History of the Madison Astronomical Society

1935–1988

John Rummel

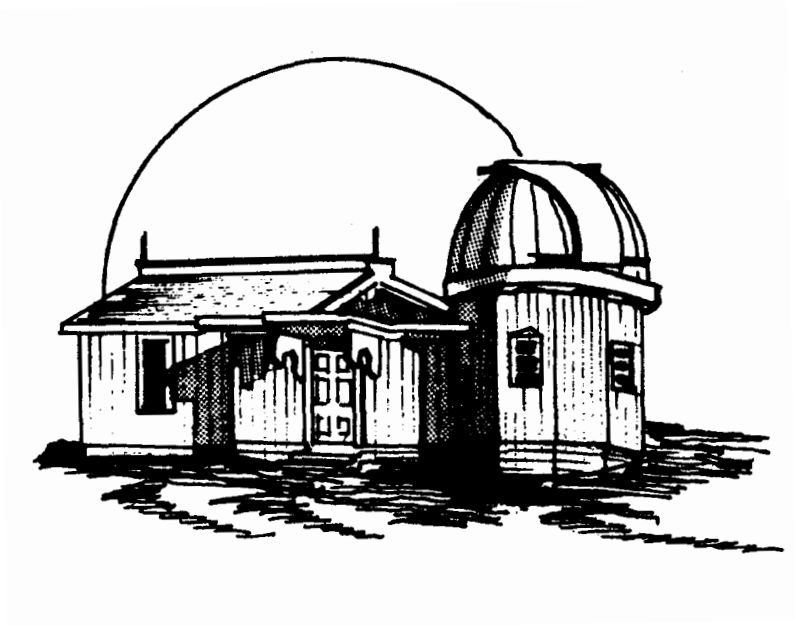
All text is by John Rummel except where otherwise noted.

The cover art is a photo of the Oscar Mayer Observatory taken by Steve Bracker in late 1961 or early 1962. It has been stylized to look like a painting.

The circular MAS logo on the back cover was created in the 1990s by Sue Manske and updated in minor ways over the years. It is the logo still used by the club today.

The sketch by Emma Micinski on page 4 was specifically commissioned for this history.

The sketch of the Oscar Mayer Observatory seen below was originally drawn by club member Jon Buschke around 1970 and was used as the club logo for about 20 years.



Second printing: December 2022

Copyright © 2022 by John Rummel
All rights reserved.

darksky2500@gmail.com

For Paula Birner Carey. We did NOT forget about you, Paula.

Preface

It has been many years since any effort has been made to document the history of the Madison Astronomical Society. In March, 2020, as the COVID-19 pandemic started to shut down much of the activity in Madison and in the country, a small group of society members started a serious effort to preserve the history of the club. Over the two years that followed, that group sought out and interviewed many of our oldest members and those in the best position to speak to club history. They collected documents from present and past members, contacted spouses, children and grandchildren of late members, conducted extensive online searching of newspaper and university archives, and spent endless hours organizing and collating the data. While the writing was mine, I'd like to thank the following members for their significant roles in this effort:

Dan Strome: for sharing the vision and most of the labor that first year. Dan is a consummate organizer of information. Without him, this work would not have been possible.

Rita Hampton: every writer needs a dedicated editor. Rita's willingness to read every single word (countless times) has been invaluable. She has corrected spelling, grammar, and punctuation. She has looked up obscure usage practices for abbreviations, phrases, and place names. She has questioned word choices and made alternative suggestions. Perhaps most importantly, she has served as a proxy reader, questioning everything and always seeking clarity. Thanks to Rita, this work has a polish that it would have otherwise never attained.

Jurgen Patau and **Kevin Santulis**: Kevin and Jurgen were there at the beginning of this project, helping to track down remaining physical records from the club and to inventory and (in many cases) digitize them.

Eric Thiede: Eric was willing to read endless drafts and answer countless questions. As one of the last remaining MAS members from the 1960s, he was also able to frequently dip into his own memories or collection of photos and artifacts and supplement the primary sources I had at my disposal.

Emma Micinski: Emma provided a piece of original art to fill the gap of "the photo that was never taken" (page 4).

John Rummel,
Madison, Wisconsin
October 2022

Table of Contents

Introduction

The Madison Astronomical Society (MAS) has existed for the better part of a century, providing a place for Madison area amateurs to learn about and practice their hobby. MAS can lay claim as one of the older astronomy clubs in the United States and likely one of the oldest in continuous operation since its founding in the 1930s. But like many amateur organizations, it has paid only sporadic attention to documenting its own history. Over the years, founders have died, long time members have moved away or moved on, documents have been collected and then lost, and memories have faded.

The oral and written traditions of the club have largely held that the Madison Astronomical Society was formed in 1930 or very shortly thereafter. However, just as bodies in the solar system rarely follow perfectly circular orbits, if you dig into the evidence, the quest for MAS's date of origin tends to follow a decidedly elliptical path. Over the years, the club has celebrated its origins several times, resulting in some disagreement over its precise age. Here is a sample of MAS's claims about its own founding:

Source:	Quote:	Stated or inferred founding date:
9/7/1947 *Wisconsin State Journal*	"MAS will hold an open house on its 15th anniversary"	1932
10/12/1949 *Wisconsin State Journal*	"Fifteen years ago, a nucleus of Madison people wanted to know more about astronomy," Huffer reminisced.	1934
9/11/1950 *Wisconsin State Journal*	"Club will begin its 18th season"	1932
10/13/1963 *Wisconsin State Journal*	"The club's range of study is much wider now than when the society was begun 25 years ago . . . . "	1938
10/9/1972 *Wisconsin State Journal*	"More than 40 years ago . . . ." ". . . first organized in 1930 . . . ."	1930
4/1/1991 *Wisconsin State Journal*	"In 1930, the late Professor C.M. Huffer, then chairman of the UW-Madison's department of astronomy, met with a handful of amateur astronomers, most of them local doctors, to form the club."	1930
1993 (spring) club newsletter	"Founded in 1931, the MAS has been active in amateur astronomy for six decades."	1931
1994 club brochure	"1990 marked the 60th anniversary of the MAS."	1930

Sometime around early 1963—the exact date is not given—a formal history of the club was penned. While its authorship remained unknown for many years, we now know it was written by MAS member and University of Wisconsin professor of Portuguese and Spanish, Eduardo Neale-Silva. Here is the first paragraph:

> *The earliest plans for the creation of an Astronomical Society in Madison can be traced back to October 1930, when Mr. William R. Binney and Mr. John M. English discussed their common interest in lens grinding and observing as well as the possibility of attracting other would-be astronomers to probe the mystery of the stellar world. Soon after, Dr. C. M. Huffer, a member of the Astronomy Department of the University of Wisconsin, who knew about Dr. Binney's hobby, was invited to dinner by Dr. J. S. Supernaw, a prominent Madison physician. The host, as it turned out, was also interested in amateur astronomy. Ideas were exchanged and finally, early in 1931, the Madison Astronomical Society was actually launched through the combined efforts of the four pioneers and a few friends.*[1]

Neale-Silva's account became the authoritative version of the club's history for years thereafter. Other than a few blurbs on the back of brochures from the 1980s and 90s, it was the definitive source for the club's history. By word of mouth from those who had seen Neale-Silva's account, the year 1930-31 became entrenched in the collective club memory as Year One. Well into the 21st century, when older members talked of the club's origins, 1930 was the year mentioned as its founding. Neale-Silva's account of the club's history is important and contains many elements that we now know to be accurate though the founding time frame of 1930-31 is not one of them.

[1] The complete Neale-Silva history is reprinted in Appendix A.

This work consists of nine chapters and ends with the establishment of the club's observatory in Green county in the 1980s. Chapter 1 looks in detail at the origin story of the MAS to forever resolve the confusion as to the founding date. As much as possible, the circumstances of the founding members, their activities and words, and the larger context that led to the formation of the club is explored. Chapter 2 digs into the relationships between MAS and the Milwaukee Astronomical Society and the University of Wisconsin Department of Astronomy. Chapter 3 unravels the club's many attempts over the years to acquire its own observatory, ending with the lease of land at Bjorksten Labs in Fitchburg and the birth of the Oscar Mayer Observatory (OMO). Chapter 4 explores in detail the rise to prominence of the junior society. Chapter 5 focuses on Project Moonwatch, a true citizen-science program, and continues the story of the younger members. Chapter 6 recounts the story of the University of Wisconsin's donation of its Student Observatory to the club, its move to Fitchburg, and the growth of the OMO. Chapter 7 continues the story of the junior society to the end of the 1960s and its eventual dissolution. Chapter 8 tracks the continuing story of the younger element of MAS in its new incarnation as the Explorer Scouts of the 70s and 80s. Chapter 9 tells the story of the abandonment of the OMO in the 1980s and the origins of the club's current observing site in Green County, the Yanna Research Station (YRS).

There are four appendices; a previously written brief history of the club, excerpts from Dr. Charles Huffer's oral history interviews, a collection of short biographical sketches of prominent members, and a first-hand account of the moving of the Student Observatory in 1960.

There will be a volume 2 to this history (1988 to present day). It will be shorter than this work and will recount the "modern era" of the club. We anticipate that volume 2 will be completed in 2023.

1. The 1930s and the Origins of MAS

Thanks to Eduardo Neale-Silva's history, we know a little of the human story of the founding of the Madison Astronomical Society. It can be traced to the actions of "four pioneers and a few friends." Neale-Silva puts the genesis of the club in late 1930 and early 1931, but regular coverage in the local newspapers pins the actual date of MAS's *formal* founding to March, 1935, at a meeting where the first slate of officers was elected and the group announced plans to adopt a constitution in the coming weeks. To see how they got there, it's instructive to look for in-print mentions and other evidence that preceded this formal founding in 1935. As stated in the Neale-Silva quote in the Introduction, prior to the founding, people were discussing their "common interest in lens grinding and observing." Clearly the people who would go on to form the MAS were already active in the months and years prior to March of 1935. Here's what we know:

1931

The November 19th edition of *The Capital Times* ran an article on Dr. Charles Huffer's[2] observations of the Leonid meteor shower. "Four university students aided Dr. Huffer in plotting the path of 20 meteors which zoomed across the skies between 3 and 4 a.m. Wednesday." The article goes on to say, "Huffer is cooperating with the Watertown Amateur Astronomy Club in the project."

Given what we know about Huffer's later close association with the Madison society, it's noteworthy that there is no mention of them here. While the lack of mention of a Madison group is not proof of its nonexistence, it seems fair to assume that if Madison had an active amateur group at this time, Huffer *probably* would have mentioned it and taken steps to invite them.[3]

1932

The following year, Dr. Huffer again led a group of students in observing the Leonid meteor shower. An article notes that "Only 20 students and Madison citizens braved the low temperatures on Observatory Hill's crest to scan the sky and by 4 am only four of the hardiest were still ooh-ing and aah-ing as the flashing streaks became fewer." (*Wisconsin State Journal,* November 16, 1932) As with the 1931 event, the absence of any mention of a Madison astronomy club is suggestive, but not conclusive.

1934

The Milwaukee Astronomical Society had formed a few years earlier and was already publishing a first-rate newsletter by early 1934. There are two entries in their publication that year that foreshadow the imminent emergence of the Madison group. In the 1934 *M.A.S. Bulletin* (Milwaukee society, Vol I, No. I, Feb 1934,p 27): "We are glad to learn of the organization of an astronomical society in Reedsburg. It now has nine members and Mr. P. M. Loofboro is their president. May we extend our best wishes for a continued growth and great success in the science."

There seems to be a rush on the formation of new astronomy clubs. Madison's time is coming. The note from Milwaukee continues: "Also a note at hand telling us about tentative plans for a similar organization at Madison. No particulars available at this time but we hope to have them for the next issue of The Bulletin. Although we are still young in our organized career, may we offer help in any way to these newly organized groups?"

On July 1, 1934, the *Wisconsin State Journal* ran a feature article, with photos, about a local Madison minister named H. Randal Lookabill who was an astronomy enthusiast. The article is lengthy and speaks extensively about Lookabill's avid observing, telescope making and related activities. Near the end of the article is this quote: "Since there are many in Madison burning the midnight oil in efforts to construct telescopes, Mr. Lookabill believes an astronomical society will be organized next year."

Lookabill was undoubtedly one of the "friends" mentioned by Neale-Silva. For more on Rev. Lookabill, see Appendix C, but note in this quote the clear indication that, though there is much interest and activity in astronomy and telescope making in Madison, no club yet exists.

---

[2] See Appendix C for biographical sketches of most of the prominent members mentioned in the text.

[3] One of the four university students mentioned is none other than Walter Scott Houston, who would serve as *Sky & Telescope Magazines's* "Deep Sky" columnist from 1946-1993. Though Houston was never more than a minor player in the MAS, he would continue to have contact with both the Madison and Milwaukee societies in the years to come (see Appendix C).

1935

A second reference to the Madison group in the Milwaukee Astronomical Society's newsletter, *The M.A.S. Bulletin*, Vol. 2, No. 3, was published in March of 1935. On page 10, the following appears: "The recently organized Madison Astronomical Society is rapidly growing into a functioning organization. Some of the members are now cooperating with our meteor and variable star observers in various programs."

The same issue of the Milwaukee club's *Bulletin* also contains reports of Leonid meteor observations from the previous November noting the contributions of observers J. M. English (the leader for the Madison count) and Prof. R.C. Huffer[4]. Below is the complete citation from the January, 1935, *Milwaukee Bulletin*. Given the lead time needed to put together a publication of this quality in the 1930s, it's possible that this represents the earliest use of the phrase "Madison Astronomical Society" in print.

Station No. 3 Madison Astronomical Society

J. M. English (Leader) **	14—15	11:50	14:00	23
	15—16	11:00	17:00	87
Station No. 4 Beloit College Students				
Prof. R. C. Huffer (Leader)	14—15	12:00	17:00	44
	15—16	Overcast Skies		
			Total plots	332

**The following persons participated in the work of the Madison station: Tom Binney, Mrs. Tom Binney, Walter Houston, J. C. Gamroth, Leslie Ketchum, Mrs. Leslie Ketchum, Clarence Draeger, John McClain, Walter Foster, Harold Jacobs, Henry Wright, Dr. Supernaugh, and Rev. Lookabill.

The section of the Milwaukee *Bulletin* article on meteor observations that contains what is possibly the first published use of the phrase "Madison Astronomical Society." From the Milwaukee Astronomical Society Bulletin, January 1935. See explanation on this page. The mention of Mr. and Mrs. "Tom" Binney was an error - should be Mr. and Mrs. Bill Binney.

In the February 22nd *Wisconsin State Journal*, a small entry lists the programming selections for local radio station WHA, the "Ideas Network." WHA is the flagship radio station for the UW Madison and had been offering programming since 1922. It was a locally popular platform then as it is now. Among the programs offered was a 15-minute segment called "Watchers of the Sky" by Paula Birner. Though not mentioned among the founders by Neale-Silva, Birner was undoubtedly another "friend" from the beginning and would go on to be a central figure in the early MAS (see Appendix C).

Two additional sources give us insight into the 1934-35 origins of the club: The first is Dr. Charles Huffer's oral history recorded by the UW Madison in 1977, over 40 years after the club's founding[5]. The second is an article written by the society's first president, Dr. Jack Supernaw, in the very first issue of the club's newsletter in May, 1935. Both of those sources zero in on a series of courses taught by Dr. Huffer for the UW Extension program in the 1935-36 time period. Then, as now, the UW Extension was an effort to extend the UW Madison's influence beyond the tuition-paying student body in Madison. Extension classes were offered throughout the state, even in communities that had no UW campus. Dr. Huffer taught several classes in elementary astronomy in Racine and later in Madison. In his oral history, Huffer described the connection this way: "[The formation of the MAS] was partly the result of an evening extension non-credit course that I gave in astronomy. Just elementary, descriptive astronomy, was sponsored by the department of the extension division of the University . . . . These 2 classes formed the nucleus of the Madison Astronomical Society."

While Dr. Huffer draws a tentative line between his extension courses and the MAS ("partly the result"), the contemporaneous account by Dr. Supernaw is more direct, though couched in the somewhat lyrical narrative he uses in his article on the first page of the *Madison Bulletin*, Vol. I, No. 1 of May, 1935:

> *It is significant, when the Extension Department of our State University announces a twelve-week course in popular astronomy, to have forty-seven in attendance for the first lecture. It is significant that among*

Artist's rendition of the founding members. From left, Dr. Jack Supernaw, John "Jack" English, Dr. Charles Huffer, and William Binney. Front: Paula Birner. Artist: Emma Micinski.

[4] Prof R. C. Huffer (Ralph) taught math at Beloit College for nearly 40 years. He is the brother of UW Madison professor and Madison Astronomical Society member Dr. Charles Huffer.

[5] See Appendix B for more on Huffer's Oral History Interviews.

these forty-seven were housewives, grade and vocational teachers, nurses, oil station attendants, doctors, store-keepers, lawyers, and ministers—a cross section of diverse interests and tastes but a lay group with the common desire to know more about the mystery of the universe . . . The common need for discussion and "mutual benefits that evolve from congenial associations" gave rise to the organization of our present group.

Dr. Supernaw's comments here draw a much clearer connection between Huffer's class and the society. Supernaw's list of the "diverse interests and tastes" make tangential mention of several of the society's founding members: Supernaw himself was a physician. Paula Birner was a teacher at Lowell Elementary school. John English was a teacher at the Madison Vocational School. Binney worked at a gas station. H. R. Lookabill was a minister. Porterfield and Lappley were lawyers. It appears these founding members—and others—came together because they were enrolled in Huffer's course and wanted to keep the astronomy ball rolling after the lectures ended. Thus assembled the embryonic Madison astronomy club around the end of 1934 and the beginning of 1935.

One of Dr. Huffer's astronomy classes taught for the UW Extension in Madison. The class is gathered around the step ladder at the 15.6 inch Clark refractor in the dome at Washburn Observatory. Dr. Huffer is near the center of the group, in the dark suit and tie. It's an enticing possibility that some of the people in the picture are also early members of the MAS but we have been unable to positively ID any of them. Photo is from the UW Archives, dated April 28, 1936.

Years later, in a 1949 interview with a reporter from *The Capital Times*, Huffer characterized the connection between the society and the extension class this way:

> *"Fifteen years ago, a nucleus of Madison people wanted to know more about astronomy," Huffer reminisced. "This group was used as a guinea pig for one of the first adult education lecture series offered by the university extension division, and I was selected to explain the skies to them." (*October 12, 1949 *The Capital Times)*

The other "earliest" mention of the Madison Astronomical Society in print occurred in the *Wisconsin State Journal* on January 17, 1935. The Madison YMCA was hosting a hobby exposition and among the attractions highlighted was, "*The parts and working of a telescope will be presented in still and active life by the Madison Astronomical society."* The previous weekend, the *Wisconsin State Journal* had run another teaser for the hobby show in which it mentioned the ". . . telescopes of the astronomy club and John English." English was one of the four "founders" mentioned in Neale-Silva's history. He was a chemistry teacher at the vocational school and would go on to figure prominently in the society[6].

A few weeks later, the *Wisconsin State Journal* noted the formal incorporation of the society, a statement that can safely be considered a birth announcement:

> *Dr. J. S. Supernaw was elected president of the newly-formed Madison Astronomical Society at a meeting of amateur astronomers at the vocational school. Leslie W. Ketchum was elected vice-president and John W. English secretary-treasurer . . . The second meeting of the society will be held Wednesday night at the Madison Vocational School, room 140. The formation and adoption of a constitution, with the express purpose of making this society a permanent organization for those interested in astronomy, will be begun. (Wisconsin State Journal,* March 3, 1935.)

If the club has a *date of birth*, March 3, 1935, is clearly the best candidate.

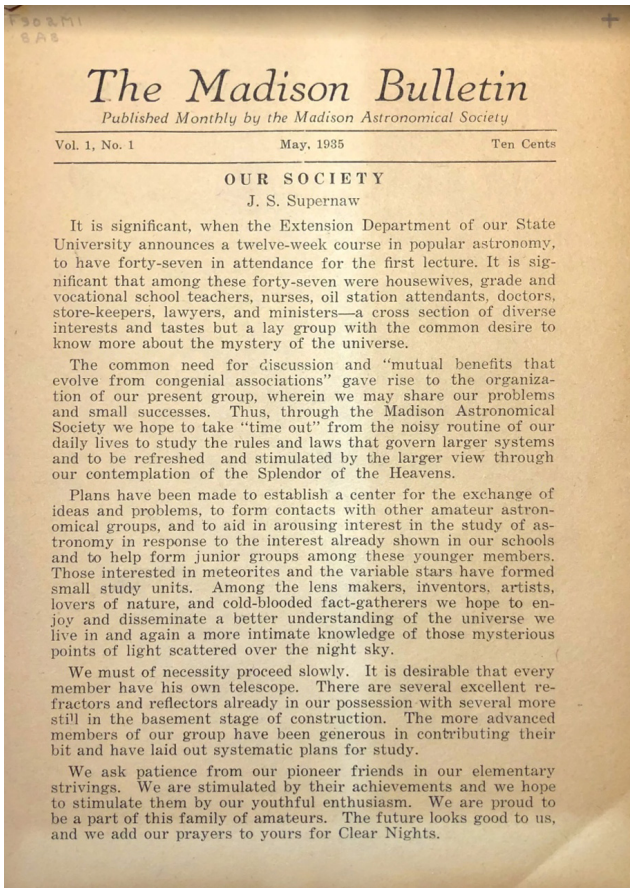
[6] See English's biographical sketch in Appendix C, page 41.

2. Partnerships, 1936-1951

Having officially launched in March of 1935, the Madison Astronomical Society now set about implementing its agenda and getting itself on its figurative feet. It had some catching up to do. Milwaukee had formed an astronomical society about two years before and was amassing an impressive track record of publication and accomplishment. This wasn't a competition though. Madison was a little behind but Milwaukee was willing to be superbly helpful to its younger sibling. The Madison society laid out its plan in the *Wisconsin State Journal* article announcing the club's official formation:

> *In outlining a tentative program for the year, the club is making plans for telescopic observational work . . . . The society is contemplating publishing a monthly paper for its members and others interested in scientific study. It also is considering a junior club to take care of the growing interest among astronomy students of the vocational and city high schools . . . . The society plans to cooperate with other astronomy clubs throughout the state. (Wisconsin State Journal,* March 3, 1935)

For those familiar with the later evolution of the club, this list is remarkably prescient. MAS did all of these things—and more—in the years to come. But the action that was to have the largest impact on the future of the club was not mentioned or foreseen here, maybe because it was so obvious that it didn't *need* to be mentioned: its relationship to the university's astronomy department. Even more than its relationship with the Milwaukee club, the connection between the UW astronomy department—particularly Dr. Huffer—would be central to the club's trajectory deep into its future.



The Madison Bulletin

Published Monthly by the Madison Astronomical Society

Vol. 1, No. 1 May, 1935 Ten Cents

OUR SOCIETY

J. S. Supernaw

It is significant, when the Extension Department of our State University announces a twelve-week course in popular astronomy, to have forty-seven in attendance for the first lecture. It is significant that among these forty-seven were housewives, grade and vocational school teachers, nurses, oil station attendants, doctors, store-keepers, lawyers, and ministers—a cross section of diverse interests and tastes but a lay group with the common desire to know more about the mystery of the universe.

The common need for discussion and "mutual benefits that evolve from congenial associations" gave rise to the organization of our present group, wherein we may share our problems and small successes. Thus, through the Madison Astronomical Society we hope to take "time out" from the noisy routine of our daily lives to study the rules and laws that govern larger systems and to be refreshed and stimulated by the larger view through our contemplation of the Splendor of the Heavens.

Plans have been made to establish a center for the exchange of ideas and problems, to form contacts with other amateur astronomical groups, and to aid in arousing interest in the study of astronomy in response to the interest already shown in our schools and to help form junior groups among these younger members. Those interested in meteorites and the variable stars have formed small study units. Among the lens makers, inventors, artists, lovers of nature, and cold-blooded fact-gatherers we hope to enjoy and disseminate a better understanding of the universe we live in and again a more intimate knowledge of those mysterious points of light scattered over the night sky.

We must of necessity proceed slowly. It is desirable that every member have his own telescope. There are several excellent refractors and reflectors already in our possession with several more still in the basement stage of construction. The more advanced members of our group have been generous in contributing their bit and have laid out systematic plans for study.

We ask patience from our pioneer friends in our elementary strivings. We are stimulated by their achievements and we hope to stimulate them by our youthful enthusiasm. We are proud to be a part of this family of amateurs. The future looks good to us, and we add our prayers to yours for Clear Nights.

The cover of the Madison Astronomical Society's very first newsletter, The *Madison Bulletin,* May, 1935.

MAS was already involved in telescopic observations, both formal and informal. It was holding public events and participating in group observations of meteor showers (in cooperation with the UW and neighboring astronomy clubs) and closely observing the planets. But they also quickly acted on the second priority: publishing a newsletter.

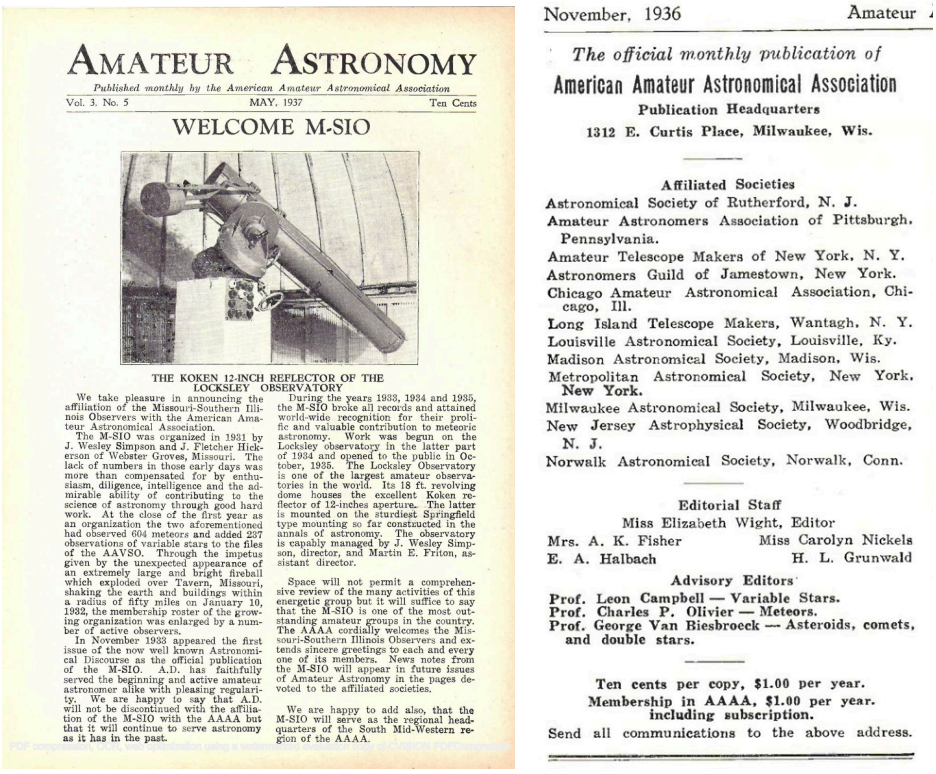
By May 1935, just two months after the meeting where officers were first selected, the inaugural edition of its first newsletter—*The Madison Bulletin*—appeared. Though only four pages long, it was a very polished and professional looking publication. This was no mimeograph duplication: it was a professionally typeset product. It was a close match to the Milwaukee society's newsletter, which had been published since 1934. It may be that Madison's society relied on those typesetting contacts and experience to secure a good deal for itself.

In this first issue, newly elected president Dr. Supernaw wrote a front-page article. This is the only written contribution from him that we have found (see picture at left). In his article, Dr. Supernaw restated most of the priorities found in the March *Wisconsin State Journal* article, using mostly the same language.

The Madison Bulletin published ten issues over that first year but seems to have been quickly replaced by a joint effort with Milwaukee and other societies. Early in 1936, the Madison society joined forces with the Milwaukee Astronomical Society (having been founded about two years before the Madison society) and several other midwest amateur groups to publish a joint newsletter called *Amateur Astronomy*.

While *The Madison Bulletin* was exclusively a Madison society product, *Amateur Astronomy* was driven by and mostly made up of material which came out of the Milwaukee society, but with contributions from others like the *Amateur Telescope Makers of New York* as well. Both were remarkably polished products with a very mature, professional look. *Amateur Astronomy* published 13 issues from 1936 through May 1938. It is unclear why both

were so time limited and ceased publication after only a few years, but expense may have been a factor. Both charged a modest ten cents per copy and it's possible that sales were not sufficient to pay the expenses. Despite their short lives, both publications seem to point to the aspirations of the Madison society to be more of a collaboration with professional astronomers than a simple organization of hobbyists.



AMATEUR ASTRONOMY

Published monthly by the American Amateur Astronomical Association

Vol. 3, No. 5 MAY, 1937 Ten Cents

WELCOME M-SIO

THE KOKEN 12-INCH REFLECTOR OF THE LOCKSLEY OBSERVATORY

We take pleasure in announcing the affiliation of the Missouri-Southern Illinois Observers with the American Amateur Astronomical Association.

The M-SIO was organized in 1931 by J. Wesley Simpson and J. Fletcher Hickerson of Webster Groves, Missouri. The lack of numbers in those early days was more than compensated for by enthusiasm, diligence, intelligence and the admirable ability of contributing to the science of astronomy through good hard work. At the close of the first year as an organization the two aforementioned had observed 604 meteors and added 297 observations of variable stars to the files of the AAVSO. Through the impetus given by the unexpected appearance of an extremely large and bright fireball which exploded over Tavern, Missouri, shaking the earth and buildings within a radius of fifty miles on January 10, 1932, the membership roster of the growing organization was enlarged by a number of active observers.

In November 1933 appeared the first issue of the now well known Astronomical Discourse as the official publication of the M-SIO. A.D. has faithfully served the beginning and active amateur astronomer alike with pleasing regularity. We are happy to say that A.D. will not be discontinued with the affiliation of the M-SIO with the AAAA but that it will continue to serve astronomy as it has in the past.

During the years 1933, 1934 and 1935, the M-SIO broke all records and attained world-wide recognition for their prolific and valuable contribution to meteoric astronomy. Work was begun on the Locksley observatory in the latter part of 1934 and opened to the public in October, 1935. The Locksley Observatory is one of the largest amateur observatories in the world. Its 18 ft. revolving dome houses the excellent Koken reflector of 12-inches aperture. The latter is mounted on the sturdiest Springfield type mounting so far constructed in the annals of astronomy. The observatory is capably managed by J. Wesley Simpson, director, and Martin E. Friton, assistant director.

Space will not permit a comprehensive review of the many activities of this energetic group but it will suffice to say that the M-SIO is one of the most outstanding amateur groups in the country. The AAAA cordially welcomes the Missouri-Southern Illinois Observers and extends sincere greetings to each and every one of its members. News notes from the M-SIO will appear in future issues of Amateur Astronomy in the pages devoted to the affiliated societies.

We are happy to add also, that the M-SIO will serve as the regional headquarters of the South Mid-Western region of the AAAA.

November, 1936 Amateur

The official monthly publication of

American Amateur Astronomical Association

Publication Headquarters

1312 E. Curtis Place, Milwaukee, Wis.

Affiliated Societies

Astronomical Society of Rutherford, N. J.
Amateur Astronomers Association of Pittsburgh, Pennsylvania.
Amateur Telescope Makers of New York, N. Y.
Astronomers Guild of Jamestown, New York.
Chicago Amateur Astronomical Association, Chicago, Ill.
Long Island Telescope Makers, Wantagh, N. Y.
Louisville Astronomical Society, Louisville, Ky.
Madison Astronomical Society, Madison, Wis.
Metropolitan Astronomical Society, New York, New York.
Milwaukee Astronomical Society, Milwaukee, Wis.
New Jersey Astrophysical Society, Woodbridge, N. J.
Norwalk Astronomical Society, Norwalk, Conn.

Editorial Staff

Miss Elizabeth Wight, Editor
Mrs. A. K. Fisher — Miss Carolyn Nickels
E. A. Halbach — H. L. Grunwald

Advisory Editors

Prof. Leon Campbell — Variable Stars.
Prof. Charles P. Olivier — Meteors.
Prof. George Van Biesbroeck — Asteroids, comets, and double stars.

Ten cents per copy, $1.00 per year.
Membership in AAAA, $1.00 per year. including subscription.
Send all communications to the above address.

Cover of an issue of *Amateur Astronomy* (left) and a copy of the masthead from the inside of an issue showing affiliated clubs.

Simultaneous to the publication push, the Madison society announced a series of public lectures on astronomy that would be offered under the auspices of the society. This announcement appeared in the June 18, 1936, edition of the *Wisconsin State Journal*: "A series of eight popular lectures on astronomical subjects, to begin Wednesday, June 24, was announced today by the Madison Astronomical society. All the subjects will be handled in a non-technical manner so starminded children and adults of Madison may understand them."

We don't have a record of all of the lectures but they kicked off on June 24, 1936, and seemed to have been scheduled weekly. The talks were apparently separate from the regular monthly meetings of the club. They were intended to publicize the existence of the new club to the general public and raise funds by charging a modest admission fee. Underscoring the relationship with the Milwaukee society, two of the first speakers were the president and vice president from that group. The third was Dr. Huffer from the UW Madison, another of Neale-Silva's four founders. Newspaper coverage suggests that the talks were well attended with an audience as high as 50 for the first one. The funds raised were to be directed toward the Madison society goals, including the acquisition and mounting of a telescope to facilitate public outreach. As we'll see in the next chapter, it would take quite some time to realize the goal of a club observatory.

MAS Meeting snapshot

October 16, 1935
Dr. Huffer gives a talk on meteor showers, Forest Products Lab.

November 15, 1935
Members gather at the Monona Golf Course to observe the Leonid meteor shower.

March 19, 1936
Discussion of shaping a 14" mirror blank, Washburn Observatory.

The Madison-Milwaukee partnership was also manifest in the initial burst of joint activity. In addition to the sharing of the publication of *Amateur Astronomy*, the Madison group was hosting the Milwaukee society's members at their meetings (1935), the Milwaukee society provided four of the featured speakers at the Madison group's lecture series (1936), the groups partnered in a Perseid observing project that included communication by radio between the two cities to assist in determining the altitude of the meteors (unfortunately, radio communications were foiled by atmospheric conditions), (1941), and the groups attended each others' picnics (1939 and 1949). The cooperation between the two groups feels almost as though there was a mentorship relationship between the two, with the Milwaukee club working to bring the Madison group along.

Another growing pain the Madison Astronomical Society members had to confront was finding a permanent location to hold their monthly meetings. Initially, meetings were held at a variety of locations, mostly dictated by the availability of space at the members' places of employment. Thus, records of early meetings indicate such locations as the Madison Vocational School (where English taught), the Madison General Hospital (where Supernaw was a surgeon), the Park Hotel (for a luncheon), the Forest Products Lab (where Parker Baird and George McNaughton worked), and the Monona Golf Club. The clubhouse at the Monona Golf Club is listed several

times as a meeting venue in 1935-36 (see picture p.10). The clubhouse was evidently a nice location to hold a meeting and perhaps crucially, just outside the clubhouse was a beautifully verdant field bordering the course. In the 1930s, this would have been the extreme eastern boundary of Madison. To the east and south was nothing but farms. It would have been ideal for setting up telescopes and sharing the sky with the public: "Monday some 15 eager Madison astronomers will gather at a special site just east of the Monona Golf clubhouse and start looking skyward for a heavenly show which will hold their unglassed eyes until dawn." (*Wisconsin State Journal*, April 19, 1936)

MAS Meeting snapshot

April 14, 1937
L. W. Ketchum will give a talk about the Moon, Washburn Observatory.

June 3, 1937
Harry Hackler will give a talk on the orbital motion of the Earth, Washburn Observatory.

For a time there was even talk of establishing a permanent telescope on a pier at the Monona golf course to facilitate public astronomy outreach. These plans evidently went nowhere and the club was to consider many other options for permanent telescope housings before any progress was made on this front (see next chapter).

Another popular location used for observing was the west side reservoir located on Glenway near Regent St. The underground city infrastructure was invisible to most residents who simply enjoyed the hill for sledding and other youthful outdoor activities. Much like the Monona Golf Course represented the eastern extreme of built-up Madison, the Glenway and Regent area at that time marked the western extreme of the city and would have been much darker than areas closer to the university or downtown. MAS is on record using the reservoir location for observing meteor showers in the 1930s. Reservoir Park still exists at that location today.

Casting about for locations to hold meetings likely grew tedious and the club longed for a permanent space to call home. Into this gap stepped Dr. Charles Huffer. The mutual affection and respect between Dr. Huffer and the club was already in evidence. In that light, an offer of space from the astronomy department is not surprising. Years later, in his oral history interview, Huffer told the story this way: "Some of the people [from his Extension course on astronomy] that were interested came to me and said, 'We want to have a society,' so we invited them to come up to the observatory for their meetings once a month on a night when there were no classes . . . . "

The university's facilities at Washburn Observatory had a nice classroom space, and Huffer offered it to the MAS as a permanent meeting location. Opening the observatory once or twice each month on Wednesday nights to the public had been a UW tradition since the opening of the observatory in 1881. Huffer likely told the society that they could use the Washburn Observatory as a meeting place as long as it didn't conflict with that public obligation. It's easy to see how the MAS's desire to tap the public's interest in astronomy could be perfectly complementary to the university's outreach obligations. Two spring meetings took place at Washburn in 1936 and by the beginning of the 1937-38 academic year, the club seems to have permanently moved all of its monthly meetings to Observatory Hill. At the September 8, 1938, meeting, the official meeting date was changed from the third Thursday of the month to the second Wednesday, possibly to eliminate a conflict that had arisen with the open telescope nights. It was official, Washburn Observatory was the home of the MAS. For the next eight decades, three out of four MAS monthly meetings would be held at UW venues.

MAS Meeting snapshot

Dec 12, 1938
Parker Baird gave a talk on the Arizona meteor crater, meeting location unknown, probably Washburn.

Jan 9, 1939
Washburn Observatory, Paula Birner and C.M. Huffer will be the speakers. Miss Birner spoke on "upcoming astronomical events." Washburn Observatory.

Feb 10, 1939
Washburn Observatory, H. P. Porterfield led a discussion on the origins of the universe. Washburn Observatory.

The relationship between the two institutions was very tight. We have the minutes of club meetings from the late 30s and early 40s and the words of appreciation that flow back and forth between the society and Huffer and Stebbins[7] are prominent: "Dr. Supernaw proposed that the Nov. meeting be called the annual dinner meeting and that as a token of appreciation of the assistance Dr. Stebbins and Dr. Huffer have given the society they and their wives be invited as guests. Motion carried." (Club minutes, Oct 15, 1936) "Mr. Lookabill spoke expressing to Drs. Stebbins and Huffer appreciation for the help they have consistently given the society." (Club minutes, Nov 19, 1936, during the annual dinner.)

[7] Dr. Joel Stebbins was the chair of the UW astronomy department when he invited Huffer to come to Madison for his PhD. Stebbins retired in 1948. See Huffer biographical sketch on p. 43. Stebbins' role in the MAS was peripheral compared to Huffer's.

The close connection between MAS and the UW was evident from the outside as well. In 1949, *The Capital Times* observed in a phrase that likely came from an MAS member, "The club is sponsored by the university department of astronomy." Another article in January 1949 highlighted the many ways the city of Madison had benefited from its relationship to the university. Among the list was ". . . the use of Washburn observatory by the Madison Astronomical society."

MAS Meeting snapshot

July 11, 1940
Astronomers Study Famous Telescopes.

Plans for a year's study of famous telescopes were laid Wednesday night by about a dozen members of the Madison Astronomical Society meeting in Washburn observatory, Gilbert F. Lappley, a society director, announced today.

This relationship between the MAS and the astronomy department was to continue for many years and is still very relevant right up to the present day. The society's relationship with Dr. Huffer in particular would be very close. By September of 1938, Dr. Huffer would be elected to the board of directors as club secretary and would hold that office continuously for the next 22 years. Though the group would have a variety of speakers for their monthly meetings, Huffer would be the most frequent invitee, appearing as speaker at least 16 times by 1950. Stebbins was listed as a speaker six times during that same period, but all those took place by 1942 (he left the UW in 1948). It appears that during the early 40s, MAS's association with the astronomy department had matured into a stable, long-term relationship with Huffer, to the benefit of both.

Other featured speakers (in descending order of frequency) were: Porterfield (16), Baillie (10), Binney (7), Grams (6), Lappley (5), Birner (5), Ketchum (4), Baird (4) and Hackler and Grove (3 each). The only other professional invited for a talk in those early days was J.G. Winans, a professor in the physics department who appeared as a speaker twice in the period ending in 1950. This bias toward the lay members of the club giving the talks was intentional. In the club minutes from the October 1936 board meeting, Dr. Supernaw specifically recommended that the board plan "more simple subjects for the programs." Mr. Baird echoed this sentiment and expressed a preference for "local talent" rather than "high power" speakers from outside the club.

MAS Meeting snapshot

March 11, 1942
J. M. Gaffney spoke on Jupiter; Dr. Huffer gave a talk about the discoveries of Neptune and Pluto. Washburn Observatory.

April 8, 1942
J. Stebbins spoke on the Dedication of the new Mexican Astrophysical Observatory at Tonanzintla, Mexico; H. Porterfield talked on Saturn and G. F. Lappley spoke on Ursa Major. Washburn Observatory.

May 13, 1942
William Ryan gave a talk about Uranus; J. G. Winans (UW Physics prof) gave a talk entitled "The Mysteries of Light." Washburn Observatory.

A glimpse into Dr. Huffer's role inside the group emerges from his correspondence during the following decade. In 1952, negotiations were underway to facilitate the donation of a telescope to the club from businessman Oscar Mayer (see chapter 3 for more on this). As plans for the donation of the telescope and a generous cash gift to help build an observatory were in process, Dr. Huffer wrote a letter to Thomas Stavrum (at that time, chair of the club's telescope committee) briefing him on the results of a meeting with Mayer. At the end of the letter, this unrelated exchange is added, just before signing off: "I see no point in calling Shatzel this afternoon since Joanna has a copy of his letter received on Saturday. I hope plans develop for Shatzel's lecture and am sorry that I shall not be home to help with all this."

"Joanna" is Joanna Overn, a UW student and president of the MAS in 1952. Overn's story will be touched upon in the next chapter but told more fully in Chapter 4. "Shatzel" was probably Albert Schatzel, associated with the University of Chicago at the time, and a year or so later, the acting director of the Adler Planetarium. He was likely being invited as a speaker for a future meeting of the group, but arrangements were still underway. This relationship makes sense as the telescope being donated by Mayer was currently being held by the Adler. There's no indication Schatzel ever gave his talk to the MAS but this anecdote illustrates how involved Huffer was in the day-to-day operations of the group. His expression of regret for not being available to follow through on something so routine as a speaker invite underscores the warmth of his attachment to the society.

3. An Observatory of Our Own, 1936-1956

Almost as soon as the ink was dry on the 1935 founding documents, MAS members were talking about acquiring their own observatory. For astronomy fans, observatories were very much in the news. Renowned astronomer and Caltech founder George Ellery Hale had built three of the largest telescopes in the world over the preceding 50 years, one of them just a few miles down the road in Lake Geneva, WI. The year before, Hale's latest big science project obtained genuine celebrity status when Corning Glass Works in New York poured tons of glass into a 17-foot circular mold to create the next generation giant telescope. Within a few days of the original *Wisconsin State Journal* article documenting the formation of the Madison Astronomical Society, this headline appeared: *Astronomers Talk City Observatory, Plan at Meeting.* (*Wisconsin State Journal,* March 7, 1935)

Prior to 1935, area observers were already gathering at the Monona Golf Course to watch the skies. Soon after forming the club, MAS members were occasionally using the clubhouse there as a meeting location (this building still stands today, known as the Nathan and Harriet Dean House, a Victorian house museum on Monona Drive). As noted in the previous chapter, the golf course was then on the very edge of the city. Beyond the clubhouse, wide open spaces and dark skies beckoned. It's not surprising that this location was being discussed as a spot for a permanent telescope that could benefit the whole city. "A large telescope, which would be open to the public may be placed at the Monona golf course, where the society makes its observations. Mayor Law has granted the use of the course and the city board of education has given the society a blackboard. At first the group decided to have a 15-inch telescope, but a smaller one may be set up." (*Wisconsin State Journal,* July 28, 1935)

The rear of the Dean House at Monona Golf Course, sometime in the 1930s. It is this lawn that would likely have been the preferred location for observing by the MAS in the 1930s. Photo courtesy the Nathan and Harriet Dean House.

Just a few months later, observatory plans received a boost when Rev. Lookabill was the recipient of a gift that seemed the perfect find for the astronomy enthusiast and the club which he had just helped to found. As recounted in a December 1, 1935, article in the *Wisconsin State Journal*, a group of scientists and executives at the Corning Glass Works of New York presented the pastor with an 8-inch mirror which was part of the same pour that resulted in the famous Hale Telescope 200-inch mirror, cast just the previous year in 1934. George Ellery Hale's 200-inch project was much in the news in those days, representing the first "big science" project of its kind, and captured the public's imagination. The 200-inch was, of course, headed for Mt. Palomar in California.

Lookabill obviously had some well-placed friends in the astronomy community. From the same *Wisconsin State Journal* article: "When the huge 200-inch lens was poured, Albert G. Ingalls, associate editor of Scientific American, was given an 8-inch disc poured at the same time. Dr. S. H. Shelb, Richmond, Va., and LeRoy M. Clausing, Chicago, perfected the lens and coated it with aluminum to form a mirror. Then they sent it to Mr. Lookabill."

The gift had been in the planning stages for some time. Other parties provided a tube, diagonal prisms, eyepieces and a pedestal. The participants referred to the package as "The Minister's Telescope Basket." The parts were assembled by Rev. Lookabill. "'There is an added interest to me in this fine instrument,'" he explained, "'for the lens is really part of the great 200-inch telescope. So while the scientific world will have to wait four years for a

look through the giant telescope, I can stay right here in Madison and scan the heavens any clear night,'" said Lookabill. (*Wisconsin State Journal,* December 1, 1935)

The world would have to wait considerably longer than four years for the Palomar giant. The great 200-inch telescope, its progress delayed by technical challenges and the coming of World War II, would not see first light until 1948, 14 years later. The MAS, as it turns out, would have to wait even longer for their observatory.

Thanks to a May 1936 note in the *Wisconsin State Journal* noting his resignation, we know Lookabill assembled and used the 8-inch telescope and it became a prized possession, but likely played no role in MAS's quest for its own telescope.

Just months later, the irrepressible Rev. Lookabill was back at it, this time with a 14-inch mirror blank.

> *Years ago a Cincinnati glass firm, knowing of the interest of the Rev. H. Randdel [sic] Lookabill in telescopes, gave him a disk of glass 14 inches in diameter and about two inches thick, told him to make a telescope. He never ground the lens. Now he has presented it to the society, and it will be the "big eye" for the telescope if it is completed. Scientists at the University of Wisconsin who tested the glass found it satisfactory for a telescopic mirror.* (*Wisconsin State Journal,* March 21, 1936)

The phrase "big eye" was another reference to the mirror of the great 200-inch telescope, which was commonly referred to by that appellation in newspapers. Lookabill's 14-inch disc showed up again in the September 1936 issue of MAS's new newsletter, *The Madison Bulletin*. In a piece written by Walter Scott Houston, the article echoed the WSJ article's statement that the mirror had been gifted to the society by Lookabill, and that it had passed stringent tests by the university physics department. Houston added that the grinding and figuring were being done by the Milwaukee society as part of their "loan-fund" program. He expected that it would be ready for service by the spring of 1936. Houston continued: "The mounting of the telescope will be in the hands of the Madison Astronomical Society, and already the first drafts of the structural and mechanical details are underway. It will be located at some convenient site where clear skies will assure taking advantage of its remarkable light grasp." (*The Madison Bulletin*, Vol. I, No. 5, p. 17)

These two references are the only mentions of the 14-inch mirror blank that we have found. Its fate is unknown but it's likely that the plans were abandoned as untenable for the club's current capabilities. Houston had noted that with its planned focal ratio of f/8.5, the 14-inch mirror would have required an optical tube 12 feet long! A mount and building for such an outsized Newtonian reflector would have been enormous, not to mention expensive. The demise of the 14-inch mirror is not surprising—even as it entered the discussion, its progress seemed dubious. The March 21 *Wisconsin State Journal* article ended with this note of caution: "If the instrument is constructed, it will be necessary to have an observatory, but the society has taken no other definite action yet."

The lack of progress would be the rule, not the exception. Just a few weeks later, Rev. Lookabill announced his resignation from the Madison church where he had preached for six years. He would be moving to Michigan at the end of the summer to accept an invitation to minister there. Though Lookabill would maintain some ties to the MAS and the city of Madison for years to come, his time in Madison and with the MAS had come to an end. Was it perhaps his departure that ended talk of establishing an observatory? No one knows. The summer of 1936 marked the end of the club's talk of founding an observatory. At least for now.

For the next 15 years or so, MAS kept very busy. The club had experienced a successful launch and was growing. Monthly meetings were well attended, members were happily making their own telescopes, attending talks, socializing, and more. The club was receiving publicity and membership was likely expanding. But there was no more mention of an observatory until the 1950s. Fifteen years brought many changes—and new leadership—to the MAS, but the headline in the April 7, 1952, *Wisconsin State Journal* proclaimed a familiar theme: *City Amateur Astronomers Get 'Own' Telescope, Seek Site*.

The club, as we'll see, is about to acquire not one but two telescopes. The first was a relatively modest reflector, the second a very nice refractor. The acquisition of the reflector renewed the club's quest for a dedicated observatory in which to install it:

> *The capital city's group of amateur watchers of the heavens has recently acquired its first society-owned telescope and is presently surveying the Madison area for a spot where the scope may be mounted permanently. "What we need," said Joanna Overn, University of Wisconsin senior student, Madison resident, and this year's enthusiastic president of the Astronomical society, "is a place that has an uninterrupted view of the sky, a spot that is free from excessive light and has easy access from the city."* (*Wisconsin State Journal,* April 7, 1952)

City parks were considered—and rejected—as their early closing times were not friendly to astronomical pursuits. Private property would be ideal but property was expensive, and the club's resources were limited. So limited in fact, that the first telescope acquired couldn't be funded with society money alone and needed some additional donors. The April 7 article continued: " . . . a "bargain" telescope was discovered in La Crosse; the $125 for purchase was accomplished through voluntary contributions."

The telescope they had acquired from a LaCrosse seller (we have not discovered its origin beyond this) was a 10-inch Newtonian reflector built into a wooden rectangular enclosure rather than a round tube. This telescope would be kept by the club for over 25 years (and refurbished a few times), but problems with its mount prevented it from being heavily used. Nevertheless, it will figure in the coming pages of this story.

The second telescope acquisition in 1952 was a pure donation, and a very good one.

MAS Meeting snapshot

April 7, 1952
Katherine McMullen will speak on "Astronomy in Literature," at 8 pm, Washburn Observatory,

August 8, 1952
Special sessions will be held by the Madison Astronomical Society for observations of the Perseid Meteors at the Washburn Observatory here Sunday, Monday and Tuesday nights. The sessions will be held whenever the sky is clear between the hours of 8 pm and 4 am.

Oscar Mayer was a German immigrant businessman. Along with his brother, Gottfried, he headed one of the largest meat processing and distribution operations in the country. Headquartered in Chicago, they expanded into Madison with the opening of a processing plant on the north side in 1919. By 1957, Madison would become their corporate headquarters.

Mayer, it turns out, was also a bit of a science geek and a fan of astronomy. By 1952 he had made the acquaintance of Dr. Huffer and talk began of Mayer helping out with MAS's dream of having its own observatory. In June of 1952, Dr. Huffer exchanged several letters with Mayer regarding a telescope owned by Mayer but currently on loan to the Adler Planetarium. The following is a quote from Dr. Huffer to Mayer's secretary, Lois Ramseth, dated June 18, 1952: "You may remember that several weeks ago we had a conversation regarding the telescope which is owned by Mr. Mayer and is on loan to the Chicago planetarium. According to our agreement, I stopped at the planetarium last Friday and saw this telescope. I must say that I was very much impressed with the instrument, and found that it was a little more elaborate than I had visualized."

MAS Meeting snapshot

January 10, 1953
Mrs. Fred Ehrensperger will talk on Tycho Brahe and Dr. Arthur Code will discuss radio astronomy, Washburn Observatory.

February 8, 1953
"Exploring the Atom" by Prof. John E. Willard of the University of Wisconsin Astronomy. Edward P. Baillie will give a short talk on Johannes Kepler, famous 16th century German astronomer, 8 pm at the Washburn Observatory.

The telescope was a 4.25-inch Steinheil refractor, a very fine telescope indeed. In quality, it was far beyond the modest 10-inch reflector the club had recently purchased. Mayer had evidently mentioned the possibility of donating this telescope to MAS and Huffer, on behalf of the society, was very interested in closing this deal. He mentioned that they had recently purchased the 10-inch reflector, and that the addition of the Mayer telescope would be "a fine beginning of a municipal observatory." The old familiar problems were still present however, including where to put this observatory and how to pay for the inevitable expenses involved. As he continues in his letter to Mayer's secretary, one gets the impression that Huffer senses that a larger Mayer donation is within their grasp:

> *It [the Steinheil] is rather large and should be put in a permanent location; it would require a building to house it . . . . The 10-inch reflector is temporarily mounted on property belonging to the First Unitarian Society of Madison, but it is obvious that the Madison Astronomical Society needs to make plans for a permanent installation, either on their own property or on a site owned by the city of Madison. All these problems need careful and deliberate consideration. We should be very happy to have a suggestion from you regarding the next move.*

In this brief quote, we also learn that MAS had a temporary observing facility on the property of the Unitarian Church. This is its only mention. Mayer wasted no time in sending a reply to Huffer. The very next day he posted the following:

> *My secretary, Miss Ramseth, has shown me your letter of June 18th. I am glad to hear that you like my 4-1/4" refractor. It is a very fine Steinheil instrument which my father brought over from Munich 25 years ago. It has never been used simply because we have never had a place from which observations could be made. I would be very glad if you could come in to see me on your next trip to Chicago, for I would like to*

> *see this telescope put to constructive use. It might be that we could make some contribution towards housing the instrument through our Foundation, along with your 10" reflector. Our contribution could not be very large, but added to gifts coming from others might make it possible to construct an observatory building which could be adapted to your purposes.* (Mayer to Huffer, June 19, 1952)

Huffer also replied the next day (giving this correspondence a somewhat breathless pace!) expressing the hope that arrangements could be made. Huffer was getting ready to leave Madison for meetings on the west coast and upon return would be buried in his summer school teaching duties, but he was going to turn Mayer's letter over to the MAS telescope committee for "further study."

The next thread of this correspondence that we have is two months later, after Huffer's visit with Mayer in Chicago. Huffer is writing to MAS member Thomas Stavrum, likely the head of the aforementioned telescope committee:

> *Mr. Mayer amazed me with his knowledge of astronomy and is interested in modern theories. During the conversation he expressed the opinion that we should go ahead with our more ambitious plan for building a telescope with dome. Furthermore he volunteered a contribution of $2,000.00 from the Oscar Mayer Foundation and dictated a note to his Secretary to that effect. In the note he included a statement that his 4/1/4" telescope be delivered to us in Madison at my request and that the $2,000.00 would also be available whenever I asked for it.* (Huffer to Stavrum, August 25, 1952)

Mayer's offer of $2,000 in addition to the telescope is very generous (equivalent to over $21,000 in 2022 dollars) and more than enough to ensure construction of a suitable building. Huffer's letter to Stavrum continues and mentions proceeding with the plan to build on "Mr. Rodman's property" on a lease arrangement for $1 per year. He expressed hope that the construction would take place that fall. Neither Rodman's identity nor the location of his property is known and nothing more was said of this plan. Again, the timeline proved too optimistic and progress eventually slowed.

By October 1952, an observatory site was being considered near Middleton:

> *The Madison Astronomical Society is planning to build an observatory to provide its members with facilities with which to study the stars, planets, and the moon, The Capital Times learned today. The project still is in a nebulous stage, however, and construction probably will not get underway until next spring. The Society has had an offer of part of a 2-acre tract of land on a hill a mile southeast of Middleton as a site for the structure and $2,000 has been contributed to the building fund by the Oscar Mayer Foundation.* (*The Capital Times*, October 16, 1952.)

In 1952, "a mile southeast of Middleton" would have been rural farmland around the intersection of University Avenue and Allen Boulevard (near the Imperial Garden restaurant's current location), though this description is too fuzzy to be anything more than suggestive. Was the "hill" near present-day, nearly unknown Skyview Park (just off Highland Avenue)? No one knows. A second mention of this location occurred in the December 11, 1952, *The Capital Times*, but the focus of this article was Oscar Mayer's donation of the Steinheil telescope. This article also makes the claim that the Steinheil scope was a bit of a celebrity, having launched the 1933 Chicago Exposition when light from the star Arcturus was directed onto a photocell through its lenses to launch the celebrations.[8] The article mentions the gifts of Oscar Mayer to the club and the proposed observatory. In its first sentence, it repeats the "hill southeast of Middleton" and in its final sentence: "Plans for the new local observatory are being completed, according to Prof, C. M. Huffer, University astronomer. The land site was given to the Society by the Oscar Mayer Foundation."

MAS Meeting snapshot

September 12, 1954
Topic of the meeting will be the June 30 eclipse of the sun. Members are urged to bring their photographs, Washburn Observatory.

This confuses the situation more as we know that Mayer donated a telescope and cash, not land. Two specific mentions in the newspaper within the span of three months suggest an underlying kernel of truth, but if Oscar Mayer (or anyone else) ever offered a parcel of land near Middleton to the club, no record of it remains.

The situation gets even muddier because the next mention (six months later) of the observatory drops the Middleton location and has the club discussing whether to locate it at the Dane County Fairgrounds (present day Alliant Energy Center on John Nolan Drive). This site is mentioned only this once, and then dropped, as logistics

[8] A little digging on the "which telescope was used to launch the 1933 Chicago Exposition" question reveals several competing claims. Skepticism is warranted for this claim to fame for the Steinheil refractor.

were too complicated. But the amount of detail contained in the account suggests it was a serious discussion while it lasted:

> *A decision on whether to build an observatory at the Dane county fairgrounds was left to the Madison Astronomical Society Friday night by the county Fair grounds committee. Asst. Dist. Atty. William Byrne said construction of the buildings would be up to the society, but the county would maintain jurisdiction of structure since it would be erected at the fairgrounds. He said the county could not enter into a long term lease of the property and it would be up to the society to decide if it wanted to turn over the building to the county.* (*Wisconsin State Journal*, May 9, 1953)

The next time the observatory is mentioned is the following year in a brief announcement in the *Wisconsin State Journal*: "The Madison Astronomical Society will hold its annual picnic at 5 p.m. today in the lower field of Hoyt park. The group will wind up the affair at the new observatory off the Fish Hatchery road and Bjorsten [sic] laboratories where an election of officers will be held." (*Wisconsin State Journal*, June 9, 1954)

This is the first mention of Bjorksten (note correct spelling) in club records, and this announcement marks the formal appearance of what would be known as the Oscar Mayer Observatory, although it would still be sometimes referred to as the "Bjorksten site." This hilltop in Fitchburg was to be the official MAS observatory for the next 30 years or so. In many ways it would become *the* focus of club activities. We have no idea how the Bjorksten site was chosen. Here's the little we do know. Eduardo Neale-Silva's history of the club notes: "In 1956, through the good offices of Miss Charlotte Steward [sic], the Society was invited to install its first building at the site of the Bjorksten Laboratories."

MAS Meeting snapshot

March 7, 1954
A talk on "Astronomy and the Pyramids" will be presented by Dr. J. S. Supernaw at its meeting on Wednesday at 8 pm in the Washburn Observatory.

Ted Odell will give a short talk on the planet Uranus.

Charlotte "Steward" was Charlotte Stewart (see Appendix C) and there is some evidence that she worked for Dr. Bjorksten. The 1952 Madison City Directory lists her employment as clerk at Bjorksten Laboratories. Stewart's involvement with the club goes back as far as 1941, when she's listed as having served as a club officer, including two terms as president (1946-48). The timing of Neal-Silva's account is also suspect, his date of 1956 being about two years after the *Wisconsin State Journal* newspaper article above, indicating the MAS was already holding meeting events at the Bjorksten grounds in June of 1954. Based on the dates of these newspaper accounts, the Bjorksten arrangements were made sometime between May of 1953 and June of 1954. Ms. Stewart may have made the introductions but of that we have no record.

Correspondence from years later between Dr. Bjorksten and the MAS shed some light on the arrangements between the landowner and the society. A 1981 letter to society treasurer Keyes from Dr. Bjorksten's secretary spells it out:

> *Usually, at this time of the year, an arrangement is made between Dr. John Bjorksten and the Society whereby Dr. Bjorksten pays the proper membership dues, and the Society pays an equal amount as rent for the land occupied here by the Society's observatory and storage shed. Dr. Bjorksten would be happy to continue this mutually beneficial arrangement, if that is agreeable to you. If so, please send us a receipt for his 1982 dues, and we will respond with a receipt for the 1982 rent.* (Ruth Lolly to Joe Keyes, December 9, 1981)

Cancelled checks and receipts from the period 1979-82 show Bjorksten and the society trading land rental fees for club membership, amounting to about $20-$24 a year. This arrangement likely lasted until the mid 1980s when MAS finally abandoned the site and moved south to its current observatory in Green County (see chapter 9).

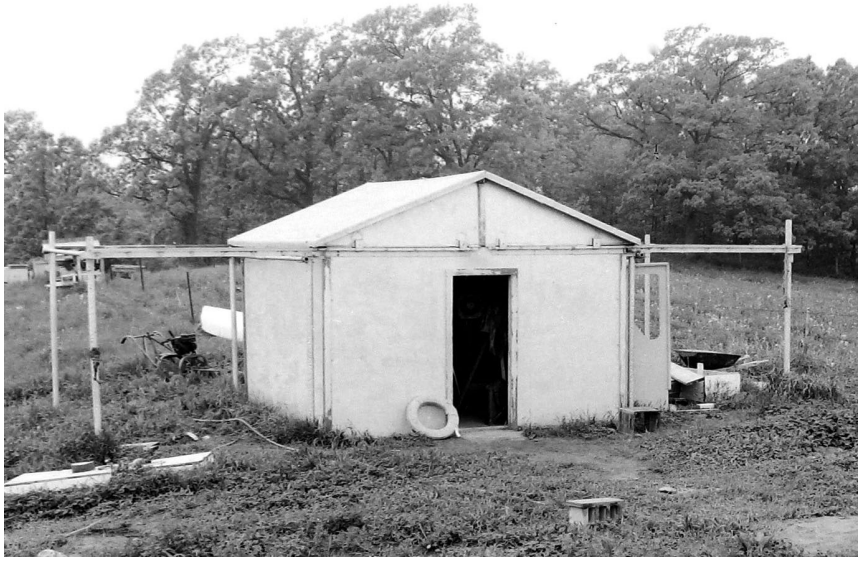
MAS Meeting snapshot

October 7, 1956
Jon Buschke and Prof. A. E. Whitford will be the speakers at a meeting of the Madison Astronomical Society to be held at 8 Wednesday night in Washburn Observatory.

As uncertain as all this was, the origins of the first observatory building erected at Bjorksten are even murkier. That building is usually referred to as the shed for the Steinheil refractor and was built sometime soon after MAS began using the Bjorksten property in early to mid 1954. It had a split roof that could be retracted on rails, exposing the telescope inside to the night sky. The only direct reference found to its construction comes from a talk delivered by junior member Tim Wyngaard in August of 1959.

In this talk, Wyngaard gives the only account of the building of the split-roof shed at the Bjorksten site. In the second paragraph of that talk, he traced ". . . the building of this observatory from the construction of the initial building in 1951 to the present time." The 1951 date must be an error on Wyngaard's part. We already know from

Dr. Huffer's correspondence with Oscar Mayer that Mayer's donations of the telescope and cash weren't initiated until June of 1952, and we know the club didn't start using Bjorksten's land until 1954. Wyngaard recalls the donation by Oscar Mayer of the Steinheil telescope, and funds with which to build a suitable building, then says: "The observatory, a 12' x 12' building with a run-off roof, was then built, but soon fell into disrepair . . . . In the summer of 1958 the members of the J.A.S.M.W. began to repair this building. Both the interior and exterior of the building were completely painted, the telescope was put into good mechanical condition, and the roof was repaired."



The split-roof rolloff building, as it appeared around 1960. As described in the text, we know that this building was most likely constructed in late 1954 but quickly became a source of needed labor because of its continual deterioration. Later, as the building's condition worsened, the rails were removed and it was used only as a storage shed. The building was removed from the property in the early 90s. It stands today on a member's property in Iowa county where it still functions as a shed. Photo by Steve Bracker.

The five-letter initialism refers to the "Junior Astronomical Society of Madison, Wisconsin" but only infrequently appears in this form. Most often it is shortened to the "Junior Astronomical Society" or just the "Junior Society." Wyngaard's account is consistent with other evidence of the activity of the juniors during that time frame, but we have virtually nothing preserved of this or other activities of the club during this period in the mid-1950s.

We'll have more to say about Wyngaard in the next chapter as the focus turns to the juniors.

Though there are questions and uncertainties regarding the origin of the Bjorksten agreement, one thing was clear: 20 years after its founding, MAS finally had its observatory.

4. The Madison Junior Astronomical Society, 1954-1964

The club's acquisition of its observatory and putting up the first building at the Bjorksten Lab's property in the mid 1950s signaled a new chapter in the society's story. The original members were growing older. Some had disappeared entirely or died over the 20 or so years of the club's existence. Others stayed around and assumed "elder statesmen" roles. But a sustainable club needs young members, and MAS was on the verge of taking a giant step forward in that direction.

Despite the detail presented in the previous chapter, the 1950s represented something of a blank spot in club records. There are many things we don't know about this period. For instance, our records of club officers is nearly complete through the late 30s and most of the 40s, but from 1948 to 1957 there are many blanks and entire years where the only entry is Dr. Huffer as the secretary. Records from that period appear to have been lost. What we do see in the late 1950s and early 1960s is the blossoming of a younger element of the society.

MAS open house on the steps of Washburn Observatory, September 1950. Joanna Overn is the woman at the right-center of the photo with a light-colored button down coat. The four men starting from far left are Harold Porterfield, unknown, Dr. Supernaw and Frank Grams. Grams is standing just behind the open-tube telescope. Dr. Huffer is the man in the light colored suit second from right. Photo is of unknown origin, from collection of Dave Weier.

It is possible to gain a glimpse into MAS's activities during this period of sparse documentation through one of those younger members, a UW student named Joanna Overn. Overn's period of involvement with the group spanned the entire decade of the 1950s. She was listed in city directories from 1946-58 as a student at the UW Madison, an unusually long run as a student. Overn was very active in music, singing in dozens of church events as a soloist of some stature in the Madison area. Notably, there are two MAS events, a Christmas party and an annual banquet, mentioned as having musical components during the years 1959-60. The Madrigal Singers performed at both, and Dr. Huffer played a piano solo at the Christmas party. It seems certain that Overn was the connection to the Madrigals.

The 27-year-old Overn was elected MAS's president in June 1951. She served only a single term but as noted above, her involvement went on for years. She delivered at least three talks at MAS meetings between 1950-54 and also gave talks to outside groups like the YWCA. In 1952 she was quoted in a newspaper article talking about the society's need for its own observatory. One of her talks at an MAS meeting in November of 1954 was particularly notable given our current focus on younger members. At this meeting, Overn presented a talk on the topic of the US Naval Observatory. Her co-presenters were Thomas Stavrum (mentioned above as the head of the observatory committee) and Teddy Odell, a 10th grader at West High School. Little is known of young Odell but this was already his third talk to the society going back to the previous year. He spoke on eclipsing variable stars while Stavrum talked about irregular variables.

MAS Meeting snapshot

September 25, 1950
Star party to observe lunar eclipse, Washburn Observatory.

February 14, 1951
Q&A session hosted by Ed Baillie, A. E. Whitford, C. M. Huffer, and Harold Porterfield. Washburn Observatory.

March 21, 1951
Charles Boyd of the UW Chemistry Dept gave a talk on rockets and jet propulsion - German V-2s and White Sands tests. Comments were also made on the possibilities of a rocket flight to the moon. Madison Vocational School.

The importance of young people was understood as early as 1935 when Dr. Supernaw said MAS was "considering a junior club to take care of the growing interest among astronomy students of the vocational and city schools." No further references to a junior club were found until Overn and then Odell appeared in the early 50s. In many ways, the juniors would dominate the club for the next 25 years.

Teddy Odell's involvement as a teen was brief but the fact of his presence, along with Overn's selection as president, proved to be just the first shot fired by the emergent juniors. A few months after Odell's final appearance, a newspaper announcement in March 1956 contains the first-ever mention of the Madison Junior Astronomical Society: "Madison Astronomical Society: 8 p.m., Washburn observatory; organization meeting for the junior unit at 7:30 p.m." (*Wisconsin State Journal*, March 14, 1956)

Other references to the juniors would come fast and furious over the next couple of years. In fact, for the three years starting in 1957, newspaper mentions of the juniors outnumbered mentions of the MAS itself. While Teddy Odell doesn't appear to have been a moving force of the junior society, that role may rest with a fellow West High student who came along a few years later. In September of 1956, West sophomore Tim Wyngaard gave a talk to the junior society. His topic was the planet Mars. This is the first of several newspaper mentions of Wyngaard, and the second for the junior society. In a second talk to the juniors in July of 1957, Wyngaard notes that the junior society membership was up to 26 students. The following year (April 1958) the *Wisconsin State Journal* ran a feature article with a picture of many happy kids and adults posing with telescopes, apparently at a public event (see photo this page). The headline *Sputnik Sparks Astronomy* was heralding the arrival of a youth astronomy movement in Madison: "Those sensitive little barometers of things to come, the youngsters, are creating a growing demand for such items as telescopes, missiles, satellites, and rocket ships." (*Wisconsin State Journal*, April 21, 1958)

Tim Wyngaard (left) and John Potter (third from left) with some of the other junior society members at a public event. *Wisconsin State Journal* photo, April 1958.

Wyngaard gets three mentions in the article and is included in the picture of the happy group. He is also quoted again about his confidence regarding the future of the junior group: "Wyngaard . . . said 'We expect the membership of the Madison Junior Astronomical Society to grow from 32 to 50 members by June.'" (Ibid)

Wyngaard's optimism about the juniors was boundless and would surface again. And with good reason. Wyngaard was about to embark on an almost unbelievable astronomical adventure. In August of 1959, the 17-year-old (soon to be) senior in high school was selected by the National Academy of Sciences to join a month-long expedition to the Canary Islands to view the October 2nd total solar eclipse. Wyngaard's selection for this honor appears to have been based in large part on his leadership with the Madison Astronomical Society, and in particular, the rise of the juniors. Wyngaard's father was a journalist of some prominence in Wisconsin which may have helped the youngster secure an invitation from the *Wisconsin State Journal* to document his trip. His columns appeared in the paper throughout September and October and included an account of a stop at the White House to meet with President Eisenhower's science advisor George Kistiakowsky (*Wisconsin State Journal*, September 11, 1959). Wyngaard doubtless became something of a local celebrity due to this honor and the attention it garnered.

MAS Meeting snapshot

June 8, 1958
The Madison Astronomical Society will hold its annual picnic Wednesday beginning at 6:30 pm at the Pine Bluff Observatory. Members will provide a potluck supper with refreshments furnished by the society. Officers will be elected.

At about the same time the plans for his trip to the Canary Islands were coming together, Wyngaard presented a paper at an amateur astronomer's convention in Denver, CO. The title was "The Oscar Mayer Observatory of the Madison (Wisconsin) Astronomical Society." This was evidently more than just a paper submitted for inclusion in the printed *Proceedings;* Wyngaard evidently attended in person and presented the paper in a talk. From the second paragraph of the abstract we have, "This talk, illustrated with slides. . . ." By the time of his talk in late August 1959, the agreement for the donation of the Student Observatory near Washburn had been secured and MAS members and juniors were busy digging footings and preparing for the move, but the building wouldn't actually be moved until the following summer (see chapter 6). Wyngaard's talk at the Denver conference was mentioned in the previous chapter as the sole source of information for the origins of the shed at the Bjorksten property, the club's new observatory site. The balance of his talk laid out a course for the junior society for the next several years and reads like the starry-eyed ambitions of

MAS Meeting snapshot

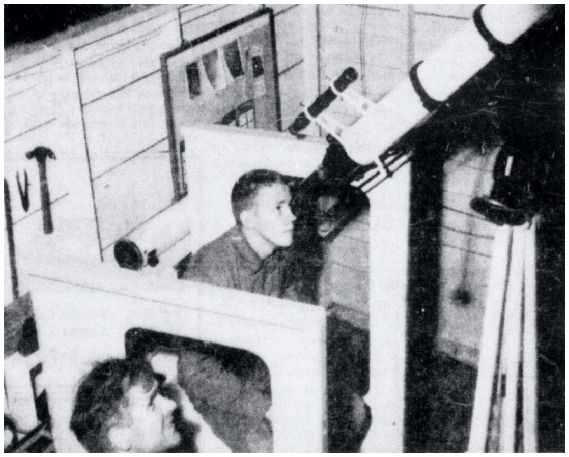
October 8, 1958
Dr. D. E. Osterbrock of the University of Wisconsin astronomy department will speak at an 8 pm meeting of the MAS Wednesday at Washburn Observatory. His talk will be on "New Palomar Photographs of Diffuse Nebula."

a young man full of confidence and bursting with plans for the future. Unfortunately, virtually nothing Wyngaard envisioned for the juniors ever came to pass. The Student Observatory was indeed moved in the summer of 1960, an immense project that we'll discuss in chapter 6. The move happened just after Wyngaard would have graduated from high school. If he played a role in the move that summer, no record of it remains and Wyngaard's name never appears in MAS documents again. Presumably he went off to college and developed other interests.

It is clear that the 1950s mark the dawn of a much younger Madison Astronomical Society, as the stories of Overn, Odell, and Wyngaard attest. The level of their activity and commitment was only beginning to unfold. That portion of the story requires introducing two new elements of the MAS narrative that will carry the account forward, well into the 1960s. Those two elements are Project Moonwatch and the club's acquisition of the smaller of the university's two domed buildings on Observatory Hill. This little "Student Observatory" would be moved out to Bjorksten Lab's property and complete the Oscar Mayer Observatory. These two episodes proceeded almost simultaneously, but for purposes of the narrative, we'll split them up over the following two chapters.

5. Project Moonwatch, 1957-1965

The 1950s were the age of backyard bomb shelters, civil defense newsreels, and fears about the evil intent of the Soviet Union. While school children practiced duck and cover drills, US military authorities started training citizens in a program called Ground Observer Corps, teaching them to spot inbound Soviet bombers. Capitalizing on the popularity of amateur astronomy, Project Moonwatch expanded the idea into the realm of outer space. Throughout the 1950s a steady diet of science fiction and sensationalist news coverage warned us that if Soviets could put satellites into orbit, they could rain atom bombs down on our cities. In the days before trillion dollar defensive programs, human observers were not only plentiful, they were cheap. Harvard astronomer Fred Whipple proposed the idea of teaching amateur teams of observers all around the world to track satellites, time their passes, record location and direction data, and report it all back to the computer center in Cambridge, Massachusetts, so defense officials would know what was up there. Project Moonwatch was the first real citizen science project, years before Galaxy Zoo or SETI@Home.

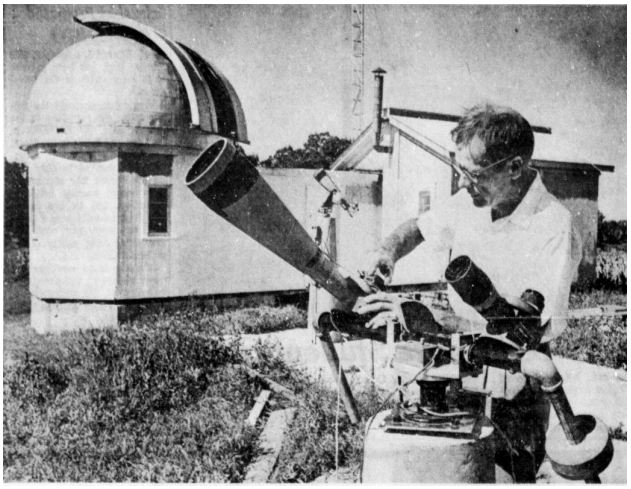


Steve Bracker (at the scope) and Mort Newcomb posing for a photograph at the Oscar Mayer Observatory. Bracker reports that this photo was most likely staged for the newspaper photographer since the Steinheil was never used for satellite timings because of its narrow field of view. This is the inside of the shed shown on p. 15. *Wisconsin State Journal photo, September 9, 1960.*

Moonwatch was already well underway in late 1956/early 1957 in anticipation that orbiting satellites would one day fill the skies. But the October 1957 launch of Sputnik by the Soviets stunned the world and especially the United States which had yet to achieve any success in their nascent space program. In the wake of Sputnik, the US space program was galvanized, and hordes of amateur Moonwatchers were swept up in the excitement of tracking artificial satellites in low Earth orbit, hoping to make a contribution to the defense of the nation.

Two MAS members were at the center of Project Moonwatch in Madison. They were Morton Newcomb, an architect with an unquenchable thirst for gadgetry, and Margaret “Peg” Frisch, a UW graduate student working toward her PhD in chemistry. Frisch, fascinated by astronomy since she was a young girl, had joined a Moonwatch team in Rochester, NY, around 1956 while a senior in college. Upon arriving at the UW, she heard about the Madison Astronomical Society and soon met Newcomb who would become president of the society in 1958. Newcomb appeared to have a satellite observing program up and running by 1958. In December of that year, a *Wisconsin State Journal* article reported that he was communicating with the Smithsonian Astrophysical Observatory regarding the expected reentry parameters of Sputnik 3. Though the article doesn’t mention Moonwatch by name, all the parts are there. In May of 1960, Frisch completed the formal application process for Moonwatch by mailing the application to Smithsonian Astrophysical Observatory (SAO) at Cambridge, MA, listing herself as the leader and Newcomb as her deputy.

Newcomb and Frisch’s team was significantly upgraded by the entry of two high school students around this time, Steve Bracker and John Rouse. Bracker (pronounced “Brocker”) came first, joining the MAS team around 1957. Rouse, two years younger, arrived in the spring of 1959.Though separated by two years in age, both joined MAS as 15 year old high school freshman. Bracker attended Madison East, and Rouse, Madison West. Both boys learned about and entered the club via the senior society meetings but quickly fell in with Newcomb, Frisch and Moonwatch, so neither of them ever got deeply involved with the junior society. Newcomb and Frisch were both doing some astrophotography which was a big draw for Bracker. For Rouse, it was the fact that computers and programming were involved, and here Frisch led the way. This was heady stuff for high school kids in the late 50s.



Mort Newcomb with the Moonwatch telescopes set up on the piers outside the Oscar Mayer Observatory in Fitchburg. Wisconsin State Journal Photo, October, 1963.

Before long, both boys were so involved in satellite tracking and working at the Bjorksten site that the details of other MAS activities faded to the background and failed to make much of an impression.

John Rouse, giving a youngster a peek through one of the Moonwatch scopes. Steve Bracker photo, probably late summer of 1960.

The Moonwatch location, of course, was the property at Bjorksten. Since the acquisition of the land in 1954, MAS had erected a shed on the property to store the Steinheil refractor. The shed had a retractable split roof that could be winched open to expose the telescope to the sky. But by 1958, the building was already beginning to show signs of age and sketchy construction. The Bjorksten site, thanks to the donation of the Steinheil and the cash, had been rechristened the Oscar Mayer Observatory (most often referred to as the OMO). After the Moonwatch program got up and running, Newcomb, Rouse and others built three additional concrete platforms nearby with reinforced concrete piers on which to mount the Moonwatch scopes: Apogee telescopes and war surplus M17 tank spotter scopes. For them, the OMO *was* Project Moonwatch. MAS was an afterthought. The whole experience was especially formative for the two boys, likely informing decisions they were soon to make about their academic and career directions.

Satellite tracking for Moonwatch amounted to having an observer record a time and a position—as accurately as possible. First, the observer would watch the satellite as it passed close to a known star. For example, “The satellite passed two arc minutes north of the star Beta Ursa Majoris at 23:45:56 UTC.” The Moonwatch observer, tracking the satellite in one of the telescopes, would then refer to star charts to estimate its right ascension and declination, and note the exact time. Position estimates were done by eye. Experienced observers could estimate distances to within half an arc minute or so. Bracker described it:

> *Sometimes you waited too long for the perfect star, and the satellite passed into the Earth's shadow and disappeared before a measurement was made. Other times, fearing that this would happen, you settled for a fairly faint star and then couldn't find it in the star charts. When the gods were smiling on you, you would wait . . . wait . . . wait . . . and then the satellite would pass right in front of Sirius. The gods didn't smile often.*

Amateur teams like MAS’s communicated their observations back to Moonwatch HQ where the military would crunch the numbers and compute accurate orbits, and eventually use high-powered telescopic cameras to attempt to photograph Soviet satellites to learn their capabilities.

The MAS bunch, led by Frisch and Newcomb, were innovative. Frisch built a rotating drum pen recorder. It would automatically record a blip each second on the affixed piece of paper. When the drum started, they’d record the exact time of the first blip via short-wave time signals. While making the observation, the observer held a hand controller and pressed a button when the satellite passed close to a known star. The pen would record the button press on the rotating paper drum. Notes could be written directly on the drum to remember which satellite and star were being observed. Frisch and Newcomb judged their observations to be accurate to within 0.1 seconds this way.

MAS Meeting snapshot

April 11, 1960
Leslie W. Ketchum will discuss sunspots and Margaret Frisch will explain astro-photography at the MAS meeting at 6515 Sterling Hall at 8 pm Wednesday.

When Moonwatch first began, the program’s main office in Massachusetts provided a paper form for manually calculating where to look for the satellites. In true US government style, the forms were actually modeled on IRS tax forms. The method was such a nightmare that Newcomb used spherical trigonometry to work out the equations of prediction and Frisch wrote a program in FORTRAN on the university’s IBM650 called SATPRED (satellite prediction) to automate the process. The Madison group’s innovations resulted in Frisch being invited to give a talk at the conference of Moonwatch leaders at Harvard in early 1961. Years later as his own programming skills grew, Rouse modified Frisch’s program to provide plain language predictions for satellite passes.

The group also wanted to track satellites that were too faint for visual observation, so Bracker developed methods to use their cameras to capture them photographically. Using sophisticated tracking strategies, they would track the satellite’s expected path at a rate a little slower than the satellite’s expected speed. If successful, the result would be stars with long, dim streaks, and the satellite with a very short, bright streak. From these tracks, and the speed of the slewing camera, they could work out the exact positions and timings.

Bracker recalls that some of the MAS old guard found the “young turks” to be a bit of a bother. The boys’ penchant for packing in the electronics and running rat’s nests of wiring all over may have shocked the conservative sensibilities of some older club members. But the Moonwatch gang was on a mission and there was little chance of deflecting them from their path. Dr. Huffer, always a champion of outreach and education, was delighted by the observational and technical accomplishments of the Moonwatchers and was extremely supportive of their efforts, especially the youngsters. In the MAS, the support of Dr. Huffer provided cover for a multitude of youthful exploits!

MAS Meeting snapshot

February 8, 1961
Stephen Bracker, 1129 Williamson st., a freshman at the University of Wisconsin, will give a 5-minute talk on radio astronomy at a meeting of the MAS at 8 pm Wednesday in room 3335 of Sterling hall, Dr. And Mrs. J. H. Gieselman, 803 S. Shore dr., will be hosts.

Moonwatch activities were a dominant theme for the club for about five to six years. By 1964 however, things were clearly winding down. Though the military’s reliance on the amateur network had diminished as their own satellite tracking abilities improved, the amateur networks had hung in there. This stuff was engaging and fun. But time rolled on and MAS Moonwatchers began to drift away. This is consistent with an observation by Bracker that things were on a downhill trajectory by then: Frisch had finished her degree in 1962 and moved on, Rouse and Bracker had graduated from high school and were increasingly busy with college and their adult responsibilities, and Newcomb slowly migrated to other diversions and disappears from the record.

Peg Frisch watching satellite predictions print out on the IBM 650. Steve Bracker photo, fall 1960.

As one of his last official Moonwatch acts from Pasadena (he was beginning his third year at Caltech and knew he wouldn’t return the following summer), Rouse put together a notebook with all of his tables, articles, hints, tips and techniques and sent it back to Madison for the younger junior society members. He included typed notes sprinkled with handwritten reminders on procedures, gadgets, troubleshooting tips and finally, his address and phone number at Caltech. It was his attempt to pass the torch to the next generation.

Back in Madison, the junior society soldiered on and even published its own newsletter for a few years in the mid-1960s. We have issues from March 1964 to December 1967. But project Moonwatch is never mentioned. Without Rouse, Bracker, Frisch and Newcomb, the project had reached its conclusion in the MAS.

6. The Oscar Mayer Observatory, 1960-1962

At the same time Project Moonwatch was ramping up, the Madison Astronomical Society was handed an irresistible opportunity to expand their observatory, this time courtesy of the University of Wisconsin Department of Astronomy.

The UW had operated its Washburn Observatory on campus since 1878. In 1880, director James Watson announced his plan to add a smaller building intended to give students a place to practice their observing skills, keeping the larger instrument free for professorial research. The smaller building was completed in 1882, located just east of the main observatory. It was called the Student Observatory, and remained in place nearly 80 years.

A stylized rendering of the Washburn Observatory for a Christmas card. Shown is the smaller student observatory (at right) and even the Watson Solar Observatory (small building at lower left). The positions of the buildings are distorted a bit in this sketch, and represent approximately how the grounds would have looked in the early 20th century. This Christmas card was sent from Mort Newcomb to Steve Bracker in 1960. The origin of the picture is not known.

By the late 1950s, the explosive growth of Madison had marginalized the value of the Washburn Observatory. Light pollution and a smoky haze made observations from the hill increasingly difficult. The astronomy department had been moving much of its serious research to other facilities for years, including its own new observatory at Pine Bluff, WI, about 13 miles west of Madison. The Student Observatory had ceased being useful as a teaching tool many years before and the telescope had been removed. It was now used primarily as storage for the storm windows for the observatory director's house. Big changes were afoot. Though the 15.6 inch Clark refractor would remain in the main Washburn building, the building itself would soon become the new home of the Humanities Research Institute and the astronomy department would move its offices to the newly renovated top floors of Sterling Hall. It was time for the little Student Observatory to go.

A March 7, 1959, UW press release is the first reference to the donation of the Student Observatory we have found, and it specifically singles out the Madison Junior Astronomical Society: "MADISON—The student observatory which has aided University of Wisconsin astronomy studies for 79 years may become the property of Madison's young stargazers if a Board of Regents request is granted."

The press release goes on for a page and a half and quotes Dr. Huffer several times, suggesting that he was the impetus behind the donation of the building:

> *In a resolution Saturday, the Regents asked the State Legislature to empower them to give the 45-foot, domed, wooden building, situated just east of the Washburn Observatory, to the Madison Astronomical Society. The gift would benefit the junior members, known as the Madison Junior Astronomical Society. Both amateur groups have enjoyed close ties with the University's astronomy department and Washburn Observatory. The department has encouraged and actively helped their interests. Prof. C. M. Huffer has been the long-time secretary of the senior society.*

UW Archives photo of the Student Observatory prior to its move in 1960. Date of photo unknown. Lake Mendota visible in the background.

The legislature soon acted to authorize the donation and the deal was sealed later that summer. However, the building wouldn't be moved until the following summer of 1960 because there was a lot of preparatory work to do. A July 1960 *Wisconsin State Journal* article covered the first part of the move and singled out the juniors again: "The old observatory will be reassembled for use by the Junior Astronomical Society of Madison, the junior affiliate of the Madison

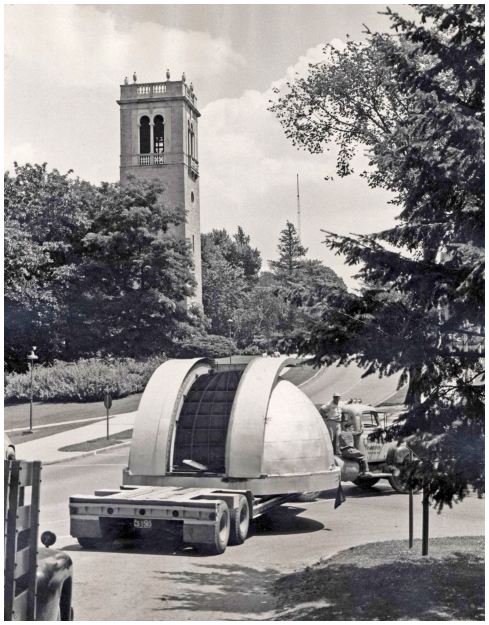
Preparing the Student Observatory for the move. John Rouse is leaning out the window. The unknown boy on top is sawing into the eaves of the building, the tip of the saw just visible under his left sneaker. An iron breaker bar can be seen leaning against the building at lower center. Taking most of two summers, the prep and the move created many blisters and indelible memories for the kids involved. Photo from Eric Thiede's collection, July, 1960.

Astronomical Society. Most of the work preparing the unit for movement and reassembling it will be done by the junior astronomers themselves." (*Wisconsin State Journal*, July 20, 1960)

Rouse, Bracker, and a few other juniors, along with Frisch and some of the adult members, threw themselves into the work of preparing the new site at Bjorksten/OMO, getting the building ready for moving. Architect Newcomb was the mastermind of the operation. Even Huffer showed up with a shovel to dig footings.

It's difficult to grasp what a monumentally large undertaking this was. The Student Observatory was not a small building as the photos shown here attest. At the site on Observatory Hill, the stone foundation needed to be pickaxed so the tie-down bolts could be exposed and severed (a lot of digging and eventually an acetylene torch operator were needed). The building's original construction seemed to have been done with eternity in mind. The bolts were embedded from the bottom in a masonry foundation, then 4x8 boards were overlaid with chiseled holes to accommodate oversized square nuts. The building's construction was replete with sturdy tongue and groove and mortise and tenon joints, all finished with vintage nails that had been forged by a blacksmith, one at a time. The entire 45 foot long building needed to be sawed in half so it could be moved as two parts (three including the dome). Rouse and Bracker spent most of that summer sawing, digging and breaking rock.

Over at the Bjorksten site, a new foundation needed to be laid on which to place the building: trenches had to be dug, concrete footings poured, and tons of block laid. Newcomb, providing supervision and direction for the whole job, had already surveyed the land at Bjorksten. But this was a job requiring precision, so he dispatched two of the boys to the campus to find the original blueprints. They prowled construction archives, talked to UW maintenance crews and searched through historical records, all without success. They finally found an old-timer in the astronomy department who told them they'd never find the blueprints, because they never existed. Rouse recalls being told: ". . . in those days the person with the money would just scratch an outline in the dirt with the tip of his cane, and the contractor would take it from there."



Moving day for the student observatory, July 19, 1960. A procession of three flatbed trucks and trailers turning right from Observatory Drive onto Charter St. with the Carillon Tower visible beyond. UW Madison Archives.

Newcomb carefully measured the old building and drew up a set of blueprints to help with the staking and digging at the new site. Because the architectural paper he used was virtually transparent, it could be read from either side. Someone misread the labeling for "top" and staked out the site at Bjorksten with the plans flipped over, so the entire staking job was mirror reversed. Luckily, the error was caught before the digging began.

MAS Meeting snapshot

April 13, 1962
Ralph Buckstaff will give a talk on meteorites at a meeting of the Madison Astronomical Society at 8 tonight in Sterling Hall.

And all this was just to prepare for the move. Moving day arrived with the trucks, cranes and crews. The pieces were successfully lifted, loaded and transported to Fitchburg. After the building was carefully placed on the new foundation, it needed to be reattached and fully refurbished, weatherproofed, and painted. And this is to say nothing of the interior refurbishments and repairs that were necessary, including the pouring of the new telescope pier. Needless to say, this was a huge undertaking for a few high school kids and a couple of adults supervising.

The move and all the preparations must have been expensive, but no account is given of the cost. The few times money is mentioned seem only to refer back to the Oscar Mayer donation eight years before. It's

Peg Frisch and Mort Newcomb preparing the forms for the observatory platforms at the Bjorksten/OMO site. Steve Bracker photo.

conceivable that the original $2,000 donation covered the construction of the shed for the Steinheil and the preparations and moving of the Student Observatory. It's also possible that Oscar Mayer (or others) may have donated additional funds to pay for this undertaking, but we have no record of it. It's clear that many entities were interested in seeing this happen. The astronomy department and Dr. Huffer, the UW Regents, the legislature, and the sheer will of a youthful segment of the club were all working in harmony. Money was not going to be an obstacle.[9]

As the university's astronomy department had moved out of Washburn Observatory, so did the bulk of the society's monthly meetings. By April 1959, the monthly meetings had switched to Sterling Hall and virtually all club observing activities now happened there or at Bjorksten. The term "Oscar Mayer Observatory" was first used in a newspaper account in June of 1960, a month before the Student Observatory was moved. After that, the property is usually referred to with its new proper name, or sometimes the "Mayer Observatory" and occasionally (though decreasingly) the Mayer Observatory at Bjorksten Labs. The more informal "OMO" was used often inside the club but never appeared in press or public accounts.

This transition represented a major turning point in the club's history. Whatever the final details, the Oscar Mayer Observatory at the Bjorksten property in Fitchburg was finally complete. The Madison Astronomical Society now had a proper observatory of its own with a beautiful domed building on a hill south of town. The observatory, on the Bjorksten property, would serve the needs of MAS for the next 25 years.[10]

The rechristened Oscar Mayer Observatory, on the hill at the Bjorksten property in Fitchburg. Note the conical concrete pier at right, built by the Moonwatch crew. John Rouse photo, 1973.

[9] For a more complete—and amusing—report on the move of the Student Observatory, see Appendix D, written in 2021 by John Rouse.

[10] Long after MAS abandoned the OMO for its new home in Green County (see chapter 9), the new property owner, Promega Corporation, would take an interest in refurbishing the observatory and give yet another life to the proverbial cat. Beginning in 2017, the old Student Observatory/Oscar Mayer Observatory would be completely updated with interior renovations, exterior paint and preservation measures, modern new telescopes, cameras and computers, and much more. In 2022 the education and outreach arm of Promega, the BioPharmaceutical Technology Center, would rechristen the building The Jocelyn Bell-Burnell Observatory and dedicate it to research and education for a new generation.

7. MAS and the Junior Society after Moonwatch, 1965-1972

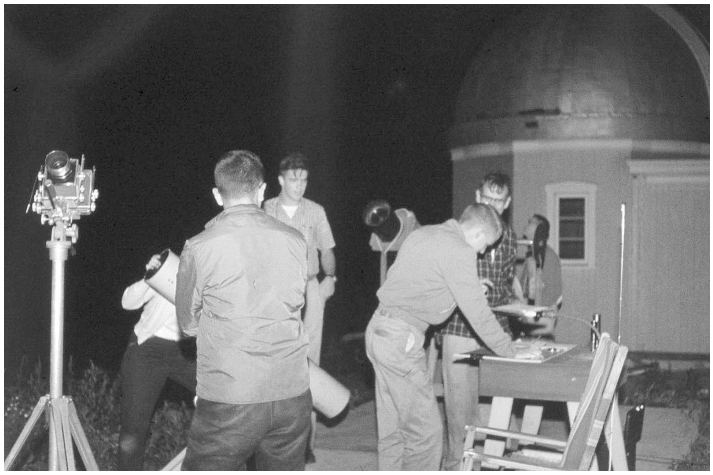
As noted above, the late 1950s and much of the 1960s represent a gap in our documentation of the activities of the MAS. We lack a full record of who the officers were and don't know the content of many of the monthly meetings. One can get an idea of how much the Project Moonwatch personnel and activities dominated the club by looking at the available information on meetings between April 1960 and the end of 1963. For that period we have records from about 20 MAS meetings or events. Nine of them are either directly related to the Moonwatch program or feature talks by the principle Moonwatch members. Meeting topics included general programs on satellite tracking or a close look at the Echo program[11], a presentation by UW chemistry professor John Margrave (likely invited by Frisch since Margrave was her thesis advisor), and presentations on astrophotography by Frisch, Bracker and Rouse. It was also during this period that the *Wisconsin State Journal* did a feature article on Moonwatch featuring Mort Newcomb.

No records survive of club leadership during the period from 1952 (when Joanna Overn's term ended) until 1957. From 1957-64, the presidency was held by a series of people about whom little is known, with the exception of Mort Newcomb for the year 1958-59.

In the spring of 1961, two long-time members left the club. Dr. Huffer retired from the University of Wisconsin and moved to San Diego where he taught for a few years at San Diego State. And Harold Porterfield, who had also been with the club from nearly the beginning, also retired from his job with the the IRS. In the fall of 1960, Huffer was elected president of the club (after serving as its secretary for 22 years) and Porterfield was named honorary president. Porterfield, while an active member, had been out of leadership for many years. No explanation of this move survives but it's plausible that the club was simply recognizing the years of support and service donated by these two men, both legitimately considered giants of the society.

Huffer and Porterfield chatting at what was likely an MAS picnic. Steve Bracker photo, most likely summer of 1960.

During the period of July 1964 through September 1967, we have documentation of at least nine star parties scheduled or held at the Oscar Mayer Observatory, all of them cosponsored by the junior society. A note in the club minutes from September of 1964 notes that a star party was held approximately every two weeks over the summer "with good TV coverage on one evening." During the same period, meeting minutes show ongoing programs of guest speakers both from university professors as well as club members. Ed Baillie was evidently planning the speakers at this time while former president George Harris was heading up work at the observatory, mostly doing maintenance work on the mount. The telescope that had been mounted in the OMO since its move from campus had been the six-inch reflector belonging to Peg Frisch. She left it there for two years while she was in Ireland doing a postdoc. In 1964, Frisch passed back through Madison to reclaim her packed belongings including the six-inch reflector from the Oscar Mayer dome. The club soon installed a ten-inch scope there. It is believed (but not known for sure) that this was the "square-tube" reflector that the club had owned since 1952. It is this square-tube reflector that is remembered by members from the late 60s and 70s though no pictures survive. The 10-inch scope would be nicknamed "the Monster" by the juniors because it was very temperamental and hard to operate. It would finally be replaced by a newer and larger reflector in the late 1970s.



A junior society star party at the Oscar Mayer Observatory sometime in the early 1960s. The boy leaning over the table is almost certainly Steve Bracker. The boy facing the camera on the left may be Chester Rideout, and John Rouse with his back to the camera. Others are unknown.

For the second half of the 1960s, the juniors soldiered on. Though the glory days of Moonwatch were over, the junior club seemed to thrive for a few

[11] Project Echo was a communication satellite experiment carried out between 1960 and 64. The satellites were very bright and easy to spot and thus became a popular target for Moonwatch groups.

more years under the leadership and influence of the Gladstone brothers (David and Donn), Eric Thiede, Wynn Wacker, Cynthia Karp and a few others. They published a club newsletter, *Star Trails*, of which ten issues survive. As we've seen, the juniors held star parties, but they did much more. They met regularly, hosted picnics, invited guest speakers, held observing sessions, and more. As the mid-60s passed and some of the more influential members began to graduate from high school and move on, the influence of the club gradually waned. *Star Trails*' editorial page contained pleas for members to pay their dues and attend meetings, as well as urgent requests to write articles. At one point there was even a stern reprimand to members for failing to attend the invited address of the club's main adult sponsor, Ed Baillie. Though Baillie was well into his sixties by then, he was described by many as the heart and soul of the juniors. He was a mentor to many over the years and is remembered for his big heart and willingness to help the kids out in any way they needed, but also to get out of the way and let them blaze their own trail.

MAS Meeting snapshot

April 6, 1965
Prof. T. E. Houck of the Astronomy Department of the University of Wisconsin will speak on "Space Science in Wisconsin" at the annual banquet of the Madison Astronomical Society Friday at 6:30 pm in the Beefeaters Room at the Memorial Union. Mrs. Edward P. Baille and Mrs. L. W. Ketchum are in charge of decorations. Reservations are to be made with Miss Clara Lothe, 29 E. Wilson St.

The 1960s concluded with Ted Wysocki as president of the club for four years, followed by Helmut Prahl for four years ending in 1972. At the same time Ed Baillie was mentoring the juniors, others were modeling a new trend in amateur observing practices. Art Koster was probably the first to have a personal observatory in his own backyard, but others were soon to follow. With these self-owned facilities, members were less reliant on the Oscar Mayer Observatory in Fitchburg and its aging telescopes and buildings which needed almost constant maintenance. The end of the 1960s seemed to mark a time of the club serving more of a social role than a scientific one for many members. Membership was modest around this time and in fact, the club experienced a bit of an existential crisis as the 1960s ended with membership declining so precipitously at one time that discussions of the causes of the decline and possible solutions dominated club meetings. Two meetings in particular, January and June of 1970, had a tone of desperation about them. The club was having problems attracting speakers and getting members to provide hosting duties and refreshments. Membership and attendance was falling. One of the issues discussed was the difficulty of parking on the UW campus. Meetings had been held in a classroom in Sterling Hall since the move out of Washburn ten years before. The club seemed reluctant to give up this venue out of deference to the patronage of the astronomy department and the convenience of its frequent guest speakers; the professors and graduate students.

The club was soon to have the meeting location decision forcefully made for them. Throughout 1970, campuses across the nation were increasingly seeing demonstrations and unrest as a result of Vietnam war protests. The May 1970 MAS meeting was cancelled "due to the unquiet state of the University of Wisconsin campus." A few months later on August 24, a 2,000 pound bomb exploded in vehicle parked just outside of Sterling Hall. The attack was intended to destroy the Army Mathematics Research Center (AMRC) which was housed on the 2nd to 4th floors, and to cripple the University's ability to support the defense department in furtherance of the unpopular war. The blast caused extensive damage to Sterling and to surrounding buildings. One physics researcher died in the attack and several others were injured. Sterling Hall would be closed for an indefinite period and MAS was now forced to find other quarters to meet.

MAS Meeting snapshot

August 4, 1967
The Junior Astronomical Society will sponsor a public "star party" at the Oscar Mayer Observatory in the Bjorksten Research Park on Fish Hatchery Rd. At 8 tonight. In case of cloudy weather the party will be Saturday night.

The club scrambled and, relying on the network of members' friends and community connections, moved its meetings to a variety of venues around Madison including a series of church basements, bank meeting rooms, rooms in Union South, members' homes and the Oscar Mayer Observatory. Sterling Hall would partially open again by the end of 1971 but by then the die was cast. Though MAS would return there occasionally over the coming years (mostly to use the planetarium on the top floor), the parade of ever-changing meeting spaces would continue well into the 1990s when the UW Department of Astronomy and MAS would again join forces.

While the junior society had finally been retired for good, MAS juniors had another incarnation remaining in the form of a Boy Scouts of America Explorer Post, the subject of the next chapter.

8. The Explorer Scouts, 1972-1985

MAS began the 1970s in the same way it had ended the 1960s. Meeting attendance and observing activities were on the decline and the officers were debating ways to turn things around. A number of the club's most serious observers were doing their work from elsewhere, many from their own impressive backyard observatories. We've already mentioned the Kosters in this regard, but there were others. While the Kosters and Gil Lubcke had built structures with domes or roll-offs in their backyards, architect Jon Buschke actually designed his Verona home with an observatory and dome on the third floor with a spiral staircase in the center of the home. Dave Darling—and others too—were doing some serious science from their home observatories. Paul Fritschel, who joined the club in 1971, remembers meetings at the OMO that were very sparsely attended. MAS clearly needed a boost in interest and attendance, and once again, the impulse came largely in the form of younger members.

The demise of the junior society in the late 1960s was followed closely by the rise of the Explorer Scouts in the 1970s. The Explorer program was a division of the Boy Scouts of America designed to hold the interest of the 15-and-up age group. This was the critical age shown by BSA surveys when the largest number of scouts left the organization. Explorer posts were organized around specific vocations. Fire fighting and law enforcement were the most popular Post themes. Outdoor activities such as rock climbing, spelunking and whitewater rafting were also popular. Explorer Posts had to have a sponsoring group to provide adult guidance, supervision and mentoring. For example, a local Explorer Post devoted to firefighting would be sponsored by a fire department in the Post's home city. Posts were only loosely connected to traditional Boy Scout troops. Members might already be Boy Scouts, but the connection was not required. Explorer Scouts were also coed, a factor that was important to the MAS.

Two MAS members were key to the formation of the Explorer Post: Reggie Kilps was the instigator and Dave Weier was the willing accomplice.

Kilps was an electrical inspector for the City of Madison and a lifelong scout. Kilps had already formed at least one other Explorer Post by the time he became involved in MAS. Focused on spelunking, his daughter was a member when she was in middle school, years before Kilps joined MAS. As he got involved with MAS in the early 70s, an Explorer Post devoted to astronomy must have seemed like an obvious choice. But Kilps knew how much time and work would be involved. He knew he needed help.

MAS Meeting snapshot

December 22, 1973
The society is waiting for a clear morning to take pictures of Comet Kohoutek from its observatory in Fitchburg.
"The best way to get good results is to use a regular 35mm camera able to handle a time exposure of between 15 and 30 seconds," advises David Weier, vice-president of the Madison Astronomical Society. For those who want to take a look at the comet, the society will sponsor an open house at its observatory as soon as its telescope is repaired, which should be in early January, Weier said.

Dave Weier was a computer support specialist who had joined the MAS a year or two previously. By 1972, he had become the vice president of the club. Weier had heard the stories of the juniors in the 60s retold with near reverence and wanted to see that esprit de corps revived. Kilps already thought of himself as too old to be the Post leader, but he thought Weier was just the right age. Both agreed it was a perfect vehicle to attract younger members to MAS and expand the membership while providing a valuable service to kids.

Kilps knew that local scout leaders in the Four Lakes Council had just done an interest survey among their members. Astronomy was high on the list. He obtained a copy of the names from the interest survey and found that addresses and phone numbers of the scouts were included. Kilps and Weier got to work. They began contacting the names on the list and put the word out to the other troops in the area. Within a few weeks they held a "first night" meeting for a potential astronomy Post. Interest was high. The core group from the initial meeting loved the idea and invited their friends who were also interested in astronomy. The local Explorer Post 14 was born, though the exact date of its founding is hard to pin down. The earliest reference found in MAS documents to the Explorer Post is a December 1974 entry in the club checkbook indicating that $214 was paid for the Post's "Flare Project."

MAS's Explorer Post was active from its inception in the mid 70s until the mid 80s. The Post was so notable in its influence that it was highlighted as a signature achievement anytime the history or importance of MAS was discussed. Many current members still point to the Post as one of the club's lasting legacies.

Kilps and Weier kept things engaging and were always coming up with activities for the scouts to do. One month it might be a trip to Chicago to tour the Adler Planetarium and Museum. Next month would be an annual Astronomy Day at Westgate Mall. There were parents' night meetings at the home of one of the scouts, plans to do fund raising to pay for trips or telescopes, or just plans to have star parties at the OMO.

Tim Baker (who joined in 1976) remembers the Post helping out at the UW's Washburn Observatory public nights. The astronomy graduate students who were in charge of opening the observatory to the public often didn't know the sky very well and even had trouble pointing the telescope at bright objects like planets. They quickly realized that these enthusiastic MAS youngsters knew the sky and could quickly get the big refractor pointed at the Ring Nebula or the Andromeda Galaxy. Baker remembers the graduate students happily turning the scope over to the scouts while they focused on crowd control and public relations.

Explorer Scouts on a camping trip at Castle Rock, May 1978. At left is Mark Edelstein, Brian Ottum, John Ryan, Tim Baker, Adam Korbitz, and advisor Dave Weier. The scope is Baker's 8" Cave reflector.

Brian Ottum, a member since about 1975, recalls that as the Explorer Post grew, word starting spreading around the area high schools and new members started showing up from all over the Madison area. The Explorers attended MAS meetings at the OMO or the other venues being used at that time, but also held their own meetings. These were often at the OMO but also at various members' houses. The club had a tradition in those days of having "the meeting after the meeting," when members would go out to a local bar or tavern to have a beer after the MAS meeting was over. Older scouts started to tag along, mostly those who were old enough to drive and stay out a bit later. Tony Franks (an iconic Madison tavern near the Seminole Hwy bridge over the beltline) was a popular destination for many years. "The adults would have a beer and the kids would have a burger and fries," remembers Ottum.

There was a lot of shared activity between the Post and the members of MAS. The scouts recalled being invited to visit at the Kosters' house and being wowed by Art's observatory and Doris's hospitality. Or they would go to Paul Fritschel's house to observe, and marvel as he spray-painted the side of a street light to block out the annoying light trespass. The scouts and members alike recall a warm and supportive interaction between the Post and the club.

One event that had both the Scouts' and the leaders' attention was the total solar eclipse of February 26, 1979. The path of totality extended from Portland, Oregon, through much of Montana, up through the northwestern third of North Dakota before crossing the border into Canada. Solar eclipses are usually "drop everything" events for amateur astronomers. This would have been doubly true in the runup to February 1979 because nearly everyone noted that it would be the last time totality would touch the lower 48 states until 2017. The buzz in the wider astronomy community would have been intense, so the scouts knew they had to do it. Kilps and Weier encouraged them and helped to make it happen.

A road trip to view an eclipse in a distant state would not be cheap. Luckily, Kilps was a natural fund raiser. His job for the city gave him lots of connections, including the UW Athletics Boosters. He was able to get the group gigs running a concession stand in Camp Randall stadium on football Saturdays. Concessions proved to be stressful and not as lucrative as they had hoped, so they switched to parking cars at downtown locations during home games. In exchange for their time and efforts, they split a percentage of the take with the UW Boosters and banked the money. Kilps also worked his own connections to solicit donations for the group. Gradually the group raised the funds and the trip planning kicked into gear.

Tim Baker unloading his reflector from the back of his car, early spring of 1979. Brian Ottum photo.

The Explorer Post was coed, so naturally there were girls who wanted to go on the eclipse trip too. Weier and Kilps invited fellow MAS member Jane Breun to accompany them as a female chaperone. Breun had been a member since about 1978 and was happy to sign on for the trip. A caravan of three cars with the three adults and about 10-12 kids took off for North Dakota. The eclipse was on a Monday and the kids couldn't miss much school, so the trip took on a sense of urgency. The group met at Weier's house in Madison after work and school on Friday and loaded the cars. After grabbing a bite to eat in Weier's kitchen, they took off. They drove all night in icy and snowy conditions and arrived at Grand Forks, North Dakota, by Saturday afternoon. Again, through Kilps' connections, they had made arrangements to sleep on the cheap in the gymnasium of the Grand Forks Air Force Base.

One of the enduring stories to come out of the eclipse trip was of Kilps' snoring. The boys who shared their gym space with him were amazed at the sheer volume of Kilps' nighttime exhalations. Forever after, when Kilps told the

story of the trip, it was of awakening on Sunday morning buried under a drift of sneakers, the footwear having been thrown at him through the night in a futile effort to stop the racket!

After resting up on Saturday (some of the boys claimed a sleepless night), they drove Sunday to Minot AFB to sleep in another gym and be in position to observe the eclipse on Monday morning. It was a crystal clear, blue-sky winter day. Their two minutes of totality were prefaced by a dramatic view of the moon's shadow cone approaching and then enveloping them. People on the base approached them, asked about their observations, and shared in the wonder of totality. Shortly after the eclipse ended, they were packing up the cars for the long trip back to Madison. They drove straight through Monday afternoon and night—no snow this time—and arrived home at about 4 a.m. on Tuesday morning. The kids missed only one day of school. Breun recalled that the whole thing was "a thrilling and exhausting experience!"

MAS Meeting snapshot

May 9, 1981
Ever wondered about black holes, white dwarfs, pulsars, quasars and supernovae? The scientific folk from the Madison Astronomical Society and Explorer Scouts from Post 14 will be on the mall for Astronomy Day at East Towne Mall to answer all your questions.

Members of the Astronomical Society and the Explorer Scouts may get you started as a backyard astronomer, a hobby that will keep you stargazing happily for years to come.

The fundraising done by the group paid for more than just the eclipse trip. Since Peg Frisch had departed in 1964 with her 6-inch reflector, the OMO dome had been home to the temperamental 10-inch "square-tube" reflector that the club had acquired way back in 1952. This scope was increasingly showing its age and lack of user friendliness. The old 10-inch square tube lacked slow-motion controls or even locking clamps. It had friction bearings so you could push it around like a dob, so it was hard to point at high powers. The kids had nicknamed it "the monster" and were anxious to replace it now that they had some cash. With the help of the senior society, a 12-inch Cave reflector was purchased by the club and installed in the dome of the OMO. The new Cave was on a modern equatorial mount and had superb optics. After the Cave was installed, the 10-inch was relegated to storage. Members recall it being used occasionally outside on one of the Moonwatch piers, but it eventually disappeared. Nobody remembers what happened to it.

The Explorers had one more big trip planned. In the summer of 1980, Kilps took a large group on a road trip to Arizona to see some of the major observatory facilities around Flagstaff and Tucson. Rounding out the two week trip were visits to national parks and other attractions along the way. Kilps had recently purchased a 13 seat van capable of carrying lots of passengers and the telescopes and other equipment the group wanted to take. Tim Baker took his mom's station wagon to provide some extra space for the passengers and gear.

Kilps and the group took off and drove straight through to Flagstaff. It was about a 25 hour drive, but they had some additional driving help thanks to a few of the scouts having their licenses. Joe Keyes and Bob Malownski were also signed on as chaperones but they couldn't take the full two weeks off work, so they flew out and joined the group in Tucson for the second week of the trip.

Lacking access to an Air Force Base near Flagstaff, the group spent the night in the gym of a local middle school, unrolling their sleeping bags on the wrestling mats. Kilps, exhausted from the long trip, instructed the kids to go straight to bed. He then went out to get a drink and decompress. But the kids weren't ready for bed yet. School gymnasiums were familiar territory to them. They quickly located a storage bin full of basketballs, volley balls and other gym equipment, and a few hours of dodgeball mayhem ensued. One of the balls apparently hit a burglar alarm and before long, local police arrived followed closely by the none-too-pleased Reggie Kilps. The kids apologized profusely and everyone finally went to bed—for real.

Using Flagstaff as their base camp, the group visited the Lowell and US Naval Observatories. They had an observing session with local amateurs. They also took side trips to Meteor Crater and the Grand Canyon where they met a group from the San Francisco Sidewalk Astronomers. Moving on to Tucson and being joined by Keyes and Malownski, they toured Kitt Peak, visited the Flandrau Planetarium and an aircraft museum, camped and did some ill-advised mountain climbing in the desert heat.

On the way home, they made various stops in Colorado for three more nights of camping, hiking, mountaineering and skywatching. The trip was a huge success, but was likely the group's high water mark. Kilps was having some health problems and would never again be as involved as he was during that two year period. Weier continued on for a few more years with some occasional help from some other adults in the club and from a few of the older scouts as they became adults themselves. But with many of the kids growing older, graduating and going off to college, the Post's days were clearly numbered.

Everybody who recalls the Explorer Post has a story to tell with a smile and a nod to the youthful energy exuded by the kids. When interviewed about this period, several members recalled scout shenanigans at the OMO. At an MAS picnic one year, some of the kids got a kick out of removing the eyepiece from the Cave 12-inch, pointing it down at the intersection on Fish Hatchery, and aiming a camera flash into the optics. For a fraction of a second, people coming out of the nearby restaurant on Fish Hatchery Road would see the equivalent of a supernova going off up on the hill. Everyone got a chuckle out of it before some adults made the kids knock it off.

Brian Ottum recalls, “we were kids, full of mischief, and doing what we loved. Our parents knew where we were and were glad we had some adult supervision.” The kids were occasionally mischievous but never malicious. Their parents had entrusted them to this group of mostly unknown adults, and the adults provided a wonderful growth culture. It was a unique time and place, as all involved seemed to recognize. Once again, the youngsters had taken over the club and provided a spark of energy and enthusiasm.

MAS Meeting snapshot

May 8, 1982
Astronomical group to meet May 14. The Madison Astronomical Society will beet at 7:30 pm Friday, May 14, at the United Bank of Fitchburg, 5574 Lacy Rd. A videotape of the movie “Journey Into the Light” which tells the story of Kitt Peak National Observatory will be shown. For more information, call Jane Breun, 238-8706.

The Post continued on for a few more years and did lots of outreach, observing and socializing, but things were clearly winding down. Their fundraising continued to be successful and kept the Explorer Post’s account full. The group took on additional projects and more trips. They went camping to observe meteors at Aztalan State Park, 30 miles east of Madison. And they helped to fund the club’s purchase of the 17-inch Coulter Odyssey dobsonian in 1983, perhaps one of the last expenditures of the scouts.

The decade of the Explorer Scouts’ days resulted in many friendships that have lasted a lifetime. As the mid-80s arrived, many of their activities had morphed from club events to friends getting together to observe, go camping or whitewater rafting, and later, road trips and even attending each other’s weddings. By 1985, with most of the key scouts out of high school and moving on, the decision was made to close the shutters and call it quits.

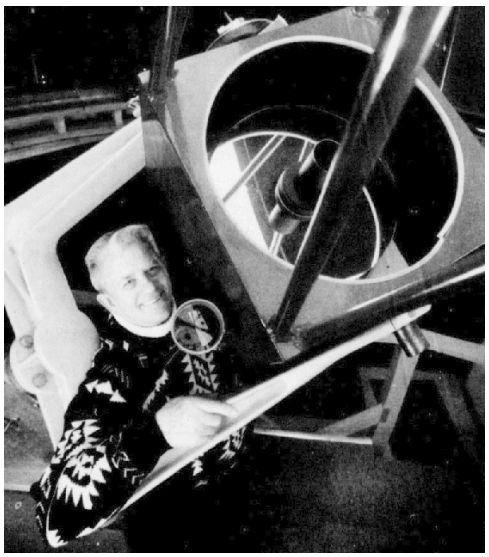
Many of the Scouts stuck with the club and stuck with astronomy. Both Tim Baker and Neil Simmons credit Dave Weier for influencing them toward variable stars and a lifelong relationship with the American Association of Variable Star Observers (AAVSO). Tim Baker was so involved in helping out at the OMO that the senior club eventually elected him to be the MAS observatory director, a position he held for two years while attending college at the UW. Entering college, Brian Ottum was convinced he was going to be a professional astronomer, a conviction sealed by the visit to Kitt Peak and chatting with the scientists there. He ended up getting a doctorate in a different area but pursues amateur astronomy, education and outreach to this day. Those years in MAS were formative, he says. And the others agree. Fritschel recalled one scout that he got to know well during those years. “The kid had been having trouble in school, some borderline delinquent behavior. The club had a good influence on him. I think it helped him turn things around.” Simmons remembers “Just having access to good telescopes and great mentors meant everything at that age. An 8-inch telescope was respectable. A 10-inch was amazing.” He added, “Outreach was always a strong component of MAS, and probably always will be.”

9. The Yanna Research Station, 1983-1988

The acquisition of the UW's Student Observatory and the lease on Bjorksten's land in the 1950s was a watershed moment for the Madison Astronomical Society. Having a dedicated observing facility is central to the identity of an astronomy club and the Oscar Mayer Observatory fulfilled this role for the MAS for 25 years. But while the OMO was a huge step up from what the club had before, it had some serious inadequacies: the dome could house only one telescope and the grounds were not well suited to have members bring and set up their own equipment.

The club was aware nearly from its inception that the Bjorksten arrangement might not last forever. As early as the summer of 1970, members discussed what would happen if the Bjorksten property were to undergo further development. The congenial arrangement that made it possible for the club to use this land could come to an end if Dr. Bjorksten sold the land or if industrial growth otherwise made the site untenable for astronomy. In club minutes from June of 1970, president Helmut Prahl raised this possibility. In reply, past-president Wysocki said that the club had a plan for an alternative site should anything like this come to pass. Details of the plan were not preserved.

By 1980, members noted that they were sometimes electing to take their scopes elsewhere because the skies in Fitchburg were becoming more and more light polluted. The greater Madison area was undergoing explosive growth during this period and the area south of the Beltline Highway along Fish Hatchery road was highly desirable for both commercial and residential development. Speaking of this period of time, the club would later write in one of its brochures: "The glow from Madison lights creeping over Fitchburg forced a search for a darker site."



LeRoy Yanna posing with the 16-inch Cassegrain in the Koster Memorial Observatory. *Wisconsin State Journal* photo, 1991.

By 1983, under the presidency of Paul Fritschel, the search for a dark site had become a serious endeavor. In 1979, the club had acquired the 12-inch Cave reflector that was now in the OMO dome and in 1983, they bought the 17-inch Coulter dobsonian. There was no place at the OMO to permanently mount the larger scope so for the time being it was used portably. At one point in the spring of 1984, an agreement was being discussed with the UW astronomy department to construct a small enclosure at the Pine Bluff Observatory for the 17-inch. That arrangement never came to fruition. The big dob was used as a portable until MAS moved into its more permanent home.

In regard to the search for that new observing home, the next few years would bring a dizzying series of gifts and additions that would elevate the Madison Astronomical Society's observing practices and serve it well for many years to come in terms of dark sky access.

LeRoy Yanna had been a member of the club throughout most of the 1960s and was remembered by many members as a skilled telescope maker who once confessed that he "liked building telescopes better than observing with them." But Yanna had stopped attending years before. Art and Doris Koster had remained friends with Yanna after he drifted away from the club. They recalled that he owned property in Green County, about 20 miles south of Madison. In those days, locations like Yanna's were considered radically dark. Sometime in late 1983, they invited him to their home to talk about the club's need for a new observing location. Yanna seemed interested in the prospect of his property becoming a new dark sky site for the club, so the Kosters urged him to rejoin the MAS and put him in touch with Tom Jacobs who was leading the search for a new site. The story is recounted on the first page of the logbook that is still in use today in the clubhouse at what would become the Yanna Research Station of the MAS:

> *At the regular meeting of the M.A.S. in August 1984 a former member, LeRoy Yanna, an ardent neophyte astronomer who started building telescopes in 1934 and completed 14 scopes in his career the largest being a 12 1/2 inch reflector, rejoined our group. Now, under the presidency of David D. Weier, Mr. Yanna approached Tom Jacobs, chairman of the M.A.S. Dark Sky Site search committee, about his property of Brooklyn, Wis, in Green County.*

As soon as the meeting was over, Jacobs and Yanna drove out to Yanna's property in Green county. It was a clear night and the sky was on full display. Jacobs was immediately sold on the value of the site. He knew that it was far

enough away from Madison lights to be useful to the club for decades to come. Jacobs shared this with Weier and Fritschel, and the three started negotiations for the purchase of a parcel of Yanna's land. Before long, the four had worked out the beginnings of an agreement. Arrangements were made to present this to the membership at the next meeting and make a formal offer to Yanna for the purchase.

But when the September meeting rolled around, Yanna surprised everyone by standing up and announcing that it would not be a sale, but a gift. As Weier (who had followed Fritschel as president) recalled, "The club immediately accepted."

Quoting again from the logbook in the clubhouse: "At the Sept. '84 meeting LeRoy donated a 3/4 acre parcel of land on the top of the hill. This was graciously accepted by the M.A.S., being an ideal observing site protected from development and light pollution far into the future. This site was then named the Yanna Research Station of the Madison Astronomical Society." (Commonly referred to as YRS.)

MAS Meeting snapshot

September 14, 1984
VERY IMPORTANT MEETING - Friday, September 14 at the Bank of Jamestown, Verona Road, at 7:30 pm. Fritschel, Weier and Jacobs will present a proposal to purchase a dark sky site south of Brooklyn, Wis. Your prompt payment of 1984-85 dues and any donation or loans will be greatly appreciated.

The donated 3/4 acre was eventually known as "parcel A" because within a year or so, the club purchased an additional piece of Yanna's land (parcel B) to bring the total up to one acre. In 1994, the club would purchase yet another piece of Yanna's land which would form the parking lot and part of the entryway off Kelly Road (parcel C).

The transition from the Oscar Mayer Observatory to Yanna's land was a revolutionary step for the club. Suddenly the skies were much darker and the club's land footprint was much larger. There was space for multiple buildings, for members to set up their own equipment, and more. The first scope brought to the new observatory was the club's big 17-inch dob, purchased about a year before. To give it a permanent home, Fritschel and Jacobs built a telephone booth shaped building where it could be stored when not in use. This "outhouse" sat on a pad along the east boundary of the property. After unlocking and opening the door, the entire building rolled away toward the north on grooves in the concrete. This building would be home to the 17-inch for years to come.

August and September 1984 were thus "big news" months for MAS members, but the revelations weren't over. When the postcard announcement was sent out for the October meeting, someone appended the handwritten note under the meeting details, "Plus SURPRISE regarding our dark sky site."

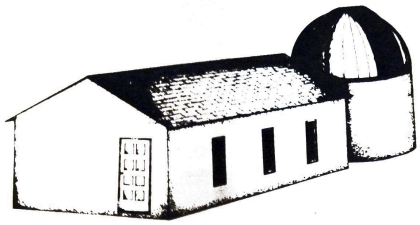
Early picture of the Carl Fosmark clubhouse, looking north toward the main entrance. The woodcut of Saturn finally rotted away and was removed in the late 90s. Two unknown MAS members are digging a trench for electrical conduit, probably to serve the Koster Memorial Observatory which would be sited behind the photographer. Photo probably from 1988.

The October surprise likely had to do with a friend of Paul Fritschel's who had in mind yet another donation that would enhance the group's new dark sky site at Yanna's land. Carl Fosmark knew Fritschel because both shared a love of flying and Fritschel had learned that Fosmark also had interest in astronomy. Though Fosmark shared an interest in the science, he wasn't an active observer. Two years before, the Fosmarks had lost their adult son in a tragedy. Since that time, Carl and his wife, Lucille, had been looking for a way to establish some sort of tribute to him. As Fritschel told him about the the gift of Yanna's land, Fosmark quizzed him about needs and determined that he and Lucille could help the club build out the site and in the process, find a way to honor the passing of their son (also named Carl). Fosmark inquired about helping the club put up a building at Yanna's land that would replace the Oscar Mayer Observatory—a building that would include both an observatory and a meeting/warming room.

Fosmark's desire to help was real though his timeline was perhaps a little too rushed. As Weier later recalled, one day in the fall of 1984, he, Fritschel, Jacobs and a few others were out at Yanna's property prepping ground for a cement slab for the club's 17-inch dob when Fosmark pulled up in his car. With him he had a completed contract for a new building, just needing president Weier's signature. Weier looked over the contract and his jaw must have dropped. The builder was Cubic Structures, Inc.,

and the proposed amount of the contract was $25,000 (about $66,000 in 2022 dollars). Weier and the others protested that they couldn't afford something this lavish, but Fosmark insisted the whole thing would be his and Lucille's gift to the club and a memorial to their son. Moreover, he told them he had already made a $5,000 down payment. Construction was to start in the spring.

Having already determined that the new site would be named in honor of LeRoy Yanna, the guys quickly came up with the idea that the building gifted by Fosmark would be called the Carl Fosmark Jr. Observatory. Current MAS members know that the Fosmark building is a clubhouse—with no attached observatory. This raises one of the club's little mysteries: was there ever going to be an observatory in the Carl Fosmark Jr. Observatory?



Sketch of the clubhouse with observatory attached, taken from the plaque that hangs in the clubhouse today and which honors the Fosmark donation.

That a domed addition to the clubhouse was intended seems certain. The club retains a series of rough architectural drawings showing what is clearly the Fosmark clubhouse with a dome attached at the north end. A plaque that was made to honor the Fosmarks' son shows an artist's representation of an identical sketch. This plaque still hangs in the clubhouse today (copy of plaque drawing at left). Jacobs, Weier and Fritschel aren't completely clear on exactly how it transpired, but the idea of the attached observatory seems to have been dropped pretty quickly. The contractor plans produced by Fosmark as such a surprise in the fall of 1984 apparently didn't include it, and the building was obviously built without it.

One enticing possibility is that the donation of Art Koster's first building (known as the Art Koster Observatory (AKO), see photo below) was the stimulation for talk of attaching his dome to the Fosmark building. As the two pictures on this page show, there is a similarity in appearance between the AKO and the dome shown in the sketch. This is pure speculation, however, since none of the participants recall discussions like this. However it transpired, the Fosmark building and Koster's first donation ended up as separate structures on the YRS grounds.

As a clubhouse, the Fosmark building was superb. It was 32x19 feet, oriented with the long axis aligned to north-south. It was an extraordinarily comfortable structure with space for shelving, tables and chairs, telescope and equipment storage, and much more. Later, a sofa and computer workstation were added. The design was innovative for its time. It was extremely energy efficient and sturdily built.

The Art Koster Observatory and the 17-inch Coulter-Odyssey dob upright building. Northeast corner of the YRS property, photo from the early 1990s.

In rapid-fire succession, the Koster family now stepped up to add value and function to the new observatory grounds. Art Koster had his own backyard observatory for years at his home in Madison, but he was planning a larger building to better accommodate his (also home built) 16-inch Cassegrain. Art and Doris offered to donate the old domed building to the club.

MAS Meeting snapshot

September 8, 1985
Dave Weier has seen the light and said it is, well, faint.

The 37-year-old Weier is president of the Madison Astronomical Society. This weekend, Weier, Neil Simmons and LeRoy Yanna were gazing at the heavens from the society's facility near Brooklyn and decided to search for the much-publicized Halley's Comet. After 15 minutes, Weier said the three spotted it near the star Zeta Tour in the constellation Taurus using a 17.5-inch telescope.

Koster's building was not in great shape, but it was an offer too good to refuse. The club made the arrangements and sometime early in 1986, it was moved to YRS. The building sat in pieces at the northeast corner of the property for a while, giving members time to prepare the slab and make some repairs. Nobody remembers what telescope was originally housed in this observatory after it was reconstructed. It may have even sat empty for a while.

Things moved quickly after this. In October of 1986, before his old building was even assembled at YRS and just as he was putting the final touches on his new one, Art Koster died unexpectedly. In an effort to finalize his estate, Doris made arrangements to donate their new building to the club (minus the dome), along with Art's 16-inch homemade Cassegrain telescope. The larger building was moved (by crane and flatbed truck) in February of 1988 and placed on the southwest corner of the YRS land. Club member Ray Zit donated a dome to fit the new building and the 16-inch was placed in it on a massive cement pier. The second Koster building was named The Koster Memorial Observatory (KMO). Zit,

Installing the Koster Memorial Observatory. From left to right: unknown. Denny Fryback, Dave Darling and Gil Lubcke. 1988 photo.

Fritschel, Jacobs and the others also did extensive renovations to the first Koster building—the AKO—which became home to the 11-inch Celestron SCT, which Doris sold to the club in 1988.

In addition to the two Koster observatories, the club built an upright housing for the 17-inch dob and placed it on another slab, and put in a few 4x4 concrete pads where members could set up their own equipment. In the space of less than four years, MAS had relocated from their home in Fitchburg for 30+ years to a new observatory in Green County where they had a luxurious clubhouse, two domed observatories and a roll-off building.

Though it was no longer their observing home, the Oscar Mayer Observatory remained in use for a few years as the transition was made to YRS. The club's 12.5-inch Cave reflector stayed in the dome at the OMO and continued to be used by the last remnants of the Explorer Scouts for a while after the move to YRS. Eventually the electricity at the OMO failed and that was the end. The Cave was removed from the dome and placed in storage at YRS. There was some talk of putting up a new building for it there but with a focal length of f7, its tube was on the long side and it would have required a large building. And with the two major donations from the Kosters, MAS volunteers had their hands full. There were enough maintenance, building and renovation projects to last for years. Nothing ever came of the plans to mount the Cave at YRS.

Erecting the YRS sign. From left: Mark Bauernfeind, Tom Eichmann, Dave Weier and Wynn Wacker. 1994 photo from Dave Darling's collection.

It's difficult to overstate what a game changer YRS would be in the life of the club. In the 50 years since the club's founding, it had experienced bursts of significant scientific activity by motivated members and also provided a social outlet where astronomy-minded people could meet and form friendships with others who shared that interest. But the limitations of the OMO seemed to keep those two aspects of the club apart. Now with the space available at YRS, it was possible to host both the serious citizen scientists of the club as well as those who craved a social gathering place. YRS would embody the maturation of the club over the coming years.

Gradually the materials stored in the OMO and the old shed at Bjorksten's property were transferred to the Fosmark clubhouse and other new buildings at YRS. After more than 25 years, the OMO was shuttered for good. A new chapter in the life of the MAS was unfolding just as the club reached its half-century mark.

Appendix A: Eduardo Neale-Silva's History

(This unsigned and undated history has floated around the club for years, and until the current effort, was the authoritative account of the club's history. In 2020 the club received a donated box of materials from the family of a deceased member. Contained inside was a copy of this history with an authorship note at the top, so we now believe it was written by member Eduardo Neale-Silva, most likely around 1963-64. It's likely that the two pages of this document were originally separate creations. The first page was Neale-Silva's history; the second page was a brief description of the club intended for use as a brochure. It was written around the same time but contains many technical inaccuracies in its description of the club's equipment.)

THE MADISON ASTRONOMICAL SOCIETY, INC.

The earliest plans for the creation of an Astronomical Society in Madison can be traced back to October, 1930, when Mr. William R. Binney and Mr. John M. English discussed their common interest in lens grinding and observing as well as the possibility of attracting other would-be astronomers to probe the mystery of the stellar world. Soon after, Dr. C. M. Huffer, a member of the Astronomy Department of the University of Wisconsin, who knew about Dr. Binney's hobby, was invited to dinner by Dr. J. S. Supernaw, a prominent Madison physician. The host, as it turned out, was also interested in amateur astronomy. Ideas were exchanged and finally, early in 1931, the Madison Astronomical Society was actually launched through the combined efforts of the four pioneers and a few friends.

After a year of informal meetings at various places (a private garage, the Madison General Hospital, the Forest Products Laboratory, the University Extension Division, et al.,) the Society became the protégée of the Astronomy Department and met at the Washburn Observatory until June, 1959; since September, 1959, when the Astronomy Department moved to its present quarters, all regular meetings have been held in room 6515 Sterling Hall.

The Madison Astronomical Society had ambitious plans from the very beginning. In May, 1935, under the presidency of Dr. J. S. Supernaw, it began to publish monthly *The Madison Bulletin*. Vol. I, No. I announced in all candor: "Contributions are solicited but cannot be paid for." That very same month and year the Society joined forces with the Milwaukee Astronomical Society, the Missouri-Southern Illinois Observers and the Amateur Telescope Makers of Chicago and began to publish a mimeographed bulletin called *Amateur Astronomy* which was sold, like the *Bulletin*, for the awesome sum of ten cents a copy.

Under the impetus of several lecture series on astronomy organized by the Extension Division the Society flourished and on September 12, 1956 it celebrated a quarter century of existence at its first meeting of the 1956-57 season. Mr. John M. English, who had been one of its most devoted members, then read a paper entitled History of the Club.

For many years the guiding spirit of the organization was Dr. C. M. Huffer, who virtually became the permanent secretary until the summer of 1959 when he was elected president. With the cooperation of his gracious wife, Dr. Huffer drew up a constitution, scheduled programs, promoted various projects and attracted new members. Dr. and Mrs. Huffer moved to San Diego, California in the summer of 1961.

In 1956, through the good offices of Miss Charlotte Steward, the Society was invited to install its first building at the site of the Bjorksten Laboratories. In 1960 two units were given to the Society by the State legislature -- the old University observatory and transit room. This double structure was moved to its present location in the summer of 1960 with the financial support of the Oscar Mayer Company of Madison. In recent times the building has been repaired, repainted and insulated.

On December 15, 1962 the Society became officially incorporated under the presidency of Mr. George N. Harris.

The Society has both regional and national affiliations. The North Central Branch of the Astronomical League, to which our organization belongs, was created primarily through the efforts of two members of the Madison Astronomical Society, namely. Dr. C. M. Huffer, who was chairman at the organizational meeting (St. Paul, Minn., Aug. 7, 1947), and Mr. Harold B. Porterfield, who acted as secretary. Mr. Porterfield wrote the first constitution for the region and later became chairman of the North Central Branch for three years. In 1954 the Society co-sponsored the national convention of the Astronomical League (July 2 - 5) and four years later, under the presidency of Mrs. Charles E. Hemingway, it organized and sponsored the regional meeting of the North Central Branch (May 21 - 22, 1960).

The members of the Society are people representing a wide variety of interests: business men, state employees, professionals, retired "young men and women", teachers, housewives, and students from both college and high school circles.

No special preparation is needed to join its ranks. The only requirement is a genuine interest in all phases of astronomical observation and study. The annual fee is $2.00 a year per family. The Society encourages the cooperation of its members but never requires it officially.

The members of the Board of Directors are seven in number : president, vice-president, secretary, treasurer and three directors. The Society also has several standing committees whose function is to expedite business and social matters with minimum impositions on the members of the group.

The Society meets once a month between September and June on the second Friday of the month. The meetings are held at 8:00 p. m,, either at 6515 Sterling Hall (under the auspices of the University of Wisconsin's Astronomy Department), or at the Oscar Mayer Observatory, the Society's official residence, located at the Fitchburg Research Park (Bjorksten Laboratories), on the Fish Hatchery Road.

Two highlights of the Society's activities are the yearly banquet in the spring and the annual picnic in June. The regular programs include formal lectures by experts, viewing and discussion of films, and informal talks and reports by the Society's members. Of particular importance are the star parties held at private homes or at the Oscar Mayer Observatory for the purpose of observing or instructing new members and visitors in the use of astronomical equipment.

The Society now operates a 6 inch clockdriven reflector, a variable frequency oscillator, three astrocameras (7 inch, 12 inch and 24 inch focal length), five apogee instruments (SAO Moonwatch), and timing equipment.

Among the Society's plans for the immediate future are the installation of a four and one-half inch refractor donated by the Oscar Mayer Company, and the erection of a ten inch reflector and mount. The Society also owns one 6 inch and two 10 inch mirrors, which will become part of the equipment to be used by members on a loan basis.

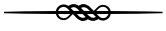
The Society has grown into a double group of amateur astronomers -- the Junior and Senior Divisions.

JUNIOR DIVISION

The Junior Division, composed of enterprising young "astronomers" of high school age, has functioned under the guidance of Mr. Edward P. Baillie, senior member advisor. It meets regularly and schedules its own special activities. Among these have been the publication of a mimeographed bulletin, *Star Trails*, the drawing up of questionnaires on astronomical matters, and the organization of educational programs to provide school children from the fourth through the eighth grades with an opportunity to observe the skies

SENIOR DIVISION

Among its outstanding activities are the preparation of timely articles for local newspapers and the tracking of visible satellites. The team predicted on the UW extra fast CDC 1604 computer many visible passes; it also developed techniques for photographing satellites down to 8th magnitude (astrophotography projects, 1961-62). Several of its members own professional or semi-professional telescopes and at least two have their own private observatories.



How To Reach The Oscar Mayer Observatory (M. A. S., Incorporated)

1. Go to Park Street
2. Follow Fitchburg Street and Fish Hatchery Road
3. Turn left at the Bjorksten property

Our meetings are open to the public. All people -- young and not-so-young -- are invited to join! For information on membership, call the Society's president:

Appendix B: Charles Huffer's Oral History Interviews

(Note: Long after his retirement from teaching, Charles Huffer sat for two oral history interviews. While the focus was on his own background and his career as a professor of astronomy, he mentions his association with the Madison Astronomical Society in both. Since Huffer was a founding member of the club, these accounts have to be regarded as some of the most important reminiscences of the origins of MAS. Both interviews were conducted in 1977, 16 years after Huffer had retired from the UW and moved to San Diego, and 42 years after he had co-founded the Madison Astronomical Society. The interviewers were David DeVorkin for the American Institute of Physics, and Donna Taylor Hartshorne for the University of Wisconsin. Editorial comments by John Rummel are enclosed in brackets. These ***excerpts*** *focus specifically on mentions of MAS. Huffer's responses have been lightly edited for clarity and to correct some misspellings that resulted from the transcription from the taped interviews.)*

DeVorkin Interview:

[DeVorkin is asking Huffer how the students at San Diego in the 1960s were different from students at Wisconsin years before. In answering, Huffer digresses and talks about his experience with his UW Extension students, many of whom went on to form the MAS]:

Huffer: Well, if you asked me about elementary students at San Diego State, I could have told you very definitely what they were most interested in—credit.

DeVorkin: Was that kind of an attitude the same at Wisconsin, or is this something new?

Huffer: I think it's something new at San Diego State. When I first came I decided that oh, the students aren't that much different. But later I found: here's a student who's doing "B" work; "I've got to have an "A." And if he gets a "C," he wants a "B." And I've had a lot of students like that. But that didn't happen much at Madison. And then during those same years, I gave a course for a couple of years for the University Extension Division. Lectures in survey of astronomy. Now, they were really interested, those people.

DeVorkin: When was this?

Huffer: Well, that was 25 years ago, in the 50s. And a lot of those people joined the Madison Astronomical Society. Some of the people that were interested came to me and said, "We want to have a society," so we invited them to come up to the observatory for their meetings once a month on a night when there were no classes, and it was a very active society for the 25 years I was there. It's still in existence, but I don't think it's the same. We had the cream of the crop. *[Huffer's estimate of the passage of time is off here. His UW extension classes that influenced the formation of MAS were in the 1930s.]*

Taylor Interview:

[Taylor and Huffer are talking about Huffer's work with the light curves of eclipsing variables. This Q&A goes on for several pages when Huffer abruptly interjects: "Well, I have to talk about the Madison Astronomical Society." It's not at all clear what prompted Huffer to suddenly switch topics to the MAS]:

Taylor: OK.

Huffer: Have you ever heard of that?

Taylor: Yes, I've heard of it. That's about the extent of my information.

Huffer: Well, there was a group of people that were going to make telescopes, grind lenses, mirrors, for telescopes. Well, they finally contacted me and we advised them to use the observatory classroom on Wednesday night, when it wasn't being used and we formed the Madison Astronomical Society. I think we had, oh, I don't know, 30 or 40 members. It was partly the result of an evening extension non-credit course that I gave in astronomy. Just elementary, descriptive astronomy, was sponsored by the department of the extension division of the University. Miss Mary Farrell, still lives in Madison. *[Mary Farrell was the UW administrator who was in charge of running the extension program in Madison.]*

Taylor: Mary Farrell?

Huffer: Yes. A good friend of my wife's. These two classes formed the nucleus of the Madison Astronomical Society, which is still going, but it's not the same as it used to be. There are more younger people.

Taylor: Now how did this group get interested in making lenses?

Huffer: Well, they weren't lenses, if I said lenses I misspoke. They were mirrors for reflecting telescopes. I can't tell you exactly, but the nucleus of these 4 fellows got together. I think they met in various places. One was with the Madison General Hospital. Dr. Supernaw was the prime mover of that, and then they had a meeting out at the

Forrest Products Laboratory. Finally, came up to the observatory. I was secretary for, I don't know, 25 years, or something like that. Finally I nominated myself to be president, and I was president for one year. We had good times. We all attended meetings, we always had a lecturer, by somebody, usually yours truly, but I tried to get the members of the society to take part in that. When I left, why, it sort of went to pieces. All those people were getting old, and had other things to do. I'm still in contact with [it?].

Taylor: Is it a continuing organization?

Huffer: But I don't think the old members, except this one that I know.

Taylor: Who is that?

Huffer: That was Edward Baillie. He is retired now. He was the chemist for the Madison research department. Next is Dr. Supernaw. He died, oh quite a few years ago. I heard several theories about his death, I don't know which one is true. One was that he was killed by a burglar that got into his office, looking for drugs. The other was that he had a heart attack, and one was that he killed himself. Now I don't know what the real explanation was. So we really kept that club going. We have a dinner every year and we take a trip over to Yerkes Observatory and we are closely associated with the Milwaukee Astronomical Society. *[Supernaw's death in 1960 was a suicide. See biographical note on him on page 47.]*

[Later in the interview, they are talking about the 15.6-inch Clark telescope in the Washburn Observatory at the UW when Huffer suddenly changes the topic to the smaller Student Observatory that used to sit beside the main building on Washburn Hill. To see if she remembers the smaller building, Huffer starts by asking Taylor how long she's been at the UW-Madison]:

Huffer: Do you remember? How long have you been with the University?

Taylor: Just fifteen years.

Huffer: Fifteen years, do you remember the observatory-the little observatory that for fifteen years. It was a small observatory building off about I00 feet from the main building?

Taylor: No, I don't remember that.

Huffer: No, that was gone about then. Given to the Madison Society and moved out to the Bjorksten Laboratory south of town. Where it still is. It had a six-inch telescope in that building. I forgot about that.

Taylor: Did that telescope go with the building?

Huffer: No, just the building. The telescope, six-inch telescope, is up on the roof of Sterling Hall, that is where the mounting was.

[This brief exchange occurs right at the point of a change of tapes in the recording process, so some of the exchange was lost. Huffer is talking about the changing uses of the "classroom" space inside Washburn Observatory, after it was no longer used as a transit room]:

Huffer: We took the instrument out of that room at the west end of the building and made it into a classroom, and that is where we met for the Madison Society and where we did most of our teaching until the classes got bigger. Then we moved to Sterling Hall.

[Later Taylor is asking Huffer about pleasant memories from his days in Madison. Huffer pivots to some of his non-research publications. He mentions some writing he did for the American Astronomical Society (AAS) and moves on to another aside about the MAS]:

Huffer: Then Sky and Telescope, this popular magazine, I was asked by the editor to write up several meetings of the society *[AAS]*, which I did. Then one time, see, I usually gave a talk to the Madison Astronomical Society, we meet several times a year-one time they wanted me to talk on astronomy as it was a hundred years ago or something like that - medieval astronomy they called it. And I found in a book I had in the library a talk given by Tycho Brahe, a famous Danish astronomer who died in 1602, I think it was, about astrology. And I wrote this up, in my own language, and gave it with a straight face. In practically the style of Tycho Brahe but modernized some of the things. And they had all thought I had gone crazy until I told them they had just heard a lecture by Tycho Brahe in 1575 or whatever it was. I offered that to *Sky and Telescope* and they wouldn't take it. They said that astrology is a no-no word so they didn't want something like that.

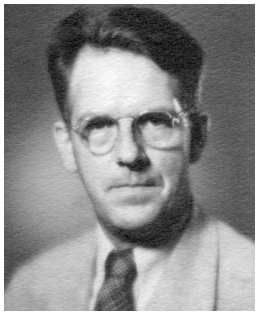
Taylor: Well, that's too bad. That sounds like it would have been fun.

Huffer: Well, they did tell me that they would take an article about Tycho. I wrote a two part-something about the life of Tycho. He was a very interesting character.

Taylor: He must have been.

Appendix C: People

Baillie, Edward P. (1903-2000). Baillie's run as a 50+ year member is among the longest on record. His first mention in club documents is in the meeting minutes from February 1939 where members discussed their ideas of the origins of the universe. Baillie first served as a member of the board that same year as director at large. He would serve on the board many times over the following 30 years, including a term as president in 1949. Though Baillie's peak active years seemed to come to an end in the early 70s, he still appeared on the membership roster in the late 1990s. Club minutes and notes record at least ten times when he spoke at meetings on astronomy topics. Many more times he organized, hosted, or otherwise presided over club activities. Baillie was a water chemist heading up the Nine Springs water treatment plant in Madison. He was passionate about the science of his work and was always eager to see what new surprises would be found under the gaze of the microscope. His science interests extended to all aspects of astronomy. He would set up his hand-made telescopes in his driveway or across the street from his home at Forest Hill Cemetery or occasionally up the hill at the Madison reservoir to get a better view. Nothing delighted him more than when a neighbor or passerby would stop and ask for a peek. Baillie played a role in helping the club acquire the land for the OMO observatory in the 50s and later the YRS facility in the 80s. He was also the adult responsible for much of the youth involvement in the club in the 1960s. Some older members remember Baillie boasting that he is one of the few people to have seen Halley's Comet twice, a circumstance certainly made possible by his lifespan. (This sketch borrowed heavily from Wynn Wacker's article in the April 2000 issue of MAS's newsletter, *Capitol Skies*).



Ed Baillie in an undated photo (provided by his family).

Baird, Parker K. (1892-1957). Baird is another member who goes back nearly to the beginning, but very little is known of him. He spent his career at the Forest Products Laboratory, eventually heading up the lab's paper and pulp division. The first mention of him in club documents is April 1936 during an outing to observe a meteor shower. Baird was listed as leading the club's "meteor section." He appears in club records as having given four talks between 1938-41, the first of which was of a visit he made to Arizona's Meteor Crater. Baird served on the MAS board twice, 1937-38 and again in 1940-41. After that, he disappears from MAS records. Baird died amid tragedy in April of 1957. He was apparently suffering from some form of advanced cancer and attempted to take his own life. When their son discovered Baird seriously wounded by a self-inflicted gunshot, Mrs. Baird suffered a heart attack and died shortly thereafter. Baird's gunshot wound was not considered life threatening, but he died of the cancer within a few days of the suicide attempt.

Binney, William R. "Bill" (1897-1971). Binney was the group's second president, serving from 1936-39. He also served other roles on the board of directors through about 1945. Binney was born in Hibbing, MN, and moved to Madison in the 1920s, shortly after marrying. He initially worked as a gas station attendant. He learned the machining trade at his father-in-law's business and went on to spend much of his career at Gisholt Machine Co., testing the balance of airplane propellers. He worked for years as an election clerk in Madison and was very active in the Catholic Church Youth Organization (CYO) and the Knights of Columbus. He acted in some plays at the Madison Civic Center and may have known Leslie Ketchum from there. He was an avid photographer later in his life. There is also mention of him as a "guidance officer" at Wisconsin State Prison at Waupun. In addition to his mention as a founding member of the MAS, he seems to have been very involved in amateur telescope making.

Bill Binney, date unknown. Photo from Ruth Binney collection.

Birner Carey, Paula (1901-1993). Though never explicitly mentioned among the founding member of the MAS, Paula Birner's influence and fingerprints are all over the early years of the club and indeed, all over the early years of amateur astronomy from Madison to Racine. Her name is occasionally misspelled "Berner" or "Birney" in club documents. Birner was born in LaCrosse in 1901 and earned a degree in education from the LaCrosse Normal School (later UW LaCrosse) in 1924. Her whereabouts for the next ten years are not known but in September 1934 she arrived in Madison as a new teacher at Lowell Elementary School. Her position was the "Nature Study" teacher.[12] Birner later taught high school level chemistry and physics. In 1944 she was married to Orville Carey in Madison, but Carey died four years later. Paula kept the

[12] "Nature Study" was a curriculum that flourished in the US during the first decades of the 20th century. Its aim was to provide a hands-on approach to teaching students about nature. It was one of the first systematic attempts to introduce science into elementary education.

name “Carey” for the rest of her life, though she sometimes went by Paula Birner Carey. After her stint in Madison, Birner Carey taught for a time in Middleton and McFarland, and in 1951 moved to Sheboygan for a year and then to Racine where she taught for the rest of her career. Her retirement date is not known.

Paula Birner, yearbook photo, LaCrosse Normal School, 1924.

Birner Carey was present before the formation of the MAS. In the fall of 1934, she was on WHA radio in Madison doing a program in astronomy, “Watchers of the Sky.” This same talk was repeated on a Stevens Point radio station a few months later. Radio addresses may have turned into a repeating gig since additional references to talks on WIBA are seen later in 1935. Her name shows up frequently as a participant in MAS meetings for the next few years, delivering many of the featured talks. In February of 1938, the *Wisconsin State Journal* ran the first of a series of columns on astronomy. It was titled “The Most Brilliant Stars” and opens: “February has the distinction of having the greatest number of brilliant stars—eight of the twenty brightest stars. . . . First in importance are the two first magnitude stars in Orion. Betelgeuse, the famous flame-colored giant in the upper left hand corner of the four sided figure is variable . . . .”

The article goes on from there to give readers a tour of the winter sky’s most familiar constellations. Writing such pieces about the night sky required a sound knowledge of the sky, a keen grasp of the literature of sky lore, and a penchant for sharing. Birner was the author and she clearly had all three. These articles never mention Madison’s burgeoning astronomy club, but MAS could scarcely have had a better spokesperson. Birner Carey’s articles read much like the later work of astronomy writers such as Leslie Peltier and Walter Scott Houston. Over the next year and a half, Birner Carey would pen ten more such columns for the *Wisconsin State Journal*.

After moving away from Madison in the early 50s, Birner Carey eventually settled in Racine and continued to build her career as an educator. But her love of the stars was never far from her imagination. In August of 1956, she wrote a letter to the editor of the *Racine Journal Times* expressing interest in seeing an astronomy club start in her new hometown:

> *Here I sit with a six-inch Newtonian reflector telescope, another mirror to be mounted, a certain measure of astronomy know-how, unbounded enthusiasm, a backyard near the park with that essential unobstructed view of the sky—and nobody or almost nobody to play with. It would be nice to meet some other star gazers—amateur astronomers, that is. If they know lots about telescope-making or the sky, wonderful. If they know nothing about astronomy but have a great curiosity, good. I can impart some of my know-how—and feel important at the same time—and then we can learn some more.*
>
> *Somewhere in Racine , or thereabouts there must be kindred souls. Wish they would communicate with me. We could form a club and have some fun! (Racine Journal Times,* August 26, 1956)

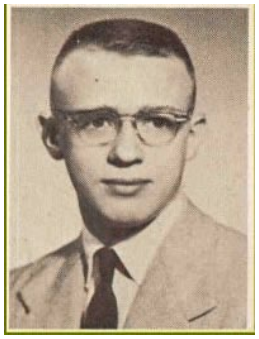
She was successful. An astronomy club was born in Racine and grew quickly. In October of 1956 they approved their constitution and Birner Carey was elected club secretary and would later serve as its president. By 1964 they had dedicated a first-class observatory built with community funding and admirable commitment by a growing group of amateur astronomers. In May 1964 a letter to the editor appeared in *Sky & Telescope* magazine about the new Modine-Benstead Observatory in Racine. Its author, of course, was Paula Birner Carey.

Paula Birner Carey, *Wisconsin State Journal* photo run with marriage announcement, 1944.

After this history project began in early 2020 and information surfaced about Paula’s role in the early days of the club, the author was at Yanna Research Station (MAS’s observatory). Among the plaques on the wall is one that commemorates donations made to the club back in the 80s and 90s. Among the names on this plaque was “Paula Carey” and a note of her $500 donation to the building of the club’s new observatory. We eagerly pulled up the record of club rosters and financial data from this period and discovered that Paula had indeed returned to the MAS. In 1976, Birner Carey reappeared as a club member with a Madison address; paying dues, subscribing to *Sky & Telescope*, and making donations to the new observatory. Her final appearance in our records is a dues payment in November of 1987. She died a few years later. Conversations with members who were around in the 70s and 80s revealed only one or two who remembered the quiet, gray-haired woman in the cardigan who would occasionally attend meetings. One member recalls that she talked about the Racine Society. But it’s likely that nobody was aware that she was a founding member of the MAS, sitting just a few feet away from them at a meeting. Oh, to have had the chance to interview Paula before her death in 1993!

Bjorksten, Dr. Johan (1907-1995). Bjorksten was a native of Finland and received his PhD at the University of Helsinki in 1931. He emigrated to the US the following year and worked as a chemist at various institutions before settling in Madison in 1944 and founding the lab that bears his name. Bjorksten was a research chemist with interests that ranged over most of the biological and physical sciences. His clients included companies, trade associations, and U.S. government agencies. Starting about 1954 he leased the Fitchburg land to MAS that would become the Oscar Mayer Observatory. Over the years there were several MAS members who had affiliations with Dr. Bjorksten and his lab who could have served as contacts that led to the relationship between Bjorksten and the club, but we don't know the exact origins of the agreement. It is unknown if Bjorksten had an interest in astronomy himself but we assume that he did since part of his leasing arrangements with MAS for the land included a yearly subscription to *Sky & Telescope* magazine. Bjorksten eventually retired and moved to South Carolina where he died in 1995.

Dr. Johan Bjorksten, *Wisconsin State Journal* photo, 1955.



Steve Bracker, East High School yearbook photo, 1960.

Bracker, Steve (1942-). Bracker first got involved with astronomy at about age twelve with an Edmund Scientific mirror kit. He ground the mirror and built the scope with his dad in the home workshop. Somewhere along the way, he learned of the Madison Junior Astronomical Society and went to his first meeting around age 14. He got to know Dr. Huffer and remembers being invited out to the Pine Bluff observatory to do photometry on variable stars. All this eventually led him to Mort Newcomb, Peg Frisch and Moonwatch. These pursuits, along with astrophotography, dominated Bracker's life through his graduation from East High School in 1960 and much of his four years at the UW Madison. Bracker went on to the University of Arizona for graduate work in physics but left without a degree. He worked for a time at Kitt Peak in Arizona and Cerra Tololo in Chile. He spent most of his career working in particle physics at Fermilab. He worked on the computational end of Sloan Digital Sky Survey. In retirement, Bracker got drawn back into some image management work with Ed Churchwell at UW Madison on Spitzer Space Telescope data. Bracker is retired and lives in British Columbia. In the 2000s, Bracker returned to Madison periodically for some extended stays and actually renewed his membership in the club for a few years.

Clark, Frank C. (1924-2010). A September 1939 article in the *Wisconsin State Journal* profiles 15-year-old Frank Clark of Evansville with his handmade 4-inch reflecting telescope. The article noted that he might be one of the youngest star gazers in the state. His first mention in the MAS record is having attended the October 1940 meeting just after the start of his senior year in high school. By February of 1941, he was giving a talk at MAS. He spoke on famed telescope maker Alvin Clark (no relation). Frank Clark entered the UW Madison in the fall of 1941. Clark ascended to the position of president for a brief period in 1942. In June of that year, club president Harry Hackler died suddenly and was replaced by Ed Baillie. But Baillie was soon deployed in the military to California, so Frank Clark assumed the duties of president in November of 1942. By July of 1943, Clark himself enlisted in the Navy and left Madison to start preflight training after just one year at the UW. An August 1944 *Wisconsin State Journal* article mentions that he enjoyed visiting with astronomers at Caltech while in Pasadena. He was stationed in California as a petty officer until 1945 and then returned to Madison. He served another term on the board of directors as treasurer in 1946-47, after which he disappears from the record, likely having moved away from Wisconsin.

Frank Clark, age 15, posing with the 4-inch reflector he made himself. Photo from *Wisconsin State Journal,* September, 1939.

John M. "Jack" English. Family photo, about 1940.

English, John M. "Jack" (1901-1958). English was part of the founding group of members. He got his teaching degree from Platteville in 1923 and taught in several school districts around southern Wisconsin before taking a position at the Madison Vocational School teaching chemistry. He would stay at the vocational school for 29 years. He later taught driver's education and was active as a leader in the Cub Scouts. English served as the club's first secretary/treasurer in 1935-36. In early 1935, before MAS officially began, it was English who was present at the hobby exposition in what may have been one of the first public appearances of the nascent "astronomy club" (see page 5). In one account in the *Wisconsin State Journal*, English was given credit as the "organizer" of the MAS. Because of his connection to the vocational school, many early MAS meetings

took place there. English's only appearance on the board was as the club's first secretary-treasurer in 1935. English was also a telescope maker. As of this writing (in mid 2022), a reflector he made and used in the 1930s and 40s still stands outside the house he owned in Monona (suburb of Madison). It's just a hollow tube now but its longevity speaks to the materials and skill used to in its design and construction.

Margaret "Peg" Frisch. Steve Bracker photo, 1960.

Frisch, Margaret "Peg" (1934-). Frisch arrived in Madison in the fall of 1956 to pursue her PhD in chemistry. She had become interested in astronomy as a young girl and would have majored in that subject but Nazareth College of Rochester (NY), an all-women school, offered only chemistry as a science major. Frisch, along with Mort Newcomb, was one of the founders of the Moonwatch program within MAS. In this role, she mentored a couple of high school students who ended up contributing significantly to the club's history. Frisch spent six years in Madison, earning her doctorate in 1962. She was a pioneer computer programmer, genius builder of gadgets, and dabbler in astrophotography. After leaving Madison, she worked for a few years for a research firm in California analyzing properties of rocket exhaust. In 1969 she joined IBM in Yorktown Heights, New York, and spent the rest of her career there, retiring in 2002. Her work spanned physics (she designed experiments to measure the mass of the neutrino) and later became an expert in computer programming. She is retired and lives in upstate New York.

Grams, Frank O. (1905-1980). Grams attended the University of Wisconsin and spent his career working with the Extension Division of the UW and with their radio station, WHA, where he was an engineer. He also spent time working at Madison's WIBA Radio. In addition to his interest in astronomy, he was very involved in the field of amateur radio, serving as an officer in that club. Grams served as an officer of the MAS from 1939-44 and again as vice president in 1959-60. He may have served additional terms in between those two but gaps in our records prevent us from knowing for sure. Grams is listed as having given six talks to the society between 1939 and 1956. One of the first was about a trip to Mt Wilson in California, and the last was a talk on the emerging field of radio astronomy—a topic that straddled his two principal hobbies. Newspaper reports over this period note him monitoring the radio transmitter aboard Sputnik 2 (*Wisconsin State Journal,* November 5, 1957).

Frank Grams, family photo, 1964.

Grove, Mrs. P. B. (dates unknown). Probably the spouse of Paul Burton Grove, 1896-1977. She is never identified in club minutes or newspaper accounts by her own name, only as the Mrs. to her husband. We believe her name was Doris Agatha Meek (1898-1988). Mrs. Grove was the vice president of the club from 1938-1941. During this same period, she delivered talks at meetings four times. The Groves lived in Shorewood Hills. Mr. Grove appears to have been a home builder by the many mentions in the real estate section of the newspaper in the 30s and 40s. If Mr. Grove was also involved in the club, we have no record of it. It is regrettable that more information has not been found on Mrs. Grove, as she was another pivotal female member of the early MAS.

Harry Hackler, family photo, date unknown, probably mid 1930s.

Hackler, Harry H. (1905-1942). Hackler was a pharmacist and regional representative for the drug company Upjohn. He was an Iowa native and attended the University of Iowa College of Pharmacy. He was an early member of the club and appears to have been around since the group's beginning. He was elected MAS's fourth president in 1941. He would have served a second term but Hackler died suddenly of a heart attack in June 1942 at age 37, just one day after being elected to a second term. For the five years of his association with the club, he was mentioned often as a speaker at meetings and participant in other activities.

Houston, Walter Scott (1912-1993). Houston is well known to most amateur astronomers as the *Sky & Telescope* columnist and author of their *Deep Sky Wonders* column. Beloved by generations of readers, Houston attended the UW Madison as a graduate student in the early 1930s and was thus present for the founding of the MAS. For its first year as an organization, Houston served as the editor of the *Madison Bulletin*, the club's first newsletter in 1935. That newsletter lasted less than a full year, and Houston eventually finished his studies and left Madison for his home in Milwaukee and a career in astronomy journalism. He never again figured prominently in the club but is listed here because of his prominence in the greater amateur astronomy community.

Huffer, Charles Morse (1894-1981). Dr. Huffer's role in the MAS is impossible to overstate. As a master's degree student in math at the University of Illinois, Huffer took an astronomy class taught by Joel Stebbins, and the two got to know each other well. Stebbins was impressed enough by Huffer's astronomical potential that in 1917 he persuaded him to take a position with the Lick Observatory working in Chile the following year. While there, Huffer evidently decided that astronomy was his true passion and he would spend five years working for Lick in Chile. He and Stebbins kept up a correspondence and Stebbins, who in the meantime had moved to the UW Madison, invited Huffer to come to Wisconsin to be his first PhD student. Huffer accepted the invitation and would end up spending most of his career in Madison, joining the astronomy department with Stebbins after finishing his doctorate in 1926. As described in chapter 2, it was Huffer's astronomy classes for the UW Extension program that gave MAS its genesis, most likely because some of the other names on this list took that class. MAS was close to Huffer's heart. He served as the secretary of the club for more than 25 years and remained very involved in all of the MAS's ongoing activities. It's not that much of a stretch to speculate that the outreach instinct that prompted Huffer to teach an extension class in astronomy fueled his lifelong involvement with the local astronomy club that grew out of that class. Huffer retired from the UW Madison in 1961 and moved to California where he taught for several more years at San Diego State College before retiring in 1968. Huffer returned to Madison and died here in 1981. As a nice bookend to his MAS tenure, he was the featured speaker at the May 1980 annual banquet at age 86!

C. M. Huffer, UW Madison Archives photo, 1936.

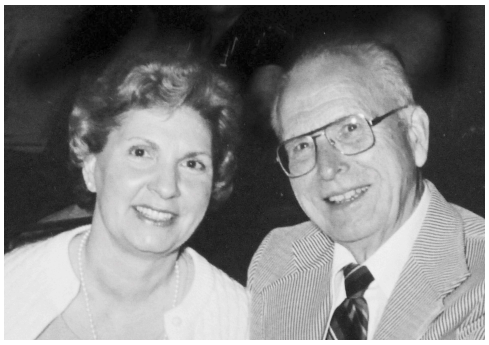
Leslie Ketchum, *Wisconsin State Journal* photo from 1952.

Ketchum, Leslie W. (1894-1985). Ketchum was a founding member. He served with the signal corps during WW I. Upon returning to Madison he was a scout director and served as a field commissioner for the Boy Scouts of America. He was active in the Catholic Youth Organization. He was employed as a director at Wisconsin Print Co. A 1951 *Wisconsin State Journal* article referred to him as a "well-known Madison businessman." He acted in some plays at the Madison civic center and may have known Bill Binney from there. Ketchum was listed as VP to Supernaw in the very first announcements of the MAS in 1935. He served only one term and was never on the board again but remained active in the club through at least 1960. He was listed as a speaker at meetings a number of times in the 40s and 50s. Ketchum's final mention with respect to MAS was April 1960 when he gave a talk on sunspots.

Kilps, Reggie (1927-1990). Kilps never served as a board member in the club but his leadership was instrumental in forming the Explorer Scouts post in the 1970s. Kilps had been a devoted scout himself and had considerable involvement with Boy Scouts apart from MAS. Once his own interest in astronomy developed, an Explorer Post was a natural next step. Professionally, Kilps was an electrician and worked for years as the chief electrical inspector for the City of Madison.

Reggie Kilps, photo from collection of his daughter, date unknown but probably early 1970s.

Koster, Art (1913-1986) and **Koster**, Doris (1932-) (married 1959). Doris first became associated with MAS when she and Art married in 1959. Art had already been a member for several years. Art had been interested in astronomy since childhood and it was his passion that ignited Doris's love of the science as well. Art's first mention in MAS records is a December 1963 article in the *Wisconsin State Journal* about his backyard observatory. Art was on the board several times from 1963 until his unexpected death in 1986, including as vice president from 1968-72 and then at least one term as president in 1972-73 (but our records are incomplete). He was trained as an engineer and spent most of his career at the Forest Products Lab where he worked on special projects including the pioneer work using lasers for testing various properties of wood. Art was also a professional level violinist, having been trained at the Milwaukee Conservatory of Music. Art was a giant in the club and loved by all who knew him. He did nearly professional level work as a solar observer and photographer, built many of his own instruments and had a series of no-nonsense observatories in his backyard. Art's time in the club coincided with the active period of the Madison Junior



Doris and Art Koster. Photo from Doris's family collection, about 1975.

Astronomical Society. Art taught mirror grinding classes to the kids and was always available to mentor and support younger astronomers. Many club members remember making the trip to the Koster home to see Art's backyard observatory and basement workshop, and to be made to feel they were part of the family. Before and after Art's death, the Kosters donated telescopes and buildings to the club and sold others to MAS at cost. After its founding, the Yanna Research Station had two buildings on the property bearing the Koster name. Doris also threw herself into the work of the club with her organizing, hosting, and managing skills. She was responsible for at least two major conferences of the Astronomical League from the 70s into the 90s in Madison and continued the Koster legacy in MAS for years after her husband's death. At this writing, Doris still lives in Madison and remains active in vocal music performance.

Lappley Gilbert F. (1892-1960). Lappley earned his Bachelor Of Laws degree in 1921 and practiced as an attorney in Madison and Milwaukee. He's also listed as having taught economics for the UW extension around 1926. Later, he seems to have been an enforcement officer for the state beverage tax commission. In the late 30s and 40s, he has many mentions in newspapers as an attorney representing various interests and individuals in hearings. He served as an MAS board member from 1938-42. He's listed as having given talks at meetings five times during that period. After 1942, he vanishes from the record.

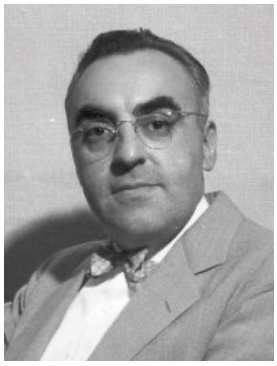
Gilbert Lappley, UW Madison yearbook photo, 1921.

Lookabill, Harrison Randal (1875-1960). H. R. Lookabill was born in Indiana and returned there for the final decades of his life. He spent only six years in Madison (1931-36) while pastor of the First Christian Church of the Disciples of Christ. As a minister, he was well known and highly regarded in the community and was widely known due to his Sunday services and officiating at weddings and funerals. Lookabill also got attention for his unusual devotion to his hobbies, principally among them being astronomy and telescope making. In his sermons and public addresses, he frequently made the connection between his profession and his beloved hobby via the phrase "the wonders of the heavens" with the double meaning of the final word intentional. It was in a 1934 feature article about his hobby where he mentioned his belief that an astronomical society would be organized in Madison within a year (see bottom of page 3). Though he remained in Madison for only about a year after the formation of the club, Lookabill appears frequently in newspaper notices of the club as a speaker and participant. He also delivered some of the WIBA radio addresses mentioned above in Paula Birner Carey's entry. Even after he left Madison and the MAS behind to take pastorates in Michigan and then home to Indiana, Lookabill occasionally surfaced either physically back in Madison, or in the imaginations of MASers via his correspondence. His adult daughter continued to live in Madison, and Lookabill seems to have had a close friendship and/or correspondence with Dr. Huffer. One of his visits back to Wisconsin occurred in July of 1945 when Lookabill traveled to Manitoba Canada to observe the solar eclipse of July 9, a trip that seems to have been planned in concert with several of his Madison friends. On the way to or from Canada, he stopped by Madison to reconnect with old acquaintances and attend a meeting of the club. In 1956, an article in the *Kokomo Indiana Tribune* refers to a trip to Madison to observe the close opposition of Mars, possibly as a guest of Dr. Huffer at the Washburn Observatory.

H. Randal Lookabill. Kokomo IN Southside Christian Church directory photo, 1926.

McNaughton, George C. (1888-1947). McNaughton was yet another MAS member who worked at the Forest Products Laboratory where he was a chemical engineer (Parker Baird and Art Koster also worked there). A newspaper account from 1918 notes that McNaughton and his wife were temporarily living in Texas where he was doing research for Forest Products Laboratory. There are numerous references to his involvement with the Forest Products "league" in Madison, possibly a union or civic organization made up of employees and their families. His first mention in MAS documents was at the April 1939 meeting where two "motion pictures" about astronomy were shown and McNaughton was one of the members who gave commentary (the movies were "A Trip to the Moon" and "Solar Eclipse of 1932," and were almost certainly silent movies). He served on the board from 1942-45 including one term as vice president during the year 1943-44. He is listed as giving two talks during 1940. After 1944-45 he disappears from the record. Contemporary newspaper accounts show numerous mentions as both a bridge player and a golfer. McNaughton died in November of 1947.

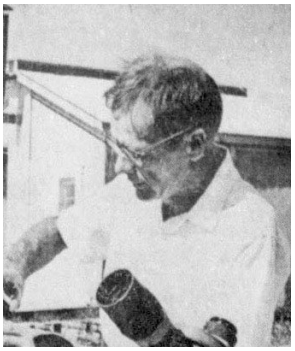
Neale-Silva, Eduardo (1905-1989). Neale-Silva was born in Talca, Chile, in 1905 and moved to the US about 20 years later. He spent nearly 50 years working and teaching at UW Madison as a professor of Spanish and



Eduardo Neale-Silva, *Wisconsin State Journal* photo, 1944.

Portuguese. He was granted a Guggenheim Fellowship in 1941, indicating that by age 36 he enjoyed some eminence. Today he is remembered primarily for various scholarships he established or were established in his name. How and when he became involved with MAS is not known but his period of involvement seemed to center on the period of 1960-65 during which he appears in some press accounts of club activities and is mentioned a few times in meeting minutes. Neale-Silva is known to have authored a history of MAS sometime in the early 1960s (see appendix A).

Newcomb, Morton (1909-1997). Newcomb is listed as club president 1958-59 and member of the board 1960-61. Club records are not complete for those years. Newcomb's principle footprint in the club was as leader of the Moonwatch program between 1958-64. He was the natural leader of the tight group of four (with UW graduate student Frisch and high school students Bracker and Rouse). The four comprised the whole of Project Moonwatch in Madison, and also practiced a lot of pioneering astrophotography along with various improvements to the Oscar Mayer Observatory and the equipment located there. Once the cohesive team started to break up (due to the graduation and moving away of the three students), Newcomb also found that his own interests were moving on and he eventually left the club. Newcomb lived his whole life in Madison. When he died in 1997, his obituary described him as a "rare and wonderful man with great love and appreciation of life." His interests included "building, inventing, gardening, philosophy, bicycling, astronomy, photography, sailboating, chess, music and poetry."



Mort Newcomb with OMO in the background, working on the Moonwatch scopes. *Wisconsin State Journal* photo, 1963.

Overn, Joanna (1924-2017). Overn's first mention in club records is at a June 1950 MAS meeting that took place in her home. She served as the club's secretary in 1951 and as its president in 1952. She remained active in MAS for the entire decade of the 50s and may have served additional terms as an officer but our records are incomplete. She was an active musician and frequent vocal soloist at many Madison events during that time period and later would teach music at Madison Area Technical College. Twice in the year 1959-60, the Madrigal Singers performed at MAS events—a Christmas party and a banquet—most likely due to Overn's influence. From 1946-58, city directories listed her as student. She was an English literature major and apparently did well. She was a Phi Beta Kappa recipient in 1952 and listed as having received "Sophomore honors" in 1951. She appears to have been politically involved (or at least interested) as two of her letters to the editor were printed in the early 1950s defending the UW against charges that it was rampant with communists. Overn was an involved club member. She gave talks at multiple meetings, gave talks on astronomy to outside groups and was an active advocate for MAS to get its own observatory. Overn's last mention in MAS documents is from a November 1969 meeting where she contributed to an honorarium being raised for a recently deceased member. She was a lifelong Madison resident, dying in 2017 at the age of 93. In a tribute written after her death, the writer observed that even as her memory failed later in life, "To the day she died . . . she was able to converse with interest on the topics of opera, classical music, astronomy, geography, history and classical literature."

Joanna Overn, UW Madison yearbook photo, 1954.

Porterfield, Harold B. (1895-1976). Porterfield's first mention in MAS records is September of 1938 when he served on a committee to recruit people to run for the board of directors. No surprise to current members of MAS, Porterfield himself was elected to the board the next year and served as the third president of MAS (1939-41). That same year he gave the first of 16 talks he was to give to MAS over the next 20 years. In 1943 he served another term as president. After he left MAS's board, he was instrumental (along with Dr. Huffer) in founding the North Central Region of the Astronomical League (NCRAL). Porterfield served in NCRAL's leadership for several terms and led efforts to bring the Astronomical League's national convention to Madison in 1954. Porterfield was born in Michigan and attended the University of Nebraska law school. He served in WW I as a Naval officer. By the mid 1930s, he was state tax officer of the Madison office of the IRS. Previously, he had served as secretary

Harold Porterfield, family photo, about 1947.

to Governor Charles Bryan of Nebraska (brother of William Jennings Bryan). When Gov. Bryan became mayor of Lincoln, Porterfield was his assistant city attorney. Porterfield was very involved in MAS activities both as officer and member. He did much to bring publicity to the club through regular communication with the newspapers as well as submitting three astronomy articles for publication in the *Wisconsin State Journal* between 1941-49. He also gave astronomy talks to other organizations. In June of 1952, a brilliant fireball lit up the skies over a path leading from Michigan to Iowa, crossing Wisconsin on a diagonal. For the next six months, a concentrated effort was made to gather eyewitness reports—and a lucky photograph—to plot its path and look for fragments. Porterfield was enthusiastically at the center of this effort. At an MAS meeting in June of 1960, 16 years after he left the board of directors of the club, Porterfield was elected "honorary president," apparently a tribute to the significance of his contributions to the club over the years. During this same meeting, Dr. Huffer (who was about to retire from the UW and move to California) was elected president after years of serving as the club's secretary. This may have been a simultaneous gesture to recognize the role of these two giants of the club. Two months later, Porterfield retired from the IRS and he and his wife relocated to Florida. He died there in 1976.

Rath, Ethel (1892-1966). Rath is another early club member about whom little is known. She appears in records as "Miss Roth," which is a spelling/transcription error; her name was "Rath," wife of Floyd Rath. She appears four times in our records as "Mrs. Floyd Rath." Rath served as club secretary from 1936-38, after which Huffer began his 22 year run in that position. Other than a mention as a member of the club's social committee in 1939, she disappears from the record with no trace. Her husband died in 1936 prior to her involvement with the club. A death notice for Ethel Rath is dated January 24, 1966, in the *Wisconsin State Journal*. No obituary was found.

Rouse, John (1944-). Rouse was born in Baraboo, Wisconsin, and moved to Madison after fifth grade. A fan of astronomy even in grade school, he soon heard about the Madison Astronomical Society and started going to meetings. It wasn't long before he gravitated to Newcomb and the satellite tracking team. He remembers learning some elementary computer programming in 1959, courtesy of Peg Frisch. As a high school senior, he got a job with a high-energy physics group in Sterling Hall. He left for college at Caltech in the fall of 1962 but stayed in touch with members of the Madison Junior Astronomical Society for the first couple of years. At Caltech, Rouse was a member of the freshman physics class in the second year of Richard Feynman's famous physics lectures. By that time, Feynman was delivering the lectures only occasionally, but Rouse remembers it as an experience. Feynman was an animated lecturer who moved about 50% faster than Rouse could keep up. Rouse got more involved in computer programming while at Caltech and graduated in 1966, then went on to graduate school at UCLA. He spent his career working in software and systems engineering, primarily for Hughes Aircraft in Los Angeles (later as a part of Raytheon) and on assignments all over the world. He retired in 2011 and lives in California.

John Rouse, West High School yearbook photo, 1962.

Thomas Stavrum, UW Madison yearbook photo, 1931.

Stavrum, Thomas (1907-1988). An accountant by training, Stavrum's involvement with the club spanned most of the 1950s. He is mentioned primarily with respect to the club's efforts to secure a telescope and observatory around the time of the Oscar Mayer donation and the move of the Student Observatory from the UW campus to Fitchburg. He is mentioned as being in charge of the "telescope committee." He gave a number of talks during his tenure with the club. In 1959, Stavrum was elected for the first of several terms as a Madison alderman and this seems to have ended his period of active involvement with the club. For many years thereafter, he's frequently mentioned in newspaper accounts due to his involvement in local politics and a variety of other civic activities.

Stewart, Charlotte (1914-1970). There is confusion over Stewart's identity because her name was frequently misspelled "Sewart" or "Steward" in both club documents and in press accounts. We believe these are all misspellings and typos and that the references are definitely pointing to Charlotte Stewart. She earned a degree in mathematics at UW Madison in 1935 with high honors. She served as vice president of the club during 1941-42, and was listed as president during 1942-43 and then again from 1946-48. These dates are consistent with newspaper accounts of a Charlotte Stewart enrolling in the Marine Women Reserves (*Wisconsin State Journal*, July 26, 1943) and subsequently being absent from Madison for a few years while deployed. According to the

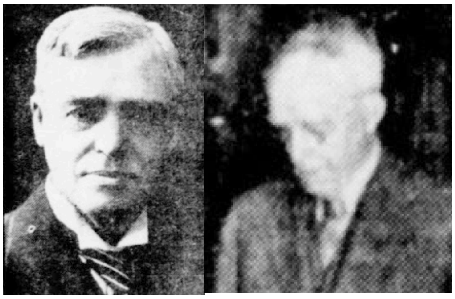
Charlotte Stewart, UW Madison yearbook photo, 1935.

history written by Neale-Silva sometime in the early 1960s, she played a critical role in the acquisition of the land for the Oscar Mayer observatory in Fitchburg: “In 1956, through the good offices of Miss Charlotte Steward [sic], the Society was invited to install its first building at the site of the Bjorksten Laboratories.” A 1952 Madison City Directory contains a reference for a Charlotte J Stewart with her employer listed as Bjorksten Research Laboratory. We’ve located an obituary from January 15, 1970, for a Charlotte Stewart but it contains little information about her life, just noting that she was a resident of the Madison area for 35 years.

Supernaw, Dr. Jack S. (1899-1960). Supernaw was one of the club’s founders and served as its first president in 1935-36. He was a prominent Madison physician and surgeon. Supernaw got his medical degree from the UW Madison in 1927. He was chief of surgery at Madison General Hospital and served as the president of the Dane County Medical Society in 1942 and was very active in a variety of medical associations at the state and national levels. Supernaw had varied interests and avocations. In addition to astronomy, he was an avid amateur geologist and mineralogist and had a lifelong interest in the Civil War. Civically, he was active in the Shriners and Masons, and also served a term on Madison’s Board of Education. Supernaw stepped down from the MAS board after 1936 but remained active in the society and was a frequent presenter at meetings well into the 1950s. He was listed as one of the club members to travel to Canada in July of 1945 to view the total solar eclipse. Supernaw died by suicide in March 1960. The circumstances of his death were regarded as unusual and an investigation was carried out, but no foul play was discovered. Friends and family speculated that he was increasingly despondent over his worsening arthritis and recent divorce.

Jack Supernaw, from the collection of granddaughter Elizabeth Agard. Probably around 1935.

Winkley, Francis D. (1855-1946). Though born in New Hampshire, Winkley lived most of his life in Wisconsin. He enrolled at the UW as an engineering student in the 1870s and got hired as a janitor at the Washburn Observatory while it was still under construction. His mechanical skills were soon recognized and before long he was working on improving the operations of the dome and telescope mounting in the main building. According to an account by Edward Holden, he also designed “most of the details” of the Student Observatory, the building that would be donated to the MAS almost 80 years later, moved to Fitchburg and be renamed the Oscar Mayer Observatory. Before finishing his degree at the UW, he was offered a job at Madison-Kipp Company where he designed oil pumping equipment and later worked for Fuller & Johnson Company where he developed equipment for agricultural applications. Winkley was an avid tinkerer and inventor and had interests all over the map, but retained his interest in astronomy throughout his life. Newspaper accounts record him building “planetariums” but from their description, it is apparent that these were actually orreries, quite large and detailed ones. He donated one to the university and one to the Madison school district sometime in the late 30s or early 40s. In May 1939, already in his 80s, he first appears in the minutes of a club meeting when the group went to the mechanical engineering building to see a demonstration of one of his “planetariums.” That fall, Winkley was selected as an honorary member of the club, apparently in recognition of his contributions to the understanding of astronomy in the community over six decades. Winkley died six years later at age 90. His obituary attests to the fact that he was a well-known and respected member of the community.



Francis Winkley. Photo on left as a younger man, on right at age 86, about four years before his death in 1946. Both photos from *Wisconsin State Journal*.

Wyngaard, Tim (1941-1986). Wyngaard deserves much of the credit for getting the Madison Junior Astronomical Society started in the mid 1950s. His first appearance in club records occurred when he gave a talk at a regular MAS meeting as a 10th grader in 1956, just a few months after the first mention of the junior society in March of that same year. In numerous subsequent announcements about the junior society, Wyngaard is quoted as a leader and spokesperson for their activities and future plans. In recognition of his efforts to get the junior society started, Wyngaard was chosen to participate in a National Science Foundation expedition to the Canary Islands to observe the total solar eclipse of October 1959. This was quite an honor for someone still in high school and he seems to have made the most of it, traveling to the White House to visit with the president’s science advisor and writing a series of articles about his trip for the hometown newspaper. He’s listed as

Tim Wyngaard, West High School yearbook photo, 1960.

serving a single term on the MAS board in 1960-61, the year following his high school graduation. Wyngaard went on to be a journalist of some note, covering the White House for Scripps Howard throughout the 1960s and later serving as a political consultant and speech writer. He died unexpectedly in 1986 after a sudden illness.

Wysocki, Ted (1938-1971). Wysocki served on the board from 1963-68 including four terms as president. His wife Marcelle (or Celle, pronounced “seal”) also served as club treasurer and secretary during Ted’s involvement. Records show him giving only one talk (although records are incomplete during his era) but the Wysockis were frequent hosts for the meetings, graciously welcoming guests and providing snacks. Wysocki’s terms as president coincided with a period of challenge experienced by MAS in the mid to late 60s. The junior society had slowly faded as its members grew older and membership in the larger club was on the wane, and the club was seeking ways to rebuild the membership. Professionally, Wysocki was an actuary for CUNA mutual and was quite a math nerd. Members recall a high level talk he gave to the junior society one night on the mathematics of Georg Cantor. It was surmised that the theory of transfinite numbers went over the heads of most of the 15 year olds! Wysocki is fondly remembered by those who knew him as a valuable and committed club member. All were saddened when he took his own life in January of 1971, possibly due to despondency over his failing eyesight. Celle Wysocki continued to be involved with the club for several years following her husband’s death.

Ted Wysocki, family photo provided by his daughter, date unknown.

Yanna, Leroy (1919-2005). Yanna is another member whose impact on the society is hard to overstate. The club’s current observatory site, the Yanna Research Station (YRS), was named in his honor after Yanna donated much of the Green County land on which the observatory rests. He became interested in astronomy by age 14 but said he couldn’t find much information to feed his curiosity. Growing up between Fennimore and Montfort in eastern Grant county, it was a local veterinarian who came to his assistance by recommending a book on telescope making. Yanna sent away for the book and began studying, and soon after began making the first of 14 telescopes he would build during his lifetime. Yanna joined MAS around 1960 after being invited to give a talk on telescope making. By 1964 he was on the board and eventually would serve as vice president. He is last listed as being on the board in 1969. Yanna’s involvement with the group in the 70s is not known but he rose again to prominence in the early 80s when the light pollution in Fitchburg was increasingly making the Oscar Mayer Observatory a poor location for astronomy. Yanna heard that the club was looking for a new site and approached the officers with the idea of selling a parcel of his land in northeastern Green county, about 20 miles south of Madison, to the club. The offer to sell turned into a gift and the club’s main observing site has been known as YRS ever since. Yanna remained active in the group until his death in 2005.

Leroy Yanna, photo by Dave Weier, about 1992.

Appendix D: Moving the Student Observatory

by John Rouse

(Note: John Rouse was a 16 year old high school junior when the UW donated the Student Observatory to MAS. Chapter 6 details this move. This is Rouse's own written account as shared with the author in 2021.)

Around 1959–60, the UW decided to get rid of their old Student Observatory, built in 1880 or so. They donated it to MAS on the condition that they relocate it at their expense to their new site.

This is when I really got into satellite tracking. In 1959, MAS got a grant from Oscar Mayer Co. to move the observatory to the Bjorksten site, so we called it The Oscar Mayer Observatory. The job involved preparing the site by building a new foundation, sawing the building in two, unbolting it from its old foundation, getting a company to move the building, refurbishing the building, and finding a suitable telescope for it. I spent much of two summers working on this.

Nearly finished foundation for the Oscar Mayer Observatory. Photo from Steve Bracker's collection, 1960.

We all spent time out at the Bjorksten site, building the new foundations, starting in 1959 and continuing into the next year after the ground thawed. The job entailed digging the trenches, pouring the footings, and laying a whole lot of concrete block foundations. We had also poured the lower part of the new telescope pier, from well underground to up above floor level. With all of this, I was learning a lot of construction skills! And not so well sometimes: on at least one occasion my mortar preparation and block laying were not up to snuff, which Mort demonstrated by knocking my work down with his bare hands.

We had to saw the observatory in two because of its irregular shape. There was a rectangular room that used to house a transit instrument. Offset from this was an entryway and small storage area. Further offset was an octagonal structure which was a workroom on the main floor, and the dome room above. By sawing the building in two, it would be possible to fit the halves onto two flatbed trucks, plus a third truck to carry the dome itself.

The sawing was a heck of a job, pretty much up to me and another kid. First, we peeled back the galvanized iron roof, then started sawing into the structure. I don't think we had to do any interior bracing, which was a relief. But that was a lot of sawing, especially the base plates, which were pairs of 4x8s (more on this later but suffice it to say here that 80-year-old wood is very well seasoned!). As all we had were hand saws, we were getting into decent shape by time we were done.

Then we had to unbolt the building from its foundation. To understand why this was no simple matter, you have to understand the way the observatory was built, which was as follows: first lay a massy masonry foundation, with the bolts securely embedded in it. Then lay down 4 x 8s on the foundation and bolt them down with big square nuts. Then lay down a second set of 4 x 8's, with square holes chiseled out to accommodate the big square nuts. Then build the rest of the building. Wherever possible, wood was joined with tongue and groove or mortise and tenon joints. The reason, we discovered, was that such nails as were used were all forged one at a time by a blacksmith.

Steve and I could see where the bolts were in one or two places, but there must have been lots more bolts that we couldn't see. We knew we had to find every single one, or else the building would be torn to bits as soon as the crane started to lift it.

Ken Bures and I went looking for the building's blueprints, hoping to find where all the killer bolts were. We combed the University archives and talked to a lot of old hands. Finally, we found one old guy who told us that in those days the person with the money would just scratch an outline in the dirt with the tip of his cane, and the contractor would take it from there.

So, we had no hope of finding all of those bolts without digging—literally! We spoke to the mover about this and he brought out a guy with a cutting torch. We walked around the building, and the guy, a real old-timer, said, "dig here." We bashed away with a sledgehammer and a big stone chisel, and sure enough there was a bolt, which was cut. This operation repeated for about an hour, until every bolt had been severed—we hoped!

The Big Move

The day of the move was exciting. There was a narrow twisty road up to Observatory Hill, and here came a truck-mounted crane and three flatbed trucks. They gingerly picked up each half of the building, very slowly at first while we all looked for a hang-up on an undetected bolt, and then they set it on a flatbed.

The octagonal part of the building was especially tricky. The moving crew had to very carefully lift it straight up, with no tilt or rotation, as they had to clear the very solid (brick, I recall) telescope pier, which extended from terra firma up past the floor of the dome room.

Then this procession of flatbed trailers started down the hill, led by a police escort. About halfway down, here was an illegally parked car that made further progress impossible. The cop looked at it, said it was really chintzy how carmakers made such cheap door locks, and pointing out how easy it was to jimmy the lock with a coat hanger. Then he said it was about lunchtime anyway, so he'd be back in an hour. Well, we got the hint, found some stiff wire, got the car open, and then coasted it down the hill and out of the way. So yes, technically, we did steal a car whilst in high school.

Out at Bjorksten, the movers had to ve-e-ery carefully lower the octagonal part of the building over the telescope pier, which stuck up just a bit above floor level. This is where Mort's careful measurements paid off: the hole in the floor was just big enough for the pier, and once they started to lower the building, it was found that the foundation was laid out correctly as well: the two parts of the building aligned to within a gnat's eyebrow.

Mort Newcomb and others working to ready the OMO site for the placement of the UW's student observatory. This photo is from July 1960 just after the pieces of the building had been moved from the campus to Fitchburg. The dome is on the ground at left and the two pieces of the building are in the background. Photo from Steve Bracker's collection.

After the move was all done and the gap between the two parts of the observatory had been made weathertight, then came the job of pouring the upper part of the telescope pier. We built a sturdy form that went the rest of the way up into the dome room, and had the concrete truck come out. I've forgotten how they got the concrete in, probably bucket by bucket, as concrete pumps didn't exist yet. But eventually some tons were poured in, at which point the form, which was wider at the bottom than the top, lifted off the floor due to the weight of the concrete. So, we had tons of concrete all over the floor, and a pissed-off work crew.

Under Mort's direction, we all slogged into the concrete, repositioned the form, and this time nailed in all kinds of braces to securely keep the form in place. Then the bucket brigade started again, first shoveling up the stuff on the floor, then bringing in the remainder from the truck. We had a nice thin concrete coating on the workroom floor, plus several pairs of ruined tennies.

Getting it Fixed Up

After the concrete work was finally done, we started refurbishing the building. We removed the old transit slit doors, which evenly divided the so-called Transit Room along its north-south and east-west axes, and put in proper roofing and siding. The building's electric light wiring consisted of wires pulled through the old gas mantle plumbing, so we reused what we could of that and then augmented it with proper wall outlets and breakers.

We built a small darkroom, and also a couple of big built-in worktables. We got ahold of an old oil stove with a big outdoor oil tank, so that the place would be habitable in the winter. However, the building had no insulation for the first couple of years. Later we installed insulation batts; they really helped and made the room much brighter during the day.

By this time, we had quite a scrap pile. We decided to burn it, and Steve thought that a nice powerful fan would speed the process. We heaped up the scrap so that it had a kind of tunnel running through the pile, and he hooked up a large electric motor to a big squirrel cage fan, and away we went. It was a proper bonfire; the lawn was scorched for several yards around.

By the way, what I called a "lawn" was really just a bit of a cow pasture that we would mow now and then. And the cow pasture did indeed contain cows and things associated with cows. And the cows would come visit sometimes. Once we built the concrete platforms, the cows discovered them, and liked that they were warmer than the ground for a while after sunset. Between their presence and their presents, they became a bit of a pest.

I remember I got there one evening to see Steve driving his small car around and around, trying to shoo the cows away. They endured the abuse in good humor but did not learn from the experience. So, a bit later, perhaps or perhaps not after getting the farmer's permission, we put up a barbed wire fence at what we asserted was our

lot line. So, from that point on, we could observe uninterrupted save for an aroma when the wind was right (i.e. wrong).

This was the summer of the wooly invasion. The woolies were large fuzzy caterpillars, which were all over the place; you'd squish a lot of them driving to the site. We'd have wooly bowling contests, where we'd take a heavy lead counterweight, and roll it toward a wooly. We also had an invasion of grasshoppers. We'd bowl for them as well. And, as a cruel pimply kid, I fed one to the gears of the telescope's clock drive. Of course, I got the job of cleaning and relubricating the gears . . . .

About the Author

John Rummel joined the Madison Astronomical Society in 1996, far too late to have known some of the most interesting characters in its history. Early on he served as publicity coordinator for the club and was very active in its many outreach efforts. He was its longest serving newsletter editor from 1999-2011. He also served as a liaison between the MAS and the Madison School District's planetarium and helped craft a cohesive outreach effort on behalf of those two organizations as well as the University of Wisconsin's Space Place. From 2010-2015, John served as the president of the society, and from 2010 to the present, he has been its meeting planner and organizer. To that list of roles, John now wishes to claim the title of Club Historian.