

The Very First Beginnings of Hohenpeissenberg Observatory

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The eighteenth century was the century of enlightenment: Natural sciences enormously gained in importance. Monasteries began to cultivate the new sciences. Fratres took up studying physics and mathematics, not only the classical theology. This period formed the conditions for the foundation of the “Societas Meteorologica Palatina”. It generated the idea of establishing a station of the climatic network planned by this society on top of Hohenpeissenberg mountain. Looking at the Observatory today, it is hard to imagine how modest its beginnings were.

Hohenpeissenberg was a pilgrimage site. It was administered from the nearby Augustine Convent in Rottenbuch. Because of the excellent location, Johann Georg von Lori, founder of the Bavarian Academy of Sciences, had suggested early on to build an Astronomical Observatory at Hohenpeissenberg. Since Rottenbuch had no canons with an education in natural science, the canon Cajetan Fischer was sent to learn mathematics and physics in the nearby monastery in Polling, where the natural sciences were cultivated. After returning to Rottenbuch, Fischer began to teach and educate his co-fratres. Unfortunately, for a variety of reasons, the idea of an Astronomical Observatory had to be dropped. However, an observation platform on the roof of the convent-house at Hohenpeissenberg had already been built. Also, an „observatorium portabile“ (telescope) had already been bought from the famous physicist and mechanic Georg Friedrich Brander of Augsburg. This telescope still exists today at the Observatory.

At the same time the “Academia Theodora Palatina” was flourishing at Mannheim, where it received great support from Karl Theodor von der Pfalz. In 1779, within the framework of this academy, the court-chaplain and physicist Johann Jakob Hemmer had founded a “Societas Meteorologica Palatina”. In a very short time he created an international climate observation network that used standard instruments, standard procedures and observations at fixed local times, the so-called Mannheim hours. This large-scale network contained 39 stations. It reached from Eastern America to the Ural mountains.

In 1778, Karl Theodor had become Kurfürst (Lord-Elector) of Bavaria. Instead of the originally planned astronomical observatory, he decided to put a meteorological observatory on the top of Hohenpeissenberg, to operate within the framework of the “Societas Meteorologica Palatina”. In 1780, Hemmer came to Rottenbuch and Hohenpeissenberg, installed a station on top of the mountain and provided the necessary training. A solid basis in natural sciences was by now available from Rottenbuch, as was the roof-platform at Hohenpeissenberg. In addition, an observation window hut was added to the 3rd floor of the convent-building at Hohenpeissenberg.

Cajetan Fischer was transferred to Hohenpeissenberg. Regular observations started on January 1st of 1781. Unfortunately, Fischer was sent to Munich in October, to teach at a high-school. His successor at Hohenpeissenberg was Guarinus Schloegl, a very talented pupil. Schloegl had been present, when the station was started by Hemmer. Schloegl also left very soon, after only a year, to take over a professorship in Philosophy and Natural Sciences in Rottenbuch. Another of Fischer’s pupils, Herculan Schwaiger, had come to Hohenpeissenberg in May 1782. He was ready to take over the observations and followed in Schloegl’s footsteps.

Schwaiger stayed for three years and became an associate of the Bavarian Academy of Sciences. Schlögl returned to Hohenpeissenberg and stayed until 1787. In cooperation with Fischer he published a description of Hohenpeissenberg station in the "Ephemerides Societatis Meteorologicae Palatinae". In 1787, the "Tabulae pro reductione quorumvis statuum Barometri ad normalem quendam caloris gradum publici usui datae a Guarino Schloegl" followed. Schloegl died in January 1788, only 36 years old. Already in 1786, Albinus Schwaiger had been sent to assist him. Just by himself, Schwaiger carried on the observations until 1796. - Note that the observations had to be taken on every day of the year, including Sundays and Holidays, and on top of the normal duties of pastoral care. There was no vacation.

In 1792, Schwaiger published the first description of climate at Hohenpeissenberg, "Versuch einer meteorologischen Beschreibung des Hohen Peissenberg" (Attempt of a meteorological description of Hohenpeissenberg). It was based on data from the years 1781 to 1792. The book appeared in two editions. It included among other things chapters on "Luftschwere" (air pressure), "Luftwärme" (temperature), rain, snow, and winds, as well as chapters on fauna and flora (phenology), and on electricity of the atmosphere. Schwaiger noted that a period of just 10 years was much too short for a complete description of the climate at a given location. He was far ahead of his time and had gained fundamental insights: "Freylich scheint es bey dem ersten Anblicke so vieler und mannigfaltiger Erscheinungen, die sich in der Atmosphäre ereignen, unmöglich zu sein, jemals in diesem Labyrinth einen Ausgang zu finden; unglaublich, bey so vielen Kräften in der Natur, die sich so mannigfaltig verändern, und unter unendlich verschiedenen Umständen wirken, eine Wahrheit und Regel festsetzen zu können." In other words: Given the enormous variety of phenomena and forces in nature, and their continuous change, it seems impossible to ever find a systematic order. Nevertheless, Schwaiger remained optimistic and believed that some day it would be possible to predict the weather.

In 1790 Hemmer died, much too early, at only 57 years of age. As often happens when the leading eminent head of an organization leaves: the momentum of the Societas waned, its activities, whose motor Hemmer had been, decreased, the number of stations in the international network went down. During the Austrian versus French war, the Palatinate came under occupation in 1792. The castle in Mannheim and with it the physical laboratory of the Academia was destroyed. In particular, money was not flowing any more to the Societas. Nevertheless, up until 1795, the Ephemerides were published, including those for the year 1792. In Rottenbuch and Hohenpeissenberg, it was decided at the local level to continue the observations under the administration of the convent. The work of the past years was not to have been in vain.

The successor of Schwaiger was Gelasius Karner, who had been helping Schwaiger since 1794. Karner had been teaching philosophy, physics and mathematics in Rottenbuch. By now, the observatory had achieved a certain reputation. Many visitors came from nearby monasteries such as Wessobrunn, Polling and Andechs. - Actually, Andechs had been another station within the Palatina network. However, there the observations were not continued after the Societas broke apart. - Many other visitors, clerical and worldly, came to Hohenpeissenberg, some from far away. They had to be looked after and entertained at the convent-house, which added considerably to the workload of the observer, a fact much regretted by Karner.

The "Secularisation" in 1803 brought enormous difficulties. The convent at Rottenbuch and the church at Hohenpeissenberg were disbanded, the canons were left entirely without income

and possessions. Four canons lived at Hohenpeissenberg at that time. Two of them left, the two remaining were Karner and Primus Koch. Despite the heavy problems it was decided to continue the observations. - Koch had come to Hohenpeissenberg in 1801. Before, he had been the priest of the surrounding villages and school-teacher at the convent in Rottenbuch. Since schools were far away, the children from around the mountain could not go to school. Only rarely, they took private lessons. Therefore, Koch decided to start up a school on top of Hohenpeissenberg. The school was first held at the local inn, later in the laundry house and finally in the convent-house. Furniture and desks were bought by Koch and paid for from his private funds.

The next years were very hard. Only his great enthusiasm and his love of science helped Koch through these years. In 1804 Karner became sick and had to leave the mountain. Koch was all by himself. He taught classes and continued the observations, all without pay and only out of his sense of duty and responsibility for the children and the station. After the liquidation of Rottenbuch, there was barely enough money for the subsistence. This could not be sustained for long. Koch contacted the Academy of Sciences and the government in Munich. In 1805 minister Montgelas decided to institute a rectory at Hohenpeissenberg. However, money for it never came through. The workload as teacher, priest and observer was enormous. In 1807 Koch succeeded in winning the village-scribe and teacher-aide Johann Georg Schmauz as teacher. This was sanctioned several months later only, but a salary of 60 guilders a year were paid to the teacher, and 190 guilders were granted for maintaining the school. Koch continued as priest and observer. The teacher was trained and helped with the observations. As payment for the observations, Koch was awarded 20 Klafter's of firewood per year (half of it hardwood, the other half softwood), the teacher was awarded 5 Klafter's softwood. Later on, 150 guilders were paid to the observer. Schmauz remained observer-aide for 42 years!

Koch worked for 12 years on the mountain, until his death in 1812. It is his merit that the station continued through the secularisation period and that Hohenpeissenberg today is the only Palatina station with almost continuous uninterrupted observations. Instrument repairs, paper etc. Koch had to pay for from his meagre salary.

The rule of the priest being observer and the teacher his aide continued. However, it was officially confirmed only in 1827 by the Bavarian Academy of Sciences. It was followed for more than 100 years until 1936. In 1838 the Astronomical Observatory in Munich became responsible for the observatory at Hohenpeissenberg. Lamont worked on a part of the Hohenpeissenberg data and published them. When a Bavarian State Weather Service was founded in 1878 with the Central-Station in Munich, Hohenpeissenberg became part of it. In 1934 it also became part of the newly founded "Reichswetterdienst". In 1936, synoptic observations were started for air-traffic control purposes, and the station was staffed with full-time observers.

Today, we have to thank the enormous efforts and sacrifices of the Augustine canons and the priests and teachers at Hohenpeissenberg for sustaining the Observatory over the end of the Societas Meteorologica Palatina and through Secularisation. They have started and maintained one of the longest reliable observational records. Their data are most relevant for today's discussions on climate change. Last but not least, they have founded the world's oldest mountain-top observatory.

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