

# Edward A. Halbach 1909 - 2011

By Gerry Samolyk

On March 20, our longest-term member passed away just short of his 102nd birthday. Ed Halbach is the most significant member in the history of the Milwaukee Astronomical Society. In fact, Ed was one of the most significant amateur astronomers of the twentieth century.

When Ed Halbach graduated from college and began his engineering career, he looked for an activity to occupy his free time. He felt that most hobbies were way too passive. However in 1932, Ed saw an advertisement in the Milwaukee Journal announcing the formation of an astronomical society. Here Ed found an activity where he could channel his energy.

Ed started observing variable stars using the old blueprint charts (see photo) and a 13" reflector located in the backyard of MAS founder Luverne Armfield. Ed would continue to observe variables for the next 70 years, making about 100,000 visual observations. The society was also active in observations of meteors during that time.

In 1936, construction of the MAS observatory began in New Berlin. Ed would play a key role in this project. At the height of the depression there was little money available, so the members passed a hat and managed to collect \$100 that was used to purchase some used lumber. One of Ed's many talents was the ability to obtain donated material for observatory construction projects (as he used to say "you need to know how to scrounge"). Concrete for the pier and steel for the dome were obtained.



In 1942, Ed took on the job of Observatory Director, a position he would hold for the next 35 years. During the Second World War, Ed ran an optics shop in the 'monastery' building to produce prisms for bombsights. This qualified MAS members for extra gas-ration coupons for observatory access. However, observatory use was down significantly during the war.

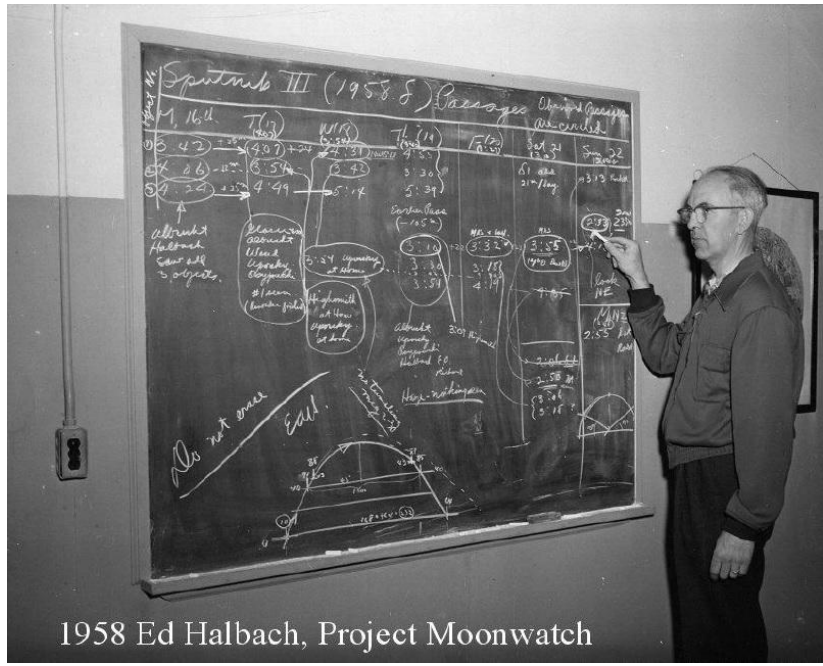
In 1947, Ed was involved in the formation of the Astronomical League and served as the first president of that organization.

Ed married Jane Roth in 1942. They enjoyed 65 years together before Jane passed away in 2007. Despite all of Ed's astronomical activities, he always found time for his family. He designed and built a camping trailer so he could take Jane and their six children on cross country trips.

During the 1940's, amateurs became involved in studying the relationship between solar events, aurora, and the magnetic field of the Earth. By comparing observations of solar flares, aurora, and ground currents, Ed was able to predict interruptions in power and communications caused by solar events. This work enabled power companies to prevent interruptions of this type. The MAS was part of a network of astronomers coordinating observations of these phenomena. Cornelius Prinslow, Bill Albrecht, and Ed Halbach, of the MAS were featured in a 1949 issue of National Geographic article on the subject.

In the late 1940's and 50's, Ed became involved in an Air Force project using solar eclipse timings to link the North American datum with the coordinate grids of other continents. This work took him on eclipse expeditions all over the world. The result of much of this work has remained classified to this day.

With the dawn of the space age, the Smithsonian Astrophysical Observatory recruited amateur astronomers to help with tracking satellites in a project called Moonwatch. Ed got the MAS involved and modified the 'monastery' building at the MAS observatory with a pier and slide off roof to house three satellite tracking scopes. (The building then became known as the satellite shed). As a result of this work, the MAS predicted and observed the reentry of Sputnik IV in 1962.



Observations of lunar occultations had been going on for a decades, but it wasn't until the mid 1960's that computers became fast enough to accurately predict lunar grazing occultations. Ed got involved with this program at the start. In the process he designed and oversaw the construction of a two mile cable and chart recorder system to facilitate easy recording of these observations. In the early 1970's he led a project to design the 10" portascopes. This allowed us to bring larger aperture scopes to these events. These scopes were also heavily used in the observation of eclipsing binary and RR Lyr stars from the 1970's thru the 2000's. Ed received the Astronomical League Peltier award for his work in lunar occultations.

In 1977, Ed and Jane decided to retire and move to Estes Park CO. The house that Ed had designed included a rooftop observatory with a 16" cassegrain scope on a modified Springfield mount. He would spend much of his retirement working on this project (Ed always needed to have a project to tinker with). While working on this scope, Ed used a portable 10" scope in his backyard to continue his occultation and variable star observing.

In addition to Ed's observing, Ed and Jane enjoyed extensive world travel during their retirement. Ed also did volunteer work with Habitat for Humanity. He continued this work until he was well into his 90's.

There are many facets to Ed's legacy. His engineering talent and creativity was at the genius level. He could find an economical solution to almost any problem. His innovations kept the MAS observatory thriving thru the depression and a world war. He designed and crafted the drives and setting circles on both A and B scopes that are still in use today. Those domes continue to function after decades of use.

Ed always looked for opportunities for amateurs to contribute to the science of astronomy and related fields. His energy and enthusiasm was contagious. In 1988, Ed had also received the AAVSO merit award for his long service to that organization.

A significant part of Ed Halbach's legacy was his role as a mentor to other observers. In 1933, Ed met a high school student named Bill Albrecht. Ed took Bill under his wing and

it was the start of a close friendship that has lasted for over  $\frac{3}{4}$  century. Over the decades that followed, several generations of observers as well as a few professional astronomers were mentored by Ed. At the 2003 spring meeting of the AAVSO, Ed received the William Tyler Olcott award in acknowledgment of this effort. At the same meeting, Jane was credited for "putting up with Ed" during more than 60 years of marriage.

I was in high school student when I first met Ed Halbach. As a young member of the Milwaukee Astronomical Society, I quickly got involved in observatory construction projects. One of the first observing projects Ed got me involved in was grazing Lunar occultations, chasing moon shadows all over Wisconsin and northern Illinois. One night Ed gave me my first experience with variable stars. As he was showing how to observe long period stars, I asked him how many he observed per hour. He told me that he normally observed about 15 stars per hour



but when he had “help” from people like me he got about four. He was always interested in getting new observes started.

Finally in 1974 came a night that impacted my life. Ed came out to the MAS observatory with a copy of the AAVSO Circular. He said, “There’s an article in here about something call, eclipsing binary stars. Let’s see what we can do with them.” I have been observing EB stars ever since.

In 1980 I took over Ed’s old position as observatory director for the MAS. Throughout Ed’s retirement we maintained a close friendship and continued to swap information about observing projects. The MAS site always was a special place for both of us; in 2003 Ed made his last visit. I gave him a tour of the new observatories that had been built. He was impressed with the designs of the new sheds and the CCD equipment. It showed how much observing has changed in a single human lifetime.