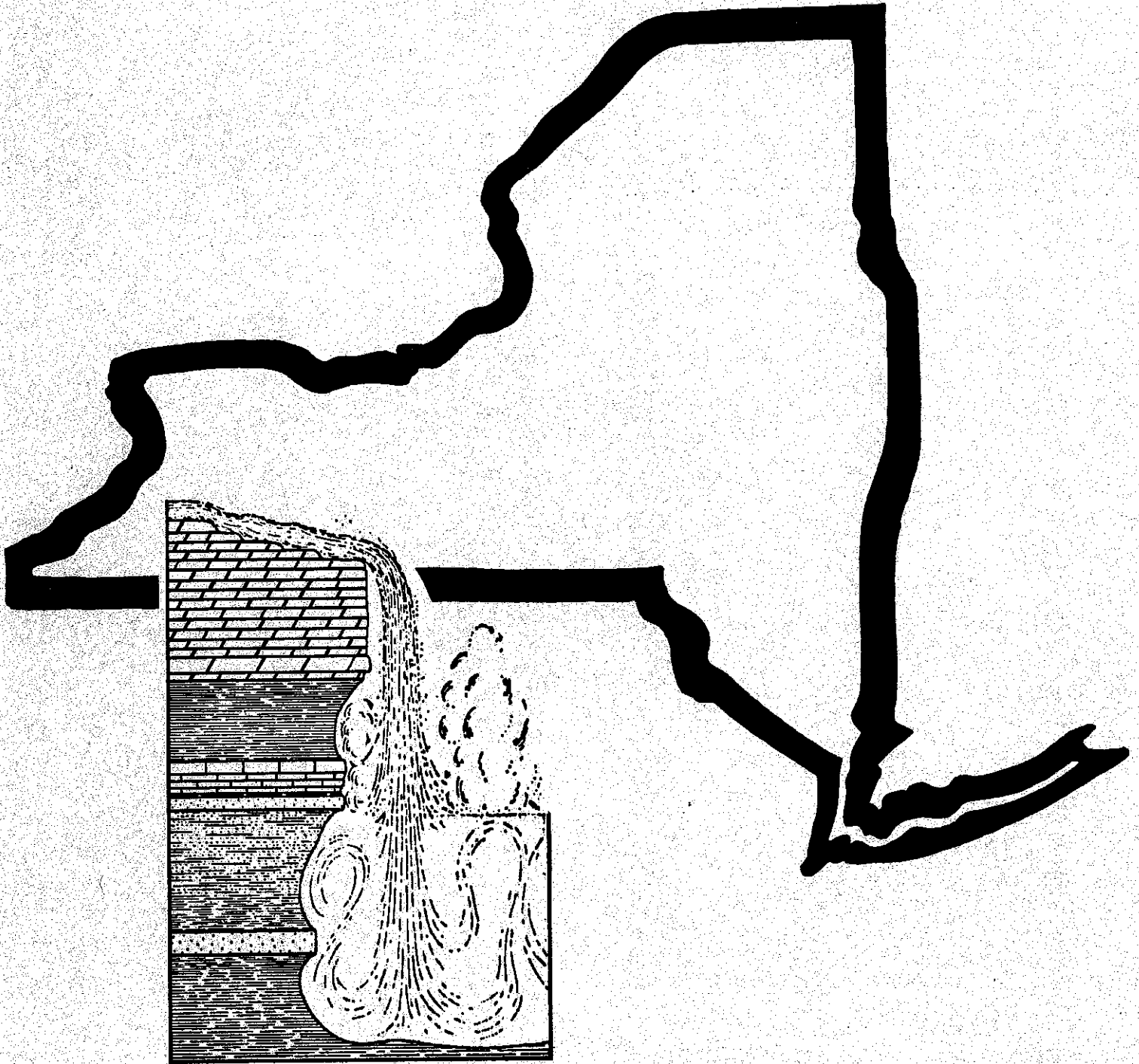


RKFalmestock

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NEW YORK GLACIOGRAM



DEPARTMENT OF GEOLOGICAL SCIENCES

State University of New York at Buffalo
Buffalo, New York 14207

EDITORIAL POLICY

The Glaciogram is intended to be a collection of informal notes concentrated on Quaternary work relating to New York either directly or indirectly. It is not a formal publication and is not circulated to libraries nor to individuals not engaged in Quaternary research. The information included is often of a preliminary and tentative nature and as such should generally not be quoted and certainly not without communication with appropriate authors. One of the charter contributors (Muller, v.6, (1)) has suggested that reference to information in the Glaciogram be identified merely as informal communication; we agree with this idea.

Parker Calkin and Gordon Connally

Parker E. Calkin

The early part of the summer vacation period was spent by Gordon Connally and I getting ready and going to southwestern Mexico with a UB archaeology field group. Although the glacial deposits are hard to locate there on the coast, I did find that a study of contemporary beaches and Holocene beach ridges rewarding considering my Pleistocene beach ridge work in western New York.

I am still in the process of assembling data on the Pleistocene stratigraphy of the Buffalo-Erie County area, and will put another full summer in this coming year. A great many well boring have been made by construction firms in Buffalo in the last few years and some interesting relations are coming to light. The loading-compaction data derived from the engineering tests are particularly helpful in distinguishing flow or ice shelf tills which in this area may overlie the normal lodgement tills. I am off now for INQUA with others and also hopefully a month in the ice-free valleys of Antarctica.

Donald R. Coates

These past several months have been filled with a variety of activities. I have been organizing the program for our Fifth Annual Geomorphology Symposium. It will be held September 27-28, 1974 and the topic is Glacial Geomorphology, so I hope that you will all put this event on your calendar immediately. I have assembled what I believe is the best alignment of speakers yet, so am proud to list them for you: Robert Black, Geoffrey Boulton, Parker Calkin and Gordon Connally, Lee Clayton, Rhodes Fairbridge, Dick Goldthwait, Cuchlaine A.M. King, Carl Koteff, Robert LaFleur, Robert Legget, Brainerd Mears, John Moss, Ernest Muller, and George White. I am particularly happy with the geographic range of the speakers and the topics they have selected. The symposium should be a memorable event. I am adding one wrinkle this year...the proceedings volume will be published in time for distribution at the meeting. I recognize there are disadvantages to this procedure, but feel that the rapidity of publication will overbalance any negative effect.

Much of my own glacial work has been the extension of my ideas on this region which I will present at the symposium entitled "A Reappraisal of the Glaciated Appalachian Plateau". I wish to solicit your suggestions concerning the type of material you feel should be covered in such a talk. Furthermore, if you have some rather recent ideas, comments, and/or research that you would like to share on the region I would be delighted to know about it. I don't want to overlook any bets. Most of my consulting work has been in the area of applied glacial geology...such as making D.O.T. reports on sand and gravel pits, and N.Y.S. Attorney General reports on surface deposit resources in condemnation cases.

Other activities include:

1. Work on our Sea Grant project (sponsored by NOAA) doing environmental geomorphology in the coastal corridor of southern Long Island. We have four graduate students doing theses in addition to the individual work that is being done by Marie Morisawa and myself.

2. Writing and editing a book on urban geomorphology.

3. Editing and publishing a series of six booklets on environmental science which resulted from some of my NSF institutes

George H. Cowl

I spent the summer remapping the Late Wisconsinan border in Pennsylvania from Benton, on Fishing Creek, to a point east of Trout Run and north of Williamsport. Hopefully, the final maps will be compiled this winter. The border is essentially as Leverett generalized it nearly 40 years ago, but with much more detail. Early Wisconsinan drift lies in front of this border northwest of Benton, and from Huntersville west to the present limits of mapping

James F. Davis

James F. Davis and Robert J. Dineen have completed a bedrock topography map for the Hudson-Champlain Valleys from Crown Point to Coxsackie at 1:62,500, based on field mapping at 1:24,000. This data points to a general southward drainage of the entire Lake George Basin during preglacial time. Several very narrow and deep gorges connect the Champlain and Hudson Basins near Fort Ann. We are presently working on a manuscript that will hopefully be available by late summer, 1974.

Kernan Davis

Reflecting upon our work of recent years, I note that we have shifted our attention from broad, regional, general appraisals of land and water resource development potentialities, to explorations of specific watersheds, valley reaches and sites. Our approach used to be characterized as broad brush; now it is fine toothed. By narrowing the field of interest, we have by no means simplified the geological problems. There is no economy of scale.

Fred Van Alstyne and I are now investigating geologic conditions, in detail, at places a few acres in size: landfill sites, ground-water pollution sites, subdivisions, damsites, building sites.

Our work used to be incorporated anonymously into planning and engineering documents which had some limited distribution. Now our work is unpublished, for in-house use; yet it is no less interesting. The shift has been from planning to enforcement.

In some cases the geology of a site is the key to its environmental impact. And that key often turns on the knowledge of the overburden; the subsoil; the unconsolidated material; the glacial debris.

Looking toward the future, I see an increasing market for detailed geotechnical data about areas undergoing development or treatment. When planning class projects or research areas, I suggest faculty to point their students toward the kind of work mentioned above.

Robert Dineen

I've found several buried glacial features near Albany below Lake Albany clays:

- 1) a buried kame terrace under the south lobe of the Schenectady Delta;
- 2) a buried drumlin field between Albany and Guilterland. The orientation of the field is north-south;
- 3) a buried east-west till ridge between Albany and Mckownville.

In addition, I've found an almost continuous thin blanket of outwash that underlies the lacustrine sequence between Albany and Rarena. The outwash generally is one to ten feet thick and overlies rock.

I'm publishing a report on the Pine Bush area of Albany County by January. It discusses the subsurface and surface glacial geology and its environmental implications.

Rhodes Fairbridge

1. Have just finished a first draft on "Glacial grooves and periglacial features of the Saha ran Ordovician" for Don Coates' Fall, 1974, Symposium on Glacial Geomorphology. The Ordovician material offers evidence of ice advance over permafrosted (? permafrozen) continental shelf sands.

2. Likewise recently completed is a paper on "The Pleistocene/Holocene boundary" due to be presented at INQUA X in New Zealand in December, 1973. The detailed analyses of the proposed stratotype at Gothenburg, Sweden, are being published by N.A. Morner. His discovery of a magnetic reversal a few meters below the boundary (the coldwater/warmwater faunal break around 10,000 BP) has been confirmed by Clark & Kennett (1973, Earth & Planet. Sci. Let. 19, p. 267). Anyone who has a fine-grained sequence in the suspected time range 12,500-17,000 BP should get a magnetic study. Dr. George Kukla at Lamont Observatory (Columbia University) would probably do it for you.

Richard Goldthwait*

From the glacial and glaciological evidence I am trying to concoct the "climates of the past on Mr. Washington", viz: cooling at mountain glacier time and in late Wisconsin Neoglacial (groundfrost forms) with a probable (pollen) warming in Hypithermal. Marc Hoyer is still defining the glacial conditions which led to blocking Teays Valley and a long-lived L. Tight more than 600,000 years ago. Mike Quinn is getting the early Late Wisconsin (Boston Drift) at 21,300 and other complications of the Wisconsin maximum advance outlined in Ross County, Ohio.

*Dick Goldthwait is off in New Zealand this semester and this contribution was one which came in late last spring. Eds.

Garrett G. Hollands

I have been unable to continue working in the Pleistocene geology of southern Erie County, western New York. As Chief, Geology Section of Ecosystems, Division of Jason M. Cortell and Associates of Wellseley Hills, Massachusetts my time has been spent investigating environmental problems in many different parts of the country. Ecosystems is a multi-disciplinary group specializing in natural resource planning and environmental studies. We employ a staff of ecologists, planners, botanists, wildlife specialists, aquatic and marine biologists, geologists, analysts. The major thrust of this team is the preparation of two basic reports, Environmental Assessment Reports and Environmental Impact Statements.

Our work has been centered in Massachusetts but we have also worked throughout New England as well as in New York, New Jersey, Delaware, Maryland, Florida, Wisconsin, Utah, California and Paris, France. In the majority of these areas Pleistocene geology has played a very important role in understanding the ecosystems of the project site. In New York, glacial geology has been important in planning development in Rhinebeck, Breakabeen (in the Schoharie Valley), Mt. Kisco, and Eldred. In all of these areas large scale surficial geologic maps were made of the development site.

None of the New York sites have provided as interesting geology as was found in Wisconsin and Utah. In the vicinity of Appleton, Wisconsin a detailed investigation of the subsurface Pleistocene stratigraphy was conducted for a one square mile site. A total of 14 test holes dug 10 feet deep with a backhoe were used to examine lacustrine sediments of late Lake Oshkosh (Thwaites, 1943) and the underlying Valderan till. In addition, 5 rotary wash borings penetrating over 60 feet of Pleistocene sediments were drilled and sampled every 2.5 feet. The stratigraphy encountered consisted of Paleozoic bedrock, late Woodfordian till, early Lake Oshkosh sediments, Twocreekan forest beds, Valderan till and late Lake Oshkosh sediments. The Twocreekan forest beds were sampled and a ¹⁴C date obtained, 15,130-600 ¹⁴C years BP (GX2937)!! This is approximately

3,000 years too old to be consistent with the numerous other dates of Twocreekan deposits of the area. Since the date was obtained 26 borings were conducted by the foundation engineer and correlated using the stratigraphy of Thwaites. Additional wood samples were obtained and are being stored, awaiting funds for dating.

We have also been working in the glaciated canyon of Little Cottonwood Creek in the Wasatch Front south of Salt Lake City, Utah. Excavation of building sites for a ski resort has exposed an interesting stratigraphy containing thick deposits (15-20 feet) of buried forest beds and till. The origin of these deposits is not yet understood but I expect to examine them in detail and obtain dates of necessary.

I am continuing to gather data concerning boulder concentrations in southern New England. I am particularly interested in linear boulder concentrations in Upper Till, but not those associated with boulder moraines, such as the Ledyard moraine of southeastern Connecticut.

Investigations in northwestern New Jersey indicate that relic block fields or rock glaciers exists on the east-facing side of Netcong Mountain, north of Flanders, New Jersey. This is approximately one mile south of the Wisconsin terminal moraine.

We are all concerned with the problem of determining to whom we are writing geologic reports and at what level of detail they should be written. It is easy to say that one should write so that the layman can understand and use geology to solve environmental problems. But, is the layman capable of solving complex geologic problems which are closely interrelated to complex ecologic elements of soil, water, vegetation and wildlife, particularly when he is supplied with watered down geology? I am continuously encountering geologic reports written by geologists, soil scientists, and engineers which are nothing but eye-wash designed to meet the requirements of existing environmental law. I do not condone this act but can understand why it occurs. Just as bad are the numerous publications coming out of government agencies and universities, written for the layman, and by doing so simplifying environmental geologic factors until they are of little use in either understanding or solving environmental problems. I cast my vote for spending of the tax payers' money first for detailed geologic reports written primarily for other geologist, from which reports designed for use of the layman can be extracted.

One of our biggest environmental problems is the lack of basic data. One of the most important items of basic data is the surficial geologic map. It has been my experience that the most useful surficial geologic map is one which maps surficial units by genesis. Sequence mapping alone is too historically oriented and materials mapping too generalized to solve environmental site-specific problems. Like many others I find it great fun chasing moraines across the state, sliding ice sheets back and forth, damming and draining numerous

proglacial lakes. While this in the long run will contribute to our knowledge of the geologic history of New York and ultimately its environmental problems it falls far short of the benefits to be gained from producing surficial quadrangle maps as a basic data source. It is suggested that the Pleistocene geologic community of New York begin concentrating its efforts towards building its basic data bank of surficial geologic information. This may also make some of the arm waving more believable!

I agree.
- Steve
K.

Paul Karrow

I spent summer 1973 mapping the St. Mary's area, southwestern Ontario, for the Ontario Division of Mines. West to the Mitchell moraine the same sequence of Port Bruce Stadial (Cary) tills occurs as previously described in the Stratford-Conestogo area. Catfish Creek Till (Nissouri Stadial, or Tazewell) outcrops in the same area along valley walls. From the Mitchell moraine westward fine-grained Huron lobe till is the surface till with no indication of older tills. The Port Huron moraine and the Whittlesey beach are just to the west of the area, so it appears that during the Port Bruce Stadial the ice was particularly unstable and fluctuated numerous times.

Drilling to rock with continuous split-spoon sampling at the Glen Allan interstadial site (Cl4 > 39,000, presumed Port Talbot equivalent) indicates that one pre-Catfish Creek till overlies the interstadial silts and two underlie it. Another hole southwest of Stratford last year encountered 20 feet of fossiliferous sediment under Catfish Creek Till. These, together with interstadial deposits near Woodstock and Georgian Bay discovered recently by Ont. Div. of Mines field parties suggest wide-spread occurrences of Port Talbot Interstadial deposits in southwestern Ontario.

A publication of mine of probable interest to New York appeared in the Proceedings of the Geol. Assoc. of Can. v. 25, p. 67-77: "Bedrock topography in southwestern Ontario: A progress Report".

O. T. Maide

The summer field season was busy as ever this year. Our engineering group used glacial history to help outline several buried bedrock channels for test drilling in projects involving the development of ground-water supplies. They were aided by new, high-gain seismic equipment and IBM 360 data compilation and printout of continuous subsurface profiles; the software was worked out here at DGC.

The aggregates group continues with exploration and evaluation of sand and gravel deposits in New York, drawing heavily on principles of glacial geology. Another project, in the Connecticut river valley.

involves the establishment of conditions leading to the deposition of poor quality claystone contaminants in otherwise excellent quality gravels. It is reminiscent of the Binghamton-area bright pebbles vs. dull pebbles problem. We are also working with offshore recent and Pleistocene sand and gravel analysis.

Hank Bailey, Ted Clark, and John Hellert have joined us recently, bringing with them a geographical diversity of fresh thoughts and ideas relating to the glacial geology of New York.

* * * * *

Ernest H. Muller

Last summer was largely devoted to field work toward compilation of the western part of the Quaternary Geology Map of New York (1:250,000) in preparation by the New York Geological Survey. With the Niagara sheet now essentially complete, my field work was focussed on the quadrangles northwest of Syracuse.

Somehow I missed the mastodon (or was it a mammoth?) whose remains turned up on the Pirillo Celery Farm near Marion (Wayne County, between Newark and Williamson). The find was to be investigated by Ed Riley and Don Fisher of the New York State Museum, so hopefully further details will be published in due course.

Although my compilation of the Niagara sheet (1:250,000) is nearly complete, there is much room and still time for improvement. Even a day in the field with Bernie Feenstra and his colleagues in the St. Catherines area failed to eliminate the boundary discontinuity between lake clay mapped west of the Niagara River and clay till mapped on Grand Island and in New York east of the river. Bernie has done a superior job of mapping the Niagara and Welland areas of the Niagara Peninsula (Ontario Div. of Mines Preliminary Maps 764 and 796) and is working now in the Dunnville map area.

In May I spent a week in the Schobergruppe, Osttirol, Austria with Henry Posamentier, a graduate student on his second season of Fulbright-supported dissertation research. It was pleasant also to lead the Syracuse University Geology Field Course again during their time in Iceland, including a visit to Heimaey while the new volcano, Eldfjall ("Fire Mountain") was still spreading lava and ash into the fishing village of Vestmannaey jar.

Since my introduction to Icelandic hlaups (glacier bursts), I have been on the lookout for evidence of similar catastrophic discharge associated with some of the meltwater channels along the plateau margin in New York draining eastward toward the Mohawk Valley. Cyclopean gravels and bed forms indicative of such glacier bursts have begun to turn up in encouraging fashion. At Jane Forsyth's instigation I tied some of these observations together for the first ILEO (Interlakes Eastward Outlets) working conference and benefitted greatly from the interest, suggestions and probing questions of Parker, Gordon, Jane, Charles Rich, Bryce Hand and Don Woodrow, as well as Dave Fullerton who though unable to join us contributed wholeheartedly by mail.

For the past two years our local "disappearing lake" in Cedarvale Channel, southeast of Marcellus, has persisted longer and covered a larger area than ever before recorded. Nearly a kilometer long at maximum, it has flooded into the adjacent town landfill operation, and over the road. In previous years drainage through three swallow holes in the lake floor into joint-controlled channels in the Onondaga Limestone has been complete by early summer, but for the past two years the lake has persisted well into August.

If all goes well, I hope to leave Syracuse November 24th for INQUA. My paper involves some thoughts on the occurrence of particularly bouldery till during late stages of waning glacial hemicycles. I expect to be working out of the University of Canterbury in Christchurch for the following nine months, returning to Syracuse by September, 1974.

B.E. Raemsch

Early Man tools in ancient soils near Cobleskill.

In recent archaeological investigations we have been making near Cobleskill, New York, it has been increasingly apparent that a pre-Wisconsinan paleosol dating as far back as the Sangamon interglacial is present, as identified in field observations through trenching operations, laboratory analysis of soil constituents and the presence of flake tool industries not common to post-Wisconsinan field sites previously worked.

The paleosol is characterized by the presence of a weathering profile overlain by a till sheet of unknown age (but probably dating to the Wisconsin period). Horizons comparable in character to the A and B horizons of Hunt's description (1972, p. 167, & p. 197 ff.) and one horizon chemically and structurally resembling Kay's and Pearce's gumbotil (1920) have been isolated. The upper part of the ancient soil profile, believed to be Sangamon, has been almost completely decapitated but in one region where its lower part is still in tact, the remaining part is eluviated or leached and oxidized to a chocolate brown and has been shown by chemical analysis to contain the expected proportions of weathering products characteristic of gumbotil that has not been deoxidized. Chemical analysis is as follows:

| | | | | | |
|--------------------------------|---------|-----|-----|---------|-------|
| SiO ₂ | average | 70% | CaO | average | 1.90% |
| Al ₂ O ₃ | " | 9% | MgO | " | 1.20% |
| Fe ₂ O ₃ | " | 12% | | | |

Spectrographic scanning indicated the eluviated clay contained nothing else but the above compounds plus traces of titanium and manganese.

Also notable was the presence of decayed rock that could be carved with a knife or trowel (Kay; and Flint, 1957) but which still could be seen in outline as possessing original shape. Such stones, so far, have proven to be (or seem to have been) small stones rather than large boulders as described by Kay.

Perhaps most noteworthy is the prevalence of flake stone tools and especially projectile points not characteristic of post-Wisconsinan stone industries, most, if not all of which, have patinas suggesting varying degrees of weathering also.

The artifacts in the deeper clay deposits worked, where erosion has decapitated the eluviated and oxidized clays, are related typologically to the Acheulean and Mousterian stone culture traditions of the Old World and geologists (1) who have worked there have told me (through friends) of the striking resemblance to tools they have found deriving from both South Africa (Lester King of Durban) and Spain.

We have just started doing deep cores of the sediments in the region and samples are being analyzed in the Department of Geology at Dickinson College under the direction of William Vernon, who is chairman there. Bedrock was found at about 185 feet and samples indicate, so far, that two additional leached soils (apparently tills) are present, one 8.2 meters and the other at 51.8 meters (five meters above bedrock).

The preliminary results were reported, through a paper, at the IXth International Congress of Anthropological and Ethnological Sciences in Chicago in early September and are to be published in the spring or summer of 1974 by Mouton Publishing Company, The Hague, Netherlands, in a series of volumes titled, World Anthropology.

V. E. Schmidt

Do you know of Paleozoic or younger tillite in, or near, New York State?

This fall I found four specimens of what seems to be tillite (one small boulder, two cobbles, and a pebble) in Ingersoll's gravel pit south of T. 104, 5 1/2 miles east of Brockport. In 1971 I discovered a pebble of somewhat similar material at the same locality. All five specimens were lying loose in an area where till and bedrock (Queenston formation) had been uncovered beneath meltwater-deposited sand and gravel.

The first-found pebble, much less weathered than the other specimens, shows striae on its surface--particularly on the exposed surface of an included pebble of limestone. One cobble likewise shows striae on the exposed surface of an included limestone pebble. The rest of this cobble, as well as the other three specimens, are too weathered to preserve striae on their surfaces.

Preliminary examination shows the tillite(?) to consist of clasts of various lithologies mostly angular and up to 7 cm across, within a matrix containing a considerable variety of rock particles. The entire assemblage is thoroughly cemented, apparently chiefly by calcium carbonate. Four of the specimens show indications of weathering throughout; the first-found pebble, however, appears fresh except for a weathered rind averaging about 5 mm thick. In addition, the boulder has a much-weathered rind, approximately 2-3 cm thick, soft and porous, and rusty brown in color. This rind is similar to the weathering rinds which are common on dolomite clasts in meltwater gravels in central New York, suggesting that there is much dolomite in the matrix of the tillite(?).

The larger clasts within the tillite(?) include fossiliferous limestone (Ordovician?), dolomite, sandstone (Potsdam?), marble containing graphite (Grenville?), granite, gneiss, serpentinized dunite or peridotite, and other crystallines. Some show obvious weathering rinds. There seems to be no red sandstone, siltstone, or shale of the Queenston formation, as would be expected if the specimens of the tillite(?) had been derived from a source south of Lake Ontario. On the other hand, fragments and particles from the Queenston formation are very abundant in the till from which the specimens undoubtedly came.

The following hypothesis is proposed: The specimens consist of tillite formed by cementation of till of an earlier Pleistocene glaciation, probably pre-Wisconsinan. The cementation took place during an interglacial stage, within an area located between the northerly limit of the Queenston formation (roughly the south shore of Lake Ontario) and the northerly limit of the Paleozoic sedimentaries south of the Canadian shield. Later, during the latest glaciation of this area, some or all of the tillite was eroded and transported, and fragments were deposited in till at the locality where the specimens were found.

If you are aware of such tillite(?), in place or as clasts, I should greatly appreciate information concerning it. Thank you.

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Les Sirkin and Bob Stuckenrath

Wisconsinan Stratigraphy, Long Island

Work proceeds on the pollen stratigraphy, radiocarbon dating, till fabrics, sedimentology, micropaleontology, etc., of the "stacked" Wisconsinan section at Port Washington, Long Island. The eight lenses of peat, clay and oyster reef stacked in the outwash between the Montauk (?) drift and the Roslyn till have provided more than ample wood, shell, peat, pollen, forams, etc., for study. Thus far, a number of radiocarbon ages indicate a Farmdalian age for the interstadial deposits and a Woodfordian age for the last glaciation. Pollen analysis shows a significant cooling trend during deposition of the peats, which represent both fresh and salt marsh deposition. However, the interstadial was warm enough to permit oysters to grow in Long Island Sound, although the local level of the sea at that time has not been established.

Lacking additional evidence, the glaciation responsible for the Montauk (?) drift may be Altonian (or early Wisconsinan) in age. In any case, it is apparent that two glaciations separated by a significant warm interval affected this region, and the best evidence to date indicates that both occurred during the Wisconsinan.

B.A. Sreenivasa

THE CHIRONOMID AND CHAOBORUS FAUNAS FROM PLEISTOCENE INTERGLACIAL BEDS AT TORONTO, ONTARIO

The Pleistocene interglacial beds at Toronto, Ontario, have been studied for the remains of plants and animals by several investigators. Although the Don Beds were deposited in a freshwater lake or river estuary, the remains of midges characteristic of such aquatic sediments, have not been investigated so far. During the summer of 1973, as suggested by Dr. Karrow, 53 samples collected earlier over the entire profile of the beds, have been analysed for the midge remains. Presently they are being studied in the Department of Earth Sciences at the Waterloo University. It is expected that the complete data will be available and ready for publication at the end of this year. The midge remains represented in these beds include several taxa of the subfamilies: Chironominae, Tanypodinae and Orthocladiinae and two species of the genus Chaoborus in the Chaoboridae.

David P. Stewart

I have been working on environmental problems in Vermont for the past four summers. Two reports on geology for environmental planning are already off the press. The third report on the Burlington-Middlebury region will be off the press next month. I spent last summer in St. Albans and a report on that region will keep me occupied all winter. Frank Wright joined the crew last summer and worked the Johnson-Troy region. Incidentally, the area I worked last summer included the Mt. Mansfield Quadrangle.

What we are doing, as you probably know, is trying to explain the geology (chiefly the surficial deposits) so that it can be used for planning. Whether or not they are used for that purpose remains to be seen.

George W. White

George W. White of the University of Illinois, Urbana, and Stanley M. Totten of Hanover College, Hanover, Indiana, spent the Summer of 1973 in the field in eastern Ohio. They revised and updated their manuscript

maps for Columbiana County and Mahoning County. They are now completing the two maps and the accompanying texts, to be published as bulletins by the Geological Survey of Ohio. Presence in the surface and in the subsurface of the five tills was confirmed. The report will stress not only morphology and stratigraphy, but also the application of these parameters to engineering, planning, water supply and waste disposal.

George W. White

"A New Heresy"

While in London recently, George White had a long conference with Geoffrey Kellaway of the British Geological Survey to hear about Kellaway's proposal for extending by 60 miles or more the limit of early glaciation in southern England (Read Kellaway's paper -- Nature, Sept. 3, 1971). Horrifying -- this means the sarsens and the other stones of Stonehenge are erratics! Will this be another case of today's heresay becoming tomorrow's orthodoxy? Don't sneer; remember the case of continental drift.

Richard A. Young

Preliminary investigations of the surficial and subsurface geology of the Genesee Valley between Dansville and Avon, New York, indicate that the Port Huron ice advance may be recorded in the Genesee Valley between Genesee and Avon, New York.

Thick lacustrine clays in the Genesee Valley recorded in well logs between Dansville and Genesee (minimum thickness 180 feet) may represent deposition in a lake dammed by the thick till filling between Genesee and Avon. Seventy feet of till are exposed above varves north of Genesee which indicates a readvance that filled the valley for a distance of 4 to 5 miles.

If the date on peat in a kettle in front of the Valley Heads moraine near Dansville (Approx. 15,300 B.P.; Dr. Gehris, Department of Biological Sciences, SUNY, Brockport, reported verbally) is a true indication of the age of the Valley Heads moraine, it appears that the Hamburg-Batavia-Victor moraine may correlate with the Port Huron Advance. At that time the ice front must have extended as a minor lobe into the Genesee Valley.

Termination of the ice front in a lake in that region would account for the lack of obvious morphologic continuity of the Hamburg moraine across the Genesee Valley. In addition, thick outwash deposits of slightly younger ages in the Genesee Valley west of Avon, N.Y., have obscured the primary ice-contact depositional features observable to the east and west.

This sequence of events would also help to explain the high-level river terraces (circa 4000 B.P.) near Geneseo being excavated by Wendell D. Rhodes, Department of Anthropology, Geneseo. Draining of the lake south of the morainal dam was apparently followed by fluvial aggradation and terracing until the Genesee River cut down through the morainal plug.

We are currently awaiting the results of radiocarbon age determinations on material from the lacustrine deposits beneath the Genesee Valley floodplain.

* * * * *

Jane Forsyth

After a tour of Scandinavia this summer came a very exciting three-day field trip in central New York, led by Ernie Muller, Parker Calkin, and Gordon Connally, where deep ice-marginal channels and immensely coarse gravels, created by escaping late-glacial lake waters provided evidence for the routes and catastrophic nature of the "great flood" from Lake Erie, when ice recession finally permitted overflow eastward, over the isostatically low Niagara sill.

A new, very small university grant has been received to support investigation of the physical (geological) conditions in northwest Wood County relative to the distribution of the wet prairies that were there prehistorically. In addition, work still continues on the ice-marginal lakes in western Ohio (near Lima).

* * * * *

E. D. Frey

Frey is studying Precambrian clast lithology as a possible index of till provenance in southwestern Ontario. He requests news of recent studies of any far-travelled clast lithologies in till.

New York State Glaciogram
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