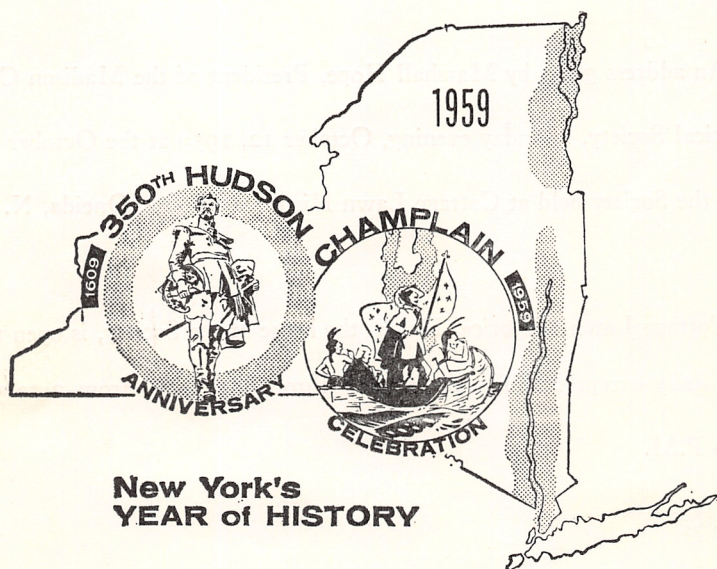


MADISON COUNTY HILLS

1. Stockbridge Hill Site
2. Fenner Hill

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An address given by Marshall Hope, President of the Madison County Historical Society, Monday evening, October 12, 1959 at the October meeting of the Society held at Cottage Lawn Historical House, Oneida, N. Y.

Cottage Lawn Historical House, the home of the Society, is open to the public daily except Monday from May through October from 2 to 5 and 7 to 9 P.M.

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1. Stockbridge Hill Site 2. Fenner Hill

Generally speaking, there is more history made, and more events of historical importance occurring in the valleys of any county — than there is history made on its hills. The valleys contain the arteries of commerce: the highways, roads, canals; as well as the hamlets, towns, cities and villages.

STOCKBRIDGE HILL SITE

Hills are generally of less historical importance because they are usually in inaccessible places, poorly populated, and generally covered with a forest growth of trees.

There are exceptions of course. Exceptions which bring noted hills into historical prominence because of special events which have occurred on them.

The Stockbridge Hill Site, on the southern edge of the City of Oneida, has achieved historical importance in the last two years because of a scientific development in which it played a part. This was the development of radio telephone communication between scientists from the Rome Air Development Center, talking over a distance of 9,000 miles with an airplane flying at the southern tip of South America.

This installation can be seen by traveling up the Stockbridge West Hill, on Peterboro Road. This road is the old coach route from Vernon and Cazenovia. It intersects Oneida's West Road at the Five Chimneys Corner at Peterboro Road.

This amazing and costly development had many problems to solve before success was achieved. There were problems concerned with the absorption of radio waves in outer space;

with the earth's curvature, problems with heat, light, and radiation occurring in outer space.

The solving of many of these problems with the aid of the Stockbridge Hill Site and other similar installations will make possible man's exploration and development of inter-planetary flight in the near future.

This development projects the thinking of our scientists thousands of miles away from the earth on which we live, far far away from Madison County — far, far away from another scientific event which occurred along the old stage coach route from Vernon to Peterboro to Cazenovia.

Both had one thing in common. They were both parts of scientific projects which had never been attempted before.

FENNER HILL

The second scientific project occurred along the old stage coach route just west of Peterboro, on Fenner Hill. To reach the site, drive thru Peterboro, headed South, over the road at the western end of the Village Green. Half a mile beyond the Village Green make a right turn on a good county macadam road which leads directly into Cazenovia.

On the crest of the hill behind the farm houses on the south side of the road, lies the top of Fenner Hill, where a granite marker is set into the ground to mark the spot of a major scientific development, which occurred here about 1879.

This 78 year old event at Fenner Hill, when compared with the Stockbridge Site installation

of 1959, highlights changes which have occurred in that length of time. Changes which leave us breathless, as we contemplate their effect on our future — as we look forward to outer space exploration and inter-planetary travel.

The scientists at Fenner Hill back in 1879 were concerned with the foremost scientific project of that day — the first accurate mapping of New York State. Fenner Hill was one of a chain of stations across the center of the state, from which the first primary triangulations were made in the survey.

Accurate maps are among the first requirements of civilized communities. A map is a book in one page. It is indispensable to the property-owner, to the tax-collector, and to all interested in an orderly society. It is also a military necessity.

As early as 1827 Governor DeWitt Clinton wrote in his annual message to the legislature, "An authentic and official map of the State is a desideratum which ought to be supplied." Succeeding governors repeated the request each year without any action being taken by the legislature.

Finally in 1875, the American Geographical Society, which, from its founding in 1852, had regretted the inexactness of the best existing maps of the State, made a careful study of the problem; and then proceeded to Albany to lay an organized program of action before the state legislature.

The committee from The American Geographical Society informed the State Legislature in 1875 that maps of the state were grossly inaccurate, that they were made from old chain and compass surveys made thru the woods nearly a hundred years before that date, for parceling out tracts of land to settlers. And that while the State of New York was the most populous and wealthy in the Un-

ion, the maps of the state were worse than those of almost any other Commonwealth.

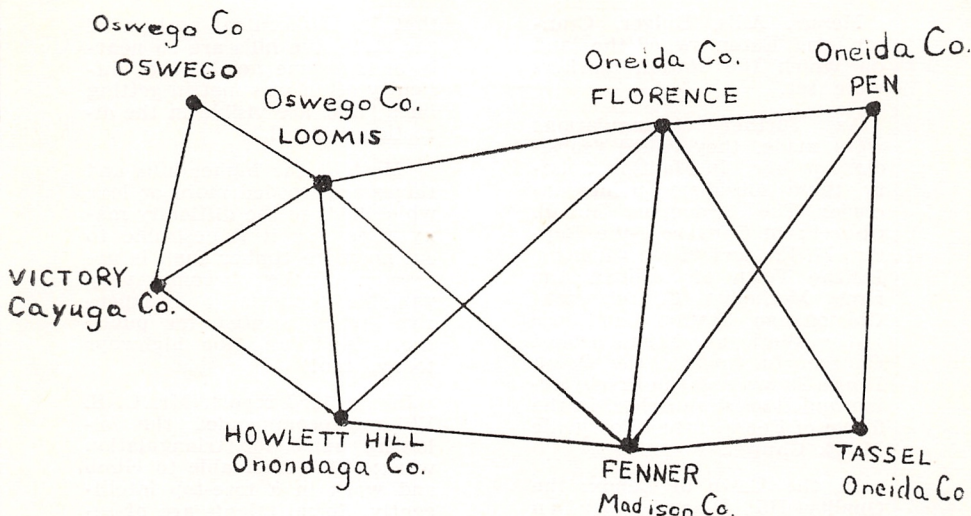
There had been great difficulty also in establishing accurate county boundary lines. The county line between Schenectady and Saratoga, some years before had caused the most trouble because it was in a growing section at the time, and affected a considerable area. For 22 years a large tract of land remained unsettled until the legislature of 1792 passed an act "to establish a temporary jurisdiction line between the two counties." Over the years, the "temporary line" had been accepted as the permanent line with no further legislation.

As a result the legislature of 1876, with the approval of Gov. Tilden, appropriated \$20,000. "for making an accurate trigonometric and topographical survey of the State." The act also appointed commissioners to conduct the survey who were to serve one year without pay.

The costly, but absolutely necessary primary triangulation was begun in the Eastern part of the state in 1877. The work was begun by selecting the highest known hills across the state from the Massachusetts border to the Niagara River, from which to work.

Two lines of stations, across the center of the state were selected, roughly about forty miles apart. From the center of the state to the East the northern line included: Oswego, Loomis, Florence (in Oneida Co.), Pen, Hamilton (in Hamilton Co.), and Prospect.

The southern line included: Howlett (a hill in southern Onondaga Co.), Fenner (in Madison Co.), Tassell (in southern Oneida Co.), and Helderberg (named from the mountain south-west of Albany.) Unfamiliar names are those of the property owner who owned the land on which the station was located. This was the general practice except for the use of a few well known area names.



TRIANGULATION POINTS ACROSS CENTRAL NEW YORK

Lines were drawn from the northern station to the southern station opposite it. Triangles were made by then drawing lines from the station on either side, to the directly opposite station.

Each of these primary triangles—by means of geometry, trigonometry and competent surveyors was turned into tables of figures for Latitude, Longitude, Azimuth, Adjusted Angles, Setting Angles, Spherical Excess, Plane Angle, Log, Sine, and Log. Dist., etc.

Fenner Hill was selected for a primary triangulation point because it is the highest in the north-central part of the county, and was about the desired "seeing" distance from Howlett, Florence, and Tassell stations.

The ground work at Fenner Hill was done in 1878 or 1879. A report of the state survey commission issued in 1887 states that, "In 1878 preparations were made to extend the triangula-

tion in the central part of the state . . ."

However, I am using the year 1879 because the report states, "In 1879 Assistants Wilson and Bogardus worked in the central part of the state between Syracuse and Rome."

At Fenner Hill granite marker No. 130 was set in the ground to mark the spot from which all triangulations were made, using that point. Its altitude is 1862 ft. above Mean Tide at Governor's Island in New York harbor. The land it is on was then owned by O. E. Wormuth.

After the primary triangulations were made additional triangulations then were made to many nearby points; to give an accurate mapping location, as the process continued, to almost every town and village. Additional Madison County stations were: in the Town of Lenox — Allis, Bulger, Canastota and Cranson — also Eaton in the Town of Stockbridge.

Messrs. Allis, Bulger, Cranston, and Eaton owned the land on which the station markers were set.

As further triangulations were made, they called "subsidiary points." In Madison County these subsidiary points include: The Bridgeport M. E. Church; in Canastota the Baptist, M. E. and "Free Church." In the Town of Sullivan: the Free Methodist Church near Chittenango Station, and the Fyler Wesleyan Methodist Church. In Oneida: the Opera House Dome, and the Presbyterian and Baptist churches. In the Town of Fenner: the "Perryville M. E. Church."

In the Town of Lenox: the Quality Hill Presbyterian Church, the Wampsville Presbyterian Church and the Ridgeville Presbyterian Church . . .

A survey triangulation map issued by the state commission, when compared with a present day map of Madison County readily yields an answer as to where Ridgeville was. The triangulation map shows no roads, and nearby Oneida Lake, on both maps, pin-points Ridgeville as present day Whitelaw.

Mrs. Alene Warner tells me that the name was changed because Ridgeville residents thought the name too undistinguished, sounding like a backwoods community.

An appeal was made to the legislature to change the name, and it was changed to Whitelaw in honor of Whitelaw Reid, a prominent state official at that time. Mr. Reid was also a distinguished member of the State Board of Regents of the State University for many years.

No locations were listed in Madison County south of Fenner, as its opposite triangulation point was to the north at Florence, in Oneida County.

A report on the progress of the work in 1883, when two-thirds of it had been completed shows that some difficult situations had been met. It states

that in the central portion of the state, the hills are so nearly of the same height, that difficulty often was met in getting lines "that are visible in the direction wanted."

"Most of the higher hills and ridges are wooded more or less, which adds to the difficulty many times, as it is desirable to cut no more timber than is necessary. Timber becomes very valuable property, and expensive, when wanted for public use." (And land for highways today, too!)

In the 1883 report, Mr. O. S. Wilson recommended the following outfit for triangulation work: "One man able to climb and work in a tree-top intelligently. Social talents are of secondary importance." A team and a spring wagon. A telescope, an aneroid barometer, available old maps of the area, a county atlas for information as to roads and owners of property, a range telescope, hand level, compass, two heliotropes.

Also one bolt white cotton cloth, one bolt Simpson's black calico, and plenty of tacks to make flags to erect on poles to locate one point while looking for others, also a pair of pole climbers.

Also 400 ft. of manilla rope in one piece, and a set of iron tackle blocks for hoisting lumber to build a platform in a tree top; and afterwards to hoist instruments and the observer up to the platform. Such platforms were erected and used ninety to 100 feet above the ground.

Mr. Wilson says, "with the above outfit we invite the reader to take a short trip with us to obtain an idea how such work is done. We will commence at one end of a survey line and start a reconnaissance in the direction desired. Setting up the telescope we scan the horizon for high points, often thru gaps in nearby hills. We head the angle of the limits from some known directions; a signal already built, or from the magne-

tic meridian as given by the prismatic compass. With practice, these distances can be guessed within five miles in forty. The horizon is examined closely for peculiar shaped trees, hills, houses, or anything else to help identify the spot when we get to it. We may leave a man with a heliotrope with orders to point it at us, toward our next projected point; day after day, until he sees our answering heliotrope light signal."

At Fenner Hill, and other triangulation points, the field survey work was much more difficult to do back in 1879, than it would be today. A state engineer today, can drive back and forth between any point in northern Madison County and state offices in Syracuse or Utica, in a matter of minutes in a modern auto.

An account of the traveling involved in the 1879 work is highly interesting. With a mental image and distinguishing features of the next hill point in mind, the survey party leaves the starting point.

"We now pack our wagon and descend into the valley for the main traveled road leading in the direction we wish to go, using our county atlas, and asking questions when uncertain. It is always best to be skeptical as to the replies to questions asked, and especially as to what can be seen from some hill, from which a native sees more than anyone else can.

"The information received in this manner is almost always delusive, and we soon disbelieve the testimony of anyone, yet still ask questions of any intelligent looking man we meet; politely acknowledging the information, but giving it weight zero. This is the safe way so far as to what can be seen from a given hill, and as to the whereabouts of the highest hill in town.

"Much valuable information may be received however, as to the best road to a certain place,

when necessary, as it often is, to help out the best maps in the state.

"After proceeding about ten miles, we leave the valley; and wend our way up to what promises to be a high elevation. We set up flags from cloth strips, then work around the hill always hoping for a better location site.

"As we leave the hill we inquire who owns the land, and pay him to see that the flags are not molested. I have never known one flag to blow over when the land-owner is paid half a dollar — and that is generally sufficient.

"We drive on and try to make some village in the direction we are going, where we can find a hotel. We drive up to the hotel, remove our personal baggage and maps, and drive to the barn where one of us stays until we are sure that the team of horses is made comfortable for the night.

"From force of habit we may ask the landlord where the highest hill is located.

"After irritating his scalp with his fingers, he expresses an opinion, which he asks Jones to corroborate; who is in doubt, and asks Smith, if the hill up by Deacon Brown's is not the highest in the county. This point settled, the ice is broken, and we are asked if the new railroad is going thru the place, or if we expect to find oil near; or what kind of patent-right we are peddling, etc., etc.

"We plead, 'Not Guilty', and proceed to give our audience an idea, as briefly as possible, of our designs upon their community.

"We are on hand for a six o'clock breakfast, and are soon on the road again. . . ."

"After finally settling on the proper site from which to observe, we next spend many hours in getting the proper figures down in our notebook. There are but few hours during

the day when long lines can be measured, and not only half the day when any such work can be done. These are an hour or two just after sunrise, and from about 4:00 P.M. until sundown.

"Even these early morning hours are uncertain because of bad atmospheric conditions. After an early rising, often we tramp back to a late and cold breakfast, with nothing done; much more tired and disgusted with the world than if we had had three hours of good seeing and have pages or record to show for it.

"The air does not become absolutely steady until the latter part of the afternoon, and often when the air is clear, it is cloudy, so that heliographes do not show.

"Just recently the U. S. Geodetic Survey tried taking measurements at night with the aid of magnesium flares. It is good but expensive to do. I made some experiments with kerosene lamps, using a 14 inch locomotive headlight, which could be seen on a line fifty miles long. I also made cheaper lanterns by using cast lenses made at the Corning Glass Works, which were satisfactory over a distance of thirty miles.

"Night observations were made but one year on the survey, but were satisfactory in every way and they will doubtless be improved and brought into general use in the future."

The forecast proved correct. Long line surveying work now is done at night.

If the men who worked at Fenner Hill in 1879 were to revisit it today, they would be amazed. For on a nearby crest of the hill, a modern installation glows all night with red warning lights. Daylight discloses a radar light apparatus on top of a high tower. It is a TV relay station feeding programs from Albany into Syracuse TV stations.

Nearby, further back on the hill, reached only by a maintenance road, is the tower of the Madison County Mutual Aid Fire System. This tower provides radio communication between headquarters in the Sheriff's Office, Wampsville, and all Fire Departments in the county.

The road from Peterboro past Fenner Hill to Cazenovia almost takes you back to 1879. The beautiful Fall foliage is the same as you break over Fenner Hill, the road ahead of you "straight as a string", down the long gentle slope into Cazenovia.

The road is now wider, and is a fine macadam county road. The ruts in the road are gone and there is no choking dust in the air. There are no Speed Zones and no traffic lights. The only evidence of modern traffic regulations is one Stop Sign, at the cross-road from Perryville to Nelson.

Fenner Hill was important to the state mapping survey 80 years ago. It is more important today for giving us television programs and a county fire alarm system.