

THE IMPORTANCE OF HAVING A PLANETARIUM IN A SCHOOL



"We currently are living in a time when truth, reality, and science are under constant fire from sources seeking to spread alt-truths, unsupported fantasies, and disinformation about scientific results ... A planetarium can be a place in a school, museum, or science centre that can best present current science information to both students and the general public of all ages in a way that is accurate, engaging, and inspirational. Regardless of whether the facility is analogue or digital, the planetarium can go a long way in helping teach topics and instill the spirit of the scientific method, something people likely will not get in other places."

—Tom Callen 2019



"Student comprehension of complex concepts is enhanced by the ability of the planetarium to compressing-term patterns and cycles into shorter segments which result in powerful learning experiences."

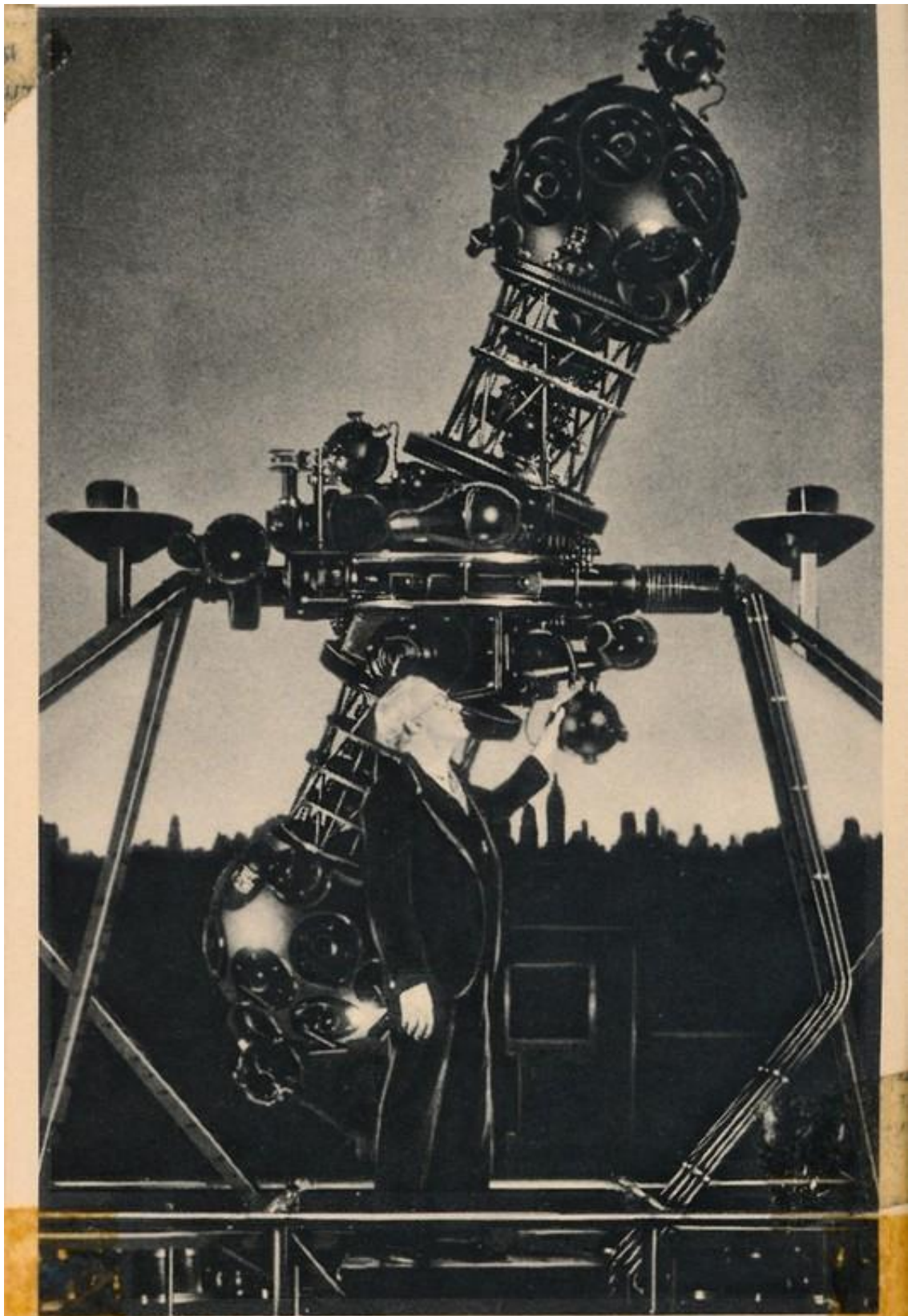
—The Middle Atlantic Planetarium Society



"The planetarium can motivate students with its stimulating learning situation. Surveys have shown that students like astronomy more than other sciences, and the stimulating environment can build on initial interest and help it develop into a lifelong interest."

—The Great Lakes Planetarium Society





HAYDEN PLANETARIUM,—THE ZEISS PROJECTION INSTRUMENT

**THIS SPITZ
PLANETARIUM
IS IDENTICAL
TO THAT AT
FORK UNION
AND HAS BEEN
OPERATIONAL
SINCE 1970.**

**STORY
FOLLOWS
BELOW:**



**Welcome to the Chatterton Middle School Planetarium!
This planetarium opened and has been in use since
1970. While the room and other equipment have gone
through some updates, the original Spitz A-4 Star Projector
still provides my students with a wonderful learning
experience of the night skies.**

**My passion for all things space has taken me to some
very exiting and wonderful places. I have been able to
tour facilities where most people cannot go at four
different NASA locations (Glenn, Marshall, Johnson,
and Kennedy).**

I have won trips to Teacher Space Camp and Advanced Space Camp in Huntsville, Alabama, I have been inside of NORAD Space Command in Colorado Springs, Colorado, and I officially became a "zeronaut" after going on a zero gravity flight provided by Northrup Grumman. I have met and spoken to many astronauts, engineers, and rocket scientists, including one of the original Von Braun scientists. These experiences have not only helped me do a better job teaching astronomy, but I feel I am able to bring many space topics to life for my students.

Sixth grade students are able to take Astronomy as one of their encore or activity classes. During the trimester long class, we cover such topics as phases of the moon, Earth's seasons, constellations, use of star maps and star finders, planets and other objects in our solar system, such as asteroids, meteors and comets, and finally the very interesting topic of life beyond Earth. These topics are from the 6th grade State of Michigan objectives for Astronomy that are tested on the 8th grade Science MEAP test.

THE PLANETARIUM AT 100 in 2023

The Centennial of the Planetarium

2023 is a special year – the planetarium will be 100 years old. In 1923, a team from the Carl Zeiss company completed the first planetarium based on optical-mechanical light projection in Jena, Germany.



Celestial globes and mechanical devices as precursor technologies of the star projector

The development of the projection planetarium is under the century-old influence of various models of the starry sky in the form of celestial globes (e.g. Gottorp Globe (1664), Atwood Celestial (1913)) and mechanical models of the solar system, which primarily demonstrated the motion sequences among each other (e.g. Huygens Planetarium (1682), Eisinga Planetarium (1774)). Both model variants are combined in the star projector and thus allow a geocentric view of the motion sequences in the night sky.





The Adler's first director, astronomer Philip Fox (standing up at the projector's control panel on the right) gets the audience ready for a demonstration with the Zeiss Mk II in the 1930s. *Image Credit: Kaufmann & Fabry Co./Adler Planetarium Archives*



The Zeiss Mark II projector can be seen here in the Adler's original domed theater in the 1930s. *Image Credit: The Adler Planetarium Archives*



Schools and Colleges employ Physics and Earth Science instructors who use the Planetarium to teach astronomy and physics; also how to locate constellations and star groups. Some college courses are entrance level, and some lead to advanced degrees. Old Dominion University offers several 4 hour lab science courses of study that cover 2 semesters in Chemistry, Biology, Geology, Earth Science and Astronomy. They offer a graduate level Planetarium course

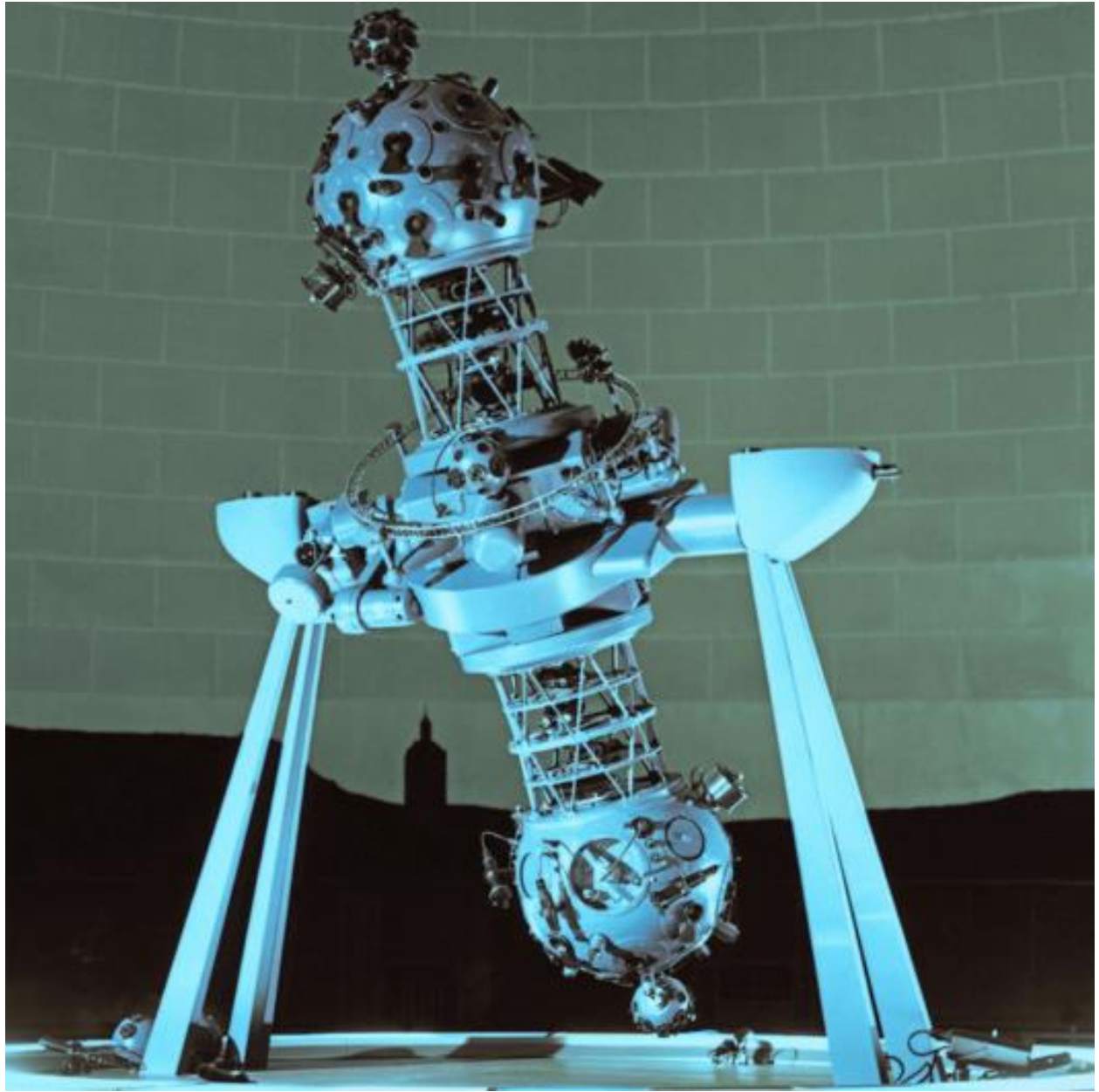
with permission of the professor. Currently (2023) there are 200,000 students in the United States studying Astronomy. In a Planetarium, students learn to identify star groups and constellations:





Motion of the planets, the sun, and stars across the sky are identified and charted easily with use of the Planetarium:





The Model I from ZEISS was further developed and given a dumbbell shape. With the help of this, it was also possible to reproduce the southern hemisphere of the night sky. From 1931, other players besides ZEISS are involved in the development of their own planetarium projectors.

In 1931, for example, the "star chamber" is created in a school in Lübeck (Germany) and thus also represents the first school planetarium. Further novel projector technologies are proven from 1936 onwards, e.g. the Lewis Projector (San Jose, CA/USA) or the Korkosz Projector from 1937 (Springfield, MA/USA).

Photo on next page: Andreas Scholl & Planetarium Barmen

