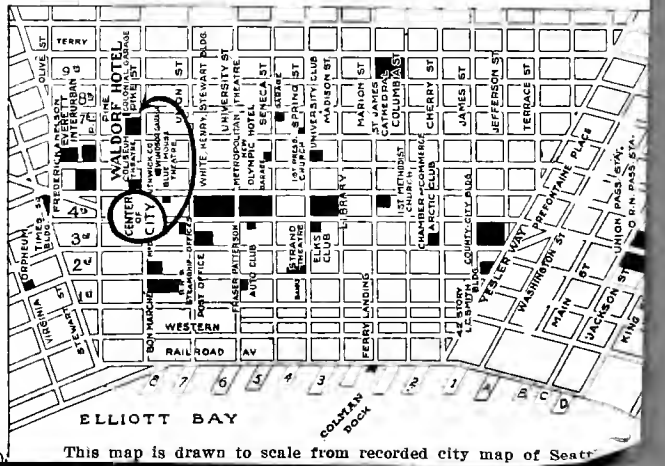
R L O R L O B B Y

rest to the tired traveler. The Waldorf in this respect has gained an international reputation as a hotel of quality, where service with courtesy to our patrons is the first consideration.

OUR FREE BUS MEETS ALL BOATS AND TRAINS
AUTOS FOR HIRE WITHOUT DRIVERS

doc. 135

Patrons will find the Dining Room Pleasing and Restful. The Service is a la Carte or Table d'Hote at Moderate Prices.



This map is drawn to scale from recorded city map of Seatt