

FRIENDS OF PLEISTOCENE GEOLOGY

GENERAL INFORMATION*

Ithaca, New York Meeting: May 27-28, 1950

Theme: Glacial Erosion and Associated Phenomena (in particular, Interglacial Developments) in a Special Situation.

Friday night Assembly: For those who arrive on Friday it is planned to have an informal get-together in the Rathskeller of the Statler Club.

Dinner and Breakfast: Friday night, Saturday morning and Sunday morning may be had in the Cafeteria in the basement of Willard Straight Hall. Those staying at the Statler Club can get meals there.

Saturday Field Trip: Start at 9 A.M. from parking area in rear of Statler Hall. Itinerary of trip, see enclosed sheets.

Lunch Saturday: If possible in the field. If members will provide themselves Saturday morning with a thermos bottle full of coffee, etc. the problem of fluid refreshment will be met.

Dinner Saturday Night: 7 P. M. Statler Club. Tickets, \$3.25, includes incidentals. Use enclosed postcard to make dinner reservations. An early return of the card will be helpful to insure adequate service. Get tickets Friday night or on Saturday at the Statler Club desk.

Thesis of After Dinner Discussion: There were two Pleistocene glacierizations, one interglacial stage between them. Other stages of the glacierizations were merely halts (though of long duration) in the dissipation or readvances of the Nebraskan-Kansan glacierization or of the Illinoian-Wisconsin glacierization.

Sunday Field Trip: Start 8:30 A. M. from parking area in rear of Statler Hall. Itinerary enclosed. Trip will end about 1 P. M. 35 miles northeast of Ithaca. If weather is fine it may be possible to have a field lunch at Tinker Falls where it is planned to end the meeting.

*The post card is not included for those who have said definitely they are not coming.

Friends of Pleistocene Geology

Ithaca, N. Y. Meeting, May 27, 28, 1950

Itinerary, Saturday, May 27, Field Trip

Topographic Maps: Ithaca, Watkins Glen, Waverly, Owego, Dryden, New York.

The route and stops are tentative as it will not be possible before this circular goes out to check on all points.

Start, 9 A. M. from rear of Statler Hall. Cross Cayuga Valley, through city to point where State Routes 96 and 79 fork. Assemble at fork. Proceed up Route 79.

Stop 1. Top of hill on Route 79. Portage escarpment of Appalachian Plateau. Concept of distributary basal ice flow. Hanging valleys. Glacially oversteepened slopes. Lake clay.

Stop 2. Beach of Lake Ithaca level of glacial high level lakes, 1000 foot elevation, outlet at 980 feet.

Proceed on Route 79 to Mecklenburg. Note enroute, stony till sheet on uplands.

Assemble at Mecklenburg for travel over secondary road, straight west, to near junction with Route 227.

Stop 3. Moraine ridge, marginal lobe from Cayuga Valley. Opposed marginal lobes ~~this~~ one from Cayuga (southwest of Reynoldsville, other, from Seneca, at Bennetsburg. Note ablation type upper, and ground moraine type, lower.

Stop 4. Just east of Bennetsburg. Here mass of Seneca lobe, marginal moraine. Here turn sharp left on secondary road for traverse of Texas Hollow a through valley. Projection of lobe crowded into head of this valley. Enroute note oversteepened valley sides. Only local drainage utilizes this large valley now.

Stop 5. Where secondary road crosses valley from west to east side. This the divide area, about 1280 feet, and apparently on rock. If so, this a through valley not as deeply ice-eroded as some.

Stop 6. Delta (gravel pit) near end of secondary road through Texas Hollow. Evidently built up in marginal lake ponded in south end of Texas Hollow by ice lobe projecting in from Seneca Valley. Marjelen See set up.

East on Route 224 out of Odessa to junction with Route 228, Assemble there and proceed on Route 228 to south end of Cayuta Lake.

Stop 7. Cayuta Lake outlet gorge. Perfect "grade." How eroded? Postglacial.

Retrace on Route 228. Note hill to left on east. Marginal lobe from main Seneca Valley lobe rested against this hill forcing the Cayuta Lake drainage across a series of secondary divides. This ice mass, perhaps stagnant, persisted long enough to permit the water erosion of the Cayuta outlet gorges.

Near Odessa turn left on Route 224, then left again on Route 13 for about $1\frac{1}{2}$ miles.

Stop 8. "Lost Gorge." Outlet, glacial, of Cayuta drainage diversion at close of ice age. Recency of development, Mankato stage? Characteristic channel. Delta? Dissection of Pony Hollow outwash gravels.

Proceed on Route 13 for about 1/2 mile, then right on cut off road to village of Cayuta, then, left, south on Route 224. Hanging valleys.

Note narrowing of valley about 3 miles south, where road crosses valley (narrowest point) then widening again.

Stop 9. Divide breached by glacially forced overflow drainage and ice erosion in pre-Wisconsin advance. Interglacial "gully" erosion of through valley sides. Mantling of gully sides by drift of latest Wisconsin advance.

Lunch in field if weather fine. Otherwise continue on Route 224 to Van Etten, there turn left on Route 34 and stop at Spencer for lunch. Shelter, and small restaurants.

Go north on Route 34, three miles, turn right on secondary road, about 1 1/2 miles.

Stop 10. "Valley Heads" moraine of Inlet Valley - Cayuga Lake ice lobe. Earliest high-level lake overflow (1040 feet); rock cut channel, miniature development of the Cayuta Lake type.

Return to Spencer.

Turn left on Route 223 to Candor.

Turn left at Candor on Route 96 for about 5 miles.

Beyond Wilseyville turn sharp right on secondary road.

Observe dry channel on left side of road.

Stop 11. Wilseyville outwash, ice contact on its north face. Here are in Six Mile through valley. Truncated spurs. Interglacial consequent valleys. Proceed through Brooktondale, Route 330, then left on Route 79.

Stop 12. Six Mile Valley varve deposits.

Proceed on secondary road, left, across South Hill.

Stop 13. Post glacial and interglacial consequent valleys. Gravel pit in high level delta.

Proceed to Buttermilk State Park. If Time permits.

Stop 14. Buttermilk interglacial gorge.

Stop 15. Interglacial gorge at Memorial Hospital Bridge.

Return to Statler Hall.

Itinerary, Sunday, May 28, Field Trip

Topographic Maps: Ithaca, Moravia, Harford, Cortland, Tully.

The route and stops are tentative as it will not be possible, before this circular goes out, to check on all points.

Start, 8:30 A. M. from rear of Statler Hall.

Proceed north on East Avenue (in front of Statler Hall) to traffic light. At traffic light sharp right on Route 392, one mile.

Stop 1. Stream superposed from glacial deposits, postglacial gorge. Meander core. Interglacial gorge.

Proceed to point just beyond bridge in Forest Home, turn sharp left, part way up hill.

Stop 2. Moraine cut. Transition moraine to lake clay, delta sands, to till, observe along road going north (Delta of Glacial Lake Newberry at cemetery, 900-920', overflow at Horseheads, N. Y. at 900'.)

Proceed to road intersection, turn right, 1 mile, turn right again, $1\frac{1}{2}$ miles; then in Forest Home again, turn left to intersection with Route 13, left on Route 13 to Varna.

Stop 3. Varna marginal lobe, Fall Creek, moraine loop. Ice contact face. This and marginal lobe moraines seen on Saturday are deposits of the Valley heads moraines stage. (Chamberlin's "Moraines of the Second Glacial Epoch.")

Proceed on Route 13 to Willow Glen (cemetery). Steep slopes to right are Portage Escarpment. At cemetery turn sharp left, secondary road to intersection at George Jr. Republic, turn right $3/4$ mile, then left $1\frac{1}{4}$ miles to intersection.

Stop 4. Freeville Kames. Rounding of resistant and of massive l.s. boulders.

Proceed right $1/2$ mile, then right again $1\frac{1}{2}$ miles, left 2 miles to Malloryville; right at Malloryville across Fall Creek and railroad, esker ridge on right, 1 mile, to

Stop 5. Malloryville Esker. Relation to Freeville Kames. Return to Malloryville, right 3 miles to Dryden, straight ahead on Route 38, then Route 221, left, to Harford.

Stop 6. Terrace, nature of?

Proceed south on Route 38 to Richford in Virgil Creek - Owego Creek through valley. Note progressive narrowing to Richford, narrowest point. Widens again to south. Turn left at Richford, up hill, Route 79 to

Stop 7. View of through valley. Proceed over Route 79 to Lisle, 15 miles. Middle part of this road along summit of Center Lisle esker (much modified by road location work). Stagnant ice lobe, projecting east from Virgil Creek - Owego Creek lobe?

Proceed left at Lisle over U.S. Route 11. 13 miles to point half way between Marathon and Messengerville.

Stop 8. Narrowest point on Tioughnioga through valley.

Proceed on U.S. 11 to intersection with Route 41, turn right to McGraw, left on secondary road and Route 91 to Truxton, north on 91 to Tinker Falls near Apulia.

Stop 9. Labrador Hollow through valley; Tinker Falls valley, interglacial consequent?

Lunch and disband.

North on Route 91 leads to U.S. 20 east or west, at Pompey.

VARVES AND RELATED DEPOSITS EXPOSED IN THE HIGH BANK
ABOVE THE SILT BASIN ON SIXMILE CREEK NEAR ITHACA, N.Y.

Key color:	?	TILL. In former years slides exposed 8' sorted sand and 5' weathered unvarved lake clay at top of bank, probably higher than till. Nature and relations of these deposits not clear.
White		
Yellow	40'	VARVED SILT AND CLAY; 4th series. Approx. 500 varves; show considerable variation in thickness, structure, color. Varves in several zones consist of thick layers of fine red clay and thin layers of gray silt, similar to some in 3rd series. In upper part of series are about 150 well developed varves with sharply demarcated summer and winter fractions; these varves decrease in thickness upward. Above them are 6' of much slidden varved clay.
Purple	1'	GRAY SAND, with some gravel. Contains fir wood and mosses. Color due to ferrous sulfide; turns brown upon exposure. Cross bedding indicates current from E or SE. Clay balls in sand derived by erosion of underlying clay; are dry inside although sand is wet.
Orange	6'	VARVED SILT AND CLAY; 3rd series. Approx. 100 varves. Some consist of thick layers of fine red clay and thin layers of gray silt marked with trails of small aquatic animals. Silt layers in these varves probably deposited by ancestral Sixmile Creek in spring; true summer component comprises greater portion of red clay layer; winter component consists of sharply demarcated uppermost portion of red clay which is finer and darker than that below. Source of clay probably red shales which outcrop some 45 and more miles to the north.
Light blue	4'	GRAVEL, cemented and stained by limonite. Deposited by ancestral Sixmile Creek.
Red	6'	VARVED SILT AND CLAY; 2nd series. Approx. 90 varves. Cross bedding in silt indicates current from E or SE.
Dark blue	5'	GRAVEL, cemented and stained by limonite. Deposited by ancestral Sixmile Creek.
Brown	0-2'	VARVED SILT AND CLAY; 1st series. Up to approx. 100 varves here; more than 330 upstream where this series occurs under and along creek for $\frac{1}{4}$ mile and attains thickness of 13'. Lowest varves thin; thickness increases upward, chiefly by increase in winter-layer thickness. Strikingly high proportion of ice-rafted Medina sandstone pebbles in clay. Elevation of series approx. 720'. Varves overlain by till $\frac{1}{4}$ mile upstream. Varves probably deposited during ice advance, in Lake similar to Lake Vanuxem or Lake Warren.
Green	3"	PLANT REMAINS in silt and sand. Matted mosses, small leaves, rootlets, twigs, occasional beetle elytra. Probably a soil. In places is overlain by thin layer of sand and gravel, possibly a shore deposit.
Black	16'	TILL. Majority of pebbles rounded; probably glacially reworked stream gravel. Contains zones of what appears to be glacially reworked lake clay.



Bibliography

The Paleozoic Stratigraphy of New York, XVI International Geological Congress, Guidebook 4, Excursion A-4.

This can be had for 20¢ cash with order from the Geological Society of America, 419 W. 117th Street, New York 27, New York. It contains a concise account of the general and glacial geology of the area and a bibliography of significant items in the older literature.

Carney, F., Pleistocene geology of the Moravia quadrangle, N. Y., Denison University, Scientific Laboratories, Bulletin 14, pages 335-442, map, 1909.

Fairchild, H. L. Cayuga Valley lake history, Geol. Soc. Amer. Bull. Vol. 45, No. 2, pages 233-280, April, 1934.

MacClintock, P. and Apfel, E. T. Correlation of the drifts of the Salamanca reentrant, New York, Geol. Soc. Amer. Bull. Vol. 55, No. 10, pages 1143-1164, October, 1944.

Engeln, O. D. von, Glacial diversion of drainage, Association of American Geographers, Annals, Vol. 35, No. 3, pages 79-119, September, 1945.

Wold, J. S., Interglacial consequent valleys of central New York, Amer. Jour. Science, Vol. 240, No. 9, pages 617-626, September, 1942.

Schmidt, V., Boulders of interglacial conglomerate, Amer. Jour. Science, Vol. 245, No. 2, pages 127-133, February, 1947.

Friends of Pleistocene Geology
Ithaca, New York

May 27-28, 1950

Presence Confirmed by Card

Professor R. F. Flint and Mrs. Flint	Yale University
Professor E. T. Apfel	Syracuse University
Mr. G. Crowl	{ Princeton University
Professor G. H. Crowl	{ Ohio Wesleyan University
Dr. E. S. Deevey, Jr.	Yale University
Professor A. Dreimanis	University of Western Ontario
Mr. J. A. Elson	Yale University
Mr. H. G. Ignatius	Yale University
Mr. J. B. Graham	U. S. G. S.
Mr. J. T. Hack	U. S. G. S.
Mr. M. E. Johnson	State Geological Survey, N. J.
Professor J. B. Lucke	University of Connecticut
Professor P. MacClintock	Princeton University
Mr. H. Masursky	Yale University
Mr. J. D. Mollard	Geological Survey Saskatchewan, Canada
Professor J. H. Moss	Franklin & Marshall College
Professor V. E. Schmidt	State Teachers College Brockport, New York
Mr. J. P. Shafer and Mrs. Shafer	Brown University
Professor H. S. Sharp and Mrs. Sharp	Barnard College
Professor S. E. White	Syracuse University
Mr. K. Widmer	Princeton University
Mr. P. Wolf	Princeton University
Professor J. D. Burfoot, Jr. and Mrs. Burfoot	Cornell University
Mr. T. C. Chisnell	Cornell University
Professor W. S. Cole	Cornell University
Professor O. D. von Engeln and Mrs. von Engeln	Cornell University

Planned to Come but Attendance not Confirmed by Card

Professor H. Johnson and Mrs. Johnson	Rutgers University
Dr. J. H. C. Martens	Rutgers University
Professor L. W. Ploger	Syracuse University
Professor D. P. Putnam	University of Toronto
Dr. H. G. Richards	Academy of Natural Sciences Philadelphia
Mr. J. H. Smith	U. S. G. S.
Dr. A. L. Washburn and Mrs. Washburn	Arctic Institute of North America
Mr. A. K. Watt and Mrs. Watt	Department of Mines, Ontario
Mr. A. G. Whitney	New York State Museum

FRIENDS OF PLEISTOCENE GEOLOGY

Ithaca, New York Meeting, May 27-28, 1950

Information in Regard to Rooms

Headquarters for the meeting will be the Statler Club, Statler Hall, Cornell University Campus, where, in all probability, the Saturday night dinner will be held.

The Statler Club has 36 rooms, all with baths, radio, luxurious furnishings, is all new. (Address: Statler Hall, Cornell University, Ithaca, New York).

Their rates for single rooms are, \$6.00, \$7.00, \$8.00 and \$9.00.

Double rooms \$9.50 to \$15.00

However, many of the single rooms, over \$6.00 can have twin beds, and even a third bed for an additional \$2.50. Thus a \$9.00 room for 3 would be \$3.85 each or an \$8.00 single room, occupied by two would be \$4.00 each.

Willard Straight Hall (Student Union), also on the campus, one block distant from the Statler Club. (Address: Willard Straight Hall, Cornell University, Ithaca, New York).

4 single rooms, running water,	\$3.50
12 double rooms, running water,	\$4.50
2 double in suite, sharing bath,	\$6.00 each
1 double, private bath	\$6.00

There is also a dormitory accommodating 25, beds at \$1.50 each. This, however, will only be available if no group of 15 or more has reserved it in advance. Parking Place for cars behind each of these halls.

Downtown Hotels, about one mile from campus. Ithaca Hotel, State and Tioga Streets.

Single, with running water	\$3.00
Single, with bath	\$4.00
Double, with double bed, running water	\$5.00
Double, with twin beds, running water	\$6.00
Double, with double bed, bath	\$7.00
Double, with twin beds, bath	\$8.00

Clinton Hotel, Cayuga and Seneca Streets

Single, with running water	\$2.75
Single, with bath	\$4.00
Double, with running water, double bed	\$4.50
Double, with running water, twin beds	\$5.00
Double, with double bed, with bath	\$6.00
Double, with twin beds, with bath	\$7.00

Snyder's Tourist Home (Mrs. Stephenson) 314 N. Aurora Street (near hotels, above) has a number of rooms with running water, baths in halls, at \$2.00 per person per night. Can accommodate considerable number.

There are also other tourist homes on streets near the campus, but as a rule they can take only two or three people. If such accommodations are sought it will be well to arrive early and make arrangements with the proprietors.

In view of the wide range in price and nature of accommodations Friends will please make their own reservations. When writing to the Statler Club or Willard Straight Hall refer to Friends of Pleistocene Geology, when writing to the hotels or the tourist home refer to O. D. von Engeln. Although tentative reservations have been made at all these places it will be well to write early.

This circular is sent out in advance of the final notice, with details, which will be sent early in May.

There is enclosed also a marked map of the campus, a bibliography of pertinent references.

At this writing some 40 Friends, including four or five wives, have indicated definite intentions to participate and about five more hope to make it.

Please read all above carefully and check items significant for your further attention and action.

O. D. von Engeln

April 18, 1950