



EARLHAM OBSERVATORY.

Founded 1861.

History of the Earlham Observatory.

Sources of information consulted.

"Minutes of the Yearly Meeting."

"Minutes of the Board of Trustees."

The "American Friend."

The "Earlhamite."

The "Congressional Record."

The following persons were consulted either by letter or in person:

Mrs. William B. Morgan

Eli Jay

Allan Jay

Walter Carpenter

Prof. Erastur Test

Prof. R. L. Sackett.

THE EARLHAM OBSERVATORY.

Latitude 39 degrees 51 seconds.

Longitude 5 hr., 49 min., 37 sec.

Most people hardly notice the small brick building situated a few yards north-west of the north entrance to Lindley Hall. The building is a very modest one, being about 40 feet long 15 feet wide and 19 feet high. In the center of the roof is a dome. This dome is mounted on rollers and can be turned around by hand. The equipment consists of a six-inch, achromatic telescope equatorially mounted, a transit, a sextant and an astronomical clock. Only about \$1,200 was expended for the building and equipment. Yet modest as the Observatory is, it is an enduring monument to the noble self-sacrifice and educational enthusiasm of its founders. The raising of a few hundred dollars then, meant as much as the raising of as many thousands now. It was largely through the work of Prof. William B. Morgan, that by much effort the necessary amount was raised.

In the report of the Boarding School, found in the Yearly Meeting Minutes for 1856, occurs the following: "Also the large telescope alluded to in our last report, has been purchased by the subscription of our junior members, and is now the property of the institution at a cost of \$630." The telescope referred to had a six-inch objective carried in a wooden tube. It was purchased of R. B. Rutherford by William Houghton, an early teacher and officer of the school. R. B.

Rutherford was a prominent eastern astronomer and at this time was equipping himself with larger instruments. Prof. Erastus Test states that he has vivid recollections of the effort it took to raise the money necessary for the purchase.

At this time none of the schools or colleges of Indiana were in possession of a telescope which compared at all with the one at Earlham. There were probably not more than one or two others in the Middle West. One of these was at Western Reserve University at Cleveland. It is claimed that the observatory at Western Reserve University is the oldest on this side of the Alleghenies.

The telescope was not permanently mounted at this time but was mounted on a tripod when in use. The telescope was probably kept at this time, in the Lecture Room in Earlham Hall. For in the reports of the Board of Trustees, for seventh month, 29, 1856, may be found the following recommendation: "We also think that a cupboard and glass cases at one end of the Lecture room, should be fitted up to receive the new apparatus and the telescope, so that these articles may not be lost or destroyed for want of proper care."

In order that the telescope might be used to advantage, it was necessary that a suitable building be constructed and that it be properly mounted. There was in existence at that time a society of the young people of the Yearly Meeting, known as the Literary and Philosophical Institute. William Morgan was president.

Opportunities for obtaining information and for culture

were then very limited and the society was probably formed to help supply this need. There were many such societies which sprang up at this time. Little is known of the achievements of this one with such a pretentious name but it did accomplish one thing worthy of its efforts. One of its objects according to its constitution was to aid the Boarding School. In 1859 this society originated a subscription and plans for building an observatory. The cooperation of the Board of Trustees was asked and the board then empowered its executive committee to take any necessary action in the matter. The work of building the observatory was in charge of Walter Carpenter who was superintendent at that time and acted for the executive committee in many matters. The building was begun in 1860. The school did not then possess a transit instrument or an astronomical clock but both were deemed indispensable to a thorough course in practical astronomy, so piers of masonry for them were constructed at the same time. The building was not completed however until the spring of 1861 and by that time both the transit and the clock had been procured. The cost of the observatory building was about \$400. Of this amount not more than \$135 was paid by the Board of Trustees.

There is a story that the transit was one which had been used at Fort Sumpter. According to the story, when Anderson surrendered to the Confederates, he was allowed to take along with him, among other things the transit. This transit was then sent to Earlham for safe keeping and afterwards allowed

to remain there. The story is interesting but probably without foundation in fact. If the transit was ever at Fort Sumpter it had been taken away some time before Anderson surrendered; for in the executive committee's report for 3rd month, 6th, 1861, we find that the transit had already been received at Earlham. Another fact which makes the whole story seem doubtful is that both Eli Jay and Erastus Test have the idea that it was merely one that belonged to the government and was not in use at that time; neither has ever heard that it was ever at Fort Sumpter.

All we do know is that the transit was loaned by the United States government through Supt. Bache of the Coast Survey and was to be returned when called for. An order for its return was received during the early part of Cleveland's Administration, but Prof. Sackett wrote to the secretary of the Interior concerning the use that was being made of it and showing that it was carefully cared for; and permission was then given that it still remain at Earlham. It is likely that it will never be called for. An annual report of the work done with it is made to the Interior Department. The transit has a four-inch aperture and at one time was worth perhaps \$1,000. The only cost to the college was \$52.40, paid by the executive committee for transportation and a few slight repairs. The loan of the instrument was secured through the efforts of Prof. Morgan.

The clock is of German manufacture and of very fine construction. It has run for fifteen *months* without losing more

than forty-five seconds and it still does good work. The clock was purchased of a banker in Cincinnati by Elijah Coffin, a prominent member of the Board of Trustees. The clock cost \$125, which amount was paid by the Board of Trustees. The compensation ^{at} for changes of temperature is secured by means of a cylinder in the pendulum, filled with the requisite amount of mercury. It is said that Elijah Coffin carried this pendulum from Cincinnati, in his hand to preserve the compensation.

The Observatory possesses a chronometer which will serve as well as a \$150 to \$200 machine. It was designed by Prof. R. L. Sackett and constructed by J. H. Mete of the class of '96.

In the winter of 1870 a scientific thief broke into the Observatory and stole the lenses from the Equatorial. He was tracked in the snow as far as the National Road but nothing further was ever heard of him. The lenses were replaced in 1872-3 by new ones made by Henry Fitz, a German optician, at a cost of \$400. At this time the wooden tube was replaced by the present metal one, so that of the original telescope only the pedestal remains.

The Observatory now possesses a valuable sextant of the type used by the British admiralty. This also has an interesting history. In March 1885, Levi D. Johnson sailed with Bishop Taylor's party, from New York. The expedition established missions on the west coast of Africa. This was really a Methodist enterprise and Levi Johnson was a Methodist, but

he went out as a Friend and received aid from the Friends. His ultimate object seems to have been to establish an independent Friend's Mission. Delia Rees an Earlham student was a member of the party. Meanwhile, in October 1884, the Earlham College Missionary Society had been organized with a membership of thirty. This society donated \$96 to Levi D. Johnson for the purpose of procuring a small telescope, a barometer, two nautical almanacs, a navigator and a sextant. Levi Johnson remained in Africa and may have attempted to establish a Friend's mission. Any way the plan was not a success and Levi Johnson returned home. The sextant was afterwards returned to the college and has since remained there as a permanent part of the equipment of the Observatory. There is also a small telescope in the Observatory which may be the one donated to Levi Johnson.

Astronomy was taught at Earlham in 1859 perhaps earlier, and was afterwards a required study. The observatory gives Earlham an equipment which even today is not found in most colleges of its rank. Also the Observatory has been fortunate in being in charge of exceptionally able directors. From its founding until 1868 it was in charge of Prof. Morgan with the exception of one year 1866 when Prof. Erastus Test was director. From 1868 to 1878 Prof. William A. Moore was director; from 1878- 1883 Eli Jay; from 1883 to 1891, William Morgan was director, and since 1891 it has been in charge of Robert L. Sackett.

Because of its interest I include the following from the

minutes of the board of Trustees: "Executive Com. Report, 3rd mo. 6th 1861. The observatory has been carried forward nearly to completion and it is intended to finish it as soon as the weather shall moderate so the plastering can be done, and bring it into use next session. A fine transit instrument has been kindly lent by the government of the United States through Supt. Bache, Superintendent of the Coast Survey, which we hope to have the use of for some time to come, but it is to be returned when called for. This instrument needed some repairs, which were done at our expense and cost \$52.40, including transportation. A micrometer eyepiece is still needed in order to secure the full usefulness of our Telescope, which will cost from \$25 to \$30.

We refer to the statement of Prof. Morgan annexed:

"A fine clock for astronomical purposes being indispensable for calculations in practice at the observatory and a regulator of fine construction being offered second hand at a very reduced price, it has been purchased for \$125, a price far below the original cost, which we hope may be paid for without embarrassment of the funds of the institution. Some other expense will be added for putting in order etc."

Note from Prof. Morgan.

"In order to furnish our observatory with apparatus for registering the exact position of a heavenly body, it will be necessary to provide a micrometer eyepiece for our telescope which will cost \$25 or \$30. Other apparatus at a

greater cost might have been provided but this will be sufficient at present. The transit and clock are to determine the Right Ascension and the Micrometer the declination of a Star, Comet or other heavenly body. Sufficient reasons could be given in a short time to show the propriety of this addition."

ANNA EYES.

YAPLHAN COLLEGE.

JUNE 12, 1907.