



“How to Make a Kutter Telescope”

Those of us who are Dutch-speaking astronomers of a certain age will all fondly remember “Thieme’s Sterrenboek”. In that book, on page 84, we could all read “how to make a Kutter telescope”.

I had the privilege of meeting the author of that book, Bruno Ernst, several times, and we still entertain an ongoing e-mail correspondence. Just recently, I received his latest book, titled “a Triangle is More than Three Angles” – quite an achievement to publish such a book when you’re over 90 years old...

But what edged me on to try and discover what could still be found about Anton Kutter’s own history? Answer: something that Bruno Ernst told me in August 2014: *“Anton asked me for help to do the math for his Schiefspiegler. At first I really didn’t want to, since I found that contraption far too ugly! In nothing it resembled a real telescope: it seemed to point one way but actually looked at something else. But because of our friendship I grudgingly agreed to work on it, together with professor Stauss. And finally...what fine images we saw through that telescope! It worked! Under my guidance hundreds of them were made in the Netherlands and Belgium. I christened those telescopes ‘Kutter telescopes’ myself, much to the chagrin of Anton Kutter himself.”*

Searching for the Kutters



Birthouse of Anton Kutter

And that's what makes someone curious enough to start digging...Harrie Rutten tipped the scales even more in 2015 when he told me "*I was returning from a holiday and decided to make a small detour through Biberach. I visited Anton Kutter's grave, or at least I planned to, since I found only his parents' grave. Go figure*".

And search I did. I knew that Flori (Anton's daughter) was certainly still alive. Google Earth showed us that the film theatre owned by the Kutters still had its observatory dome. And then the search picked up its pace...I found Adrian Kutter's name on internet, and a few mails and telephone calls confirmed we were on the right track. Those who know me could already see it coming: nothing would prevent me from beating a path to their door!

That feeling only grew once I had also had a meeting with Philippe Mollet, who showed me the history of the telescope of the Mira observatory, plus photos of the Kutter family in...my home town of Ostend! What stories that man can tell...he's a walking sort of Wikipedia pages (you also get that feeling when you talk to Bruno Ernst, by the way).

Back to the subject, I was very fortunate to have the support of Guy Wauters, who tirelessly drove me everywhere and now also has a pilot's licence (that certainly allows one to go places!)

So, onwards we went, to Biberach and der Riss, to visit Adrian, Claus and Flori Kutter.

Adrian Kutter



Adrian turned out to be in the film business, just like his father, in Biberach and der Riss. Quite far from Ghent and Ostend, so that was quite a journey. The 9th of November 2016. Adrian had booked a hotel for us, one kilometre from his father's (and grandfather's) cinema complex, which had remained property of the Kutters until 2007.

We had agreed to meet at seven pm, at the hotel bar. That first meeting went well; all that mailing to and fro had borne fruit, and Adrian appeared particularly charmed that we had organized a Kutter Schiefspiegler Day and that I had taken the trouble to send him the film we'd made of that day. We had dinner and Adrian told us a wonderful story.

Setting out with the Kutters (Adrian, Claus and Floriane)



The next day Adrian picked us up to show us around his father Anton's wondrous world. To us he's famous as an astronomer, but he was also a well known film director. First stop was the film theatre. Still in use, and very particular: every theatre is named after a planet and the walls are covered by landscapes of those planets.

And, obviously, there's also that observatory dome on top of the cinema complex!

But first, the meeting with Claus and Floriane. Floriane was aloof at first but she had a question: did I know someone called "Brother Erich"? Guessing that was Bruno Ernst, I gave her his telephone number and address in Utrecht...she was quite taken aback. The last time these two had met was in 1968. That had broken the ice!

Onwards to the dome now; that was to be the highlight of the journey. What was still in there, and in what state were the instruments?

The climb up was steep, and the dome hadn't been opened since 1978, the year in which Anton fell ill. The telescope was still there, laying dormant. In its full glory at first sight, but it really needed some work, and we soon discovered the main mirror was missing! Some sleuthing led us to a pizza box with a hole in the top that contained the mirror. It looked intact, but it sure was in need of being recoated --that mirror is now shining bright again, in a building in Ghent. Strewn around the main telescope: an array of extra telescopes --refractors, Kutter telescopes, Lichtenknecker telescopes, tri-Schiefspiegler--, books, and lots and lots of crates and boxes. What a treasure trove...I plan to write all of my discoveries up in an article in June 2017. Good times ahead!

Anton Kutter's last resting place



The grave of Anton is hard to find for a reason: since Anton Kutter's wife Else was a protestant she was buried with her protestant family, and he was interred with her in 1985. A very austere grave,

barely revealing their names on closer inspection. Nonetheless, it's very impressive to stand here, on the grave of a man who made telescopes accessible to so many amateurs, not only here but in the whole world.

I'd like to now conclude (at least for now) that short venture into Anton Kutter's life...

International Kutter- and ATM-days 2018

A visit is one thing, but that's hardly a fitting tribute. We'd like to organize international Kutter- and ATM-days in the spring of 2018. Kutter will be the guest of honour, and we plan to pull all the stops: lectures, films, cinema, an exhibition of his telescopes (including Kutter's own fully restored 30cm Schiefspiegler), visits to his grave, Kutter-themed city visits (where we'll be able to see the house in which he was born and first observed the stars), visits to Laupheim Planetarium (his planetarium) and the opportunity to visit the ESO visitor's centre in Garching. After Easter 2017 the large 30cm Kutter-telescope needs to be overhauled...a lot of work ahead of us, but we'll be ready for 2018.

There will be hotel and catering facilities...but we'll come back to it all in the June 2017 article. Be assured it will be an event worth remembering and will have a follow-up.

To be continued...

But to end this all and to come back to the title: we were indeed truly visiting Anton Kutter. Everything in the observatory still bore his mark and was infused with his soul. We were truly in the midst of his life; his car was even still in the garage, ready to be driven. You almost felt as if he would appear around the corner, greet you, and take his car for a drive.

The story of Anton Kutter (by his son Adrian)

As an astronomer with some renown (even in the USA) Anton Kutter developed telescopes during most of his lifetime; in Europe he also helped build a lot of popular observatories and planetariums like that in Laupheim (which was eagerly supported by him). Many of his publications about telescope manufacturing reached a large worldwide audience.

His main telescope design (which he himself called "Schiefspiegler" but which is known in parts of Europe and the US as a "Kutter telescope") was groundbreaking then and is still being made by ATM's in Europe and the USA.

On the roof of the "Sternenpalast" film theatre sits an observatory with a rotating dome that was transported from München to Biberach on Anton Kutter's request. In that still functional but aged personal observatory, the main telescope is a Schiefspiegler telescope of 300mm diameter and 7500mm focal length. With a specially designed construction Anton Kutter was able to use photographic plates to make photos of the planets and the Moon, his favourite target.

Anton Kutter was born in Biberach and der Riss in 1903 and graduated as an engineer in 1925, and developed two careers in parallel: that of film director and scriptwriter on the one hand, and astronomer on the other.

Anton Kutter went to primary and secondary school in Biberach; after finishing secondary school in 1922 he went in to study in Stuttgart where he graduated as a master of science in mechanical

engineering in 1925. During these studies he also attended courses in astronomy, and after his studies he firstly became assistant in the popular observatory of Stuttgart from 1923 to 1925.

He already had developed a passion for astronomy and optics much earlier: at the age of 12 he had already manufactured his own set of binoculars from parts scavenged left and right, and aged 10 he had made his own photo camera and had since turned into an avid photographer.

In 1926 he started working as a camera man, script writer and film director first in Köln (1926), then Paris (1927), then back in Biberach (1928-1931), and finally from 1931 to 1945 in the film studios of München-Geselgasteig (Emelka/Bavaria).

From 1932 to 1934 he was asked to script and direct the first Swiss sound films “The Golden Glacier” (1932) and “White Majesty” (1934), both Swiss-German co-productions. During the filming of “White Majesty” he could not help railing against the new German regime led by the Nazi Party, and he was snitched on by one of his actors, Carl de Vogt, who told the Minister for Propaganda Joseph Goebbels. That earned him a blanket ban from working in the film industry in 1934, which was later converted to a “mere” interdiction to direct and script feature films. From 1936 to 1945 Anton Kutter was thus forced to work only on scientific, technical, cultural and documentary films.

He became famous with the first serious German attempt at making a science fiction film, “Weltraumschiff Einz Startet” (Space Ship One Launches”). Once the film was finished, Joseph Goebbels first ordered it to be destroyed: the film ended with a long epilogue about rocket technology, complete with images of rocket launches from Peenemünde; obviously, once the Germans began the development of their rocket weapons such information was considered top secret. Anton Kutter barely managed to salvage his film after making a new application and shortening the film, removing the scenes with secret information. The shortened film launched in 1940 and was a success.

At the end of 1943 Anton Kutter’s house burned to the ground after an Allied bombing raid. His family returned to live with his father in law Gottlob Freidrich Erpff, the owner of Biberach’s film theatre. He stayed in München with his friend and astronomy professor Anton Stauss, in the district of Pullach; they had earlier built an observatory there together in 1936.

After the destruction of the film studios in München-Geiselgasteig in 1945, Anton Kutter returned to Biberach, and formally took over the management of the film theater in 1948.

Also in 1948, three years after the end of the War, Anton Kutter started to produce films again, and directed six feature films until 1955, four of them German-Austrian co-productions.

In 1955 Anton Kutter expanded the Biberach film complex with a second large theatre, which he called “Urania”, and had the Pullach observatory moved into a dome on top of the theatre.

In 1972 he passed on the management of the cinema complex to his son Adrian and devoted himself entirely to astronomy.

Anton Kutter died in 1985 in his native town of Biberach. He was married to Else Kutter, born Erpff (1907-1980) and had three children, Claus (born in 1937), Adrian (born in 1943) and Floriane (born in 1944), to whom he dedicated a telescope mount design (the Flori mount).

