

Carl Neuhöfer, translated by J.B. te Pas



Fig.1 Titlepage of Neuhöfer & Sohn, Katalog geodätischer Instrumente of 1905.

What follows is a condensed review of the development of the mechanical workshop for geodetic instruments of 'Neuhöfer & Sohn, Wien', as written by Carl Neuhöfer, the son of the founder, on 6 August 1942. At that time he was more than 90 years old.

The tradition of this instrument maker's shop goes back to the founding of the optical business by Joseph Neuhöfer at Kohlmarkt 7 in Vienna. He took over this shop from his predecessor Carl Gross in 1858. In 1873 Neuhöfer was awarded the honorary title of: 'Imperial and Royal Supplier of the Court'. His son, Carl Neuhöfer, studied at the secondary school in Schotenfeld and then at the Imperial and Royal Polytechnical Institute (today's Vienna's University of Technology), after which he worked for two years in a renowned Berlin instrument maker's shop. In 1881 he joined his father's firm as a partner. He expanded their area of activity by establishing a well-equipped workshop for developing and constructing geodetic instruments, and the name of the firm was changed to Neuhöfer & Sohn (Fig.1). One of the new firm's more important projects was upgrading the instruments of the Prince Lichtenstein Forestry Department which was equipped with the Reichenbach distance measuring system. These instruments were fitted with eyepiece filar microscopes for distance measuring which gave very good results. They were used by the

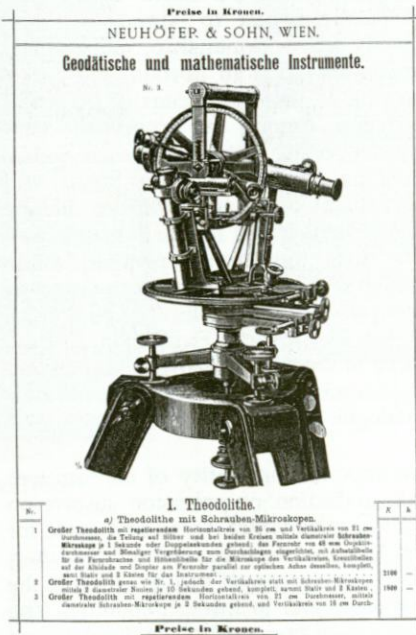


Fig.2 Theodolite with screw-microscope (ibid., 1905).

Ministry of Agriculture, supervised by Mr Friedrich, the Forestry Inspector, who later became an Imperial Councillor. This was followed by the manufacture of metal circular slide rules, calculated and constructed by the Imperial engineer Boubicek, as well as the manufacture of the large coordinatograph developed by Friedrich. At the same time the various Forestry Departments received forestry compasses with dioptric apertures.

Engineer Boubicek also developed several other new designs, such as a clinometer which became a great commercial success, and a compass-instrument with the compass mounted sideways. During the following years Messrs Neuhöfer developed a great number of universal compass instruments and forestry compasses with eccentrically mounted telescopes and Reichenbach-type distance-measuring devices for Forestry Departments, The Commissioners of Woods, Forest and Land Revenues, and also for specialised geometry. On the initiative of Court Councillor Professor Tinter and Mining Inspector Wehrle, these instruments were later modified in such a way that the telescope was mounted centrally. After various trials, a construction was found which made it possible to read the scales of the circle and the compass easily and reliably in any position.

These instruments were bought in great

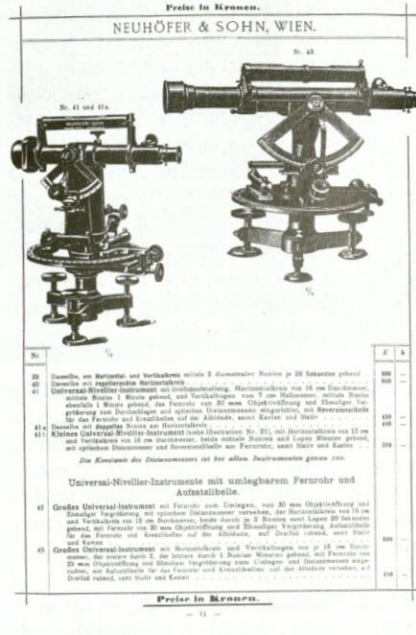


Fig.3 Two universal levelling instruments (ibid., 1905).

numbers. They were not only used by the majority of the Forestry Departments, but also for other geodetic purposes as they were useful for all types of work. They could also be used for drawing purposes as the compass was detachable. In the meantime the firm became the supplier of the Military Geographic Institute and of most of the military academies, producing for these customers many altimeters based on a modification by Captain (later Lieutenant-Colonel) Reitzner from Heidelberg, and also plane tables, detailing instruments with peepsights or perspective rules, and other mapping instruments.

Another important customer was the Bosnia-Hercegovina government. For instance, they purchased for triangulation purposes a large theodolite with screw-microscopes, reading to 1 second on the horizontal and vertical circles (Fig.2). The Landtax Registry Office involved in cadastral surveying commissioned Neuhöfer to rebuild their large theodolites of older design, by fitting them with four verniers and two screw-microscopes This was accomplished to their complete satisfaction. A great number of orders followed. For the first time theodolites with estimation-microscopes were constructed on the initiative of the Director of the triangulation and calculation office, Engineer Broch, who later became a Councillor of Court. These instruments were not only used

by the cadastral geometers, but were also supplied to many other important government offices. Parallel to this development, the construction of levelling and universal levelling instruments received much attention (Fig.3). In the beginning these instruments were still manufactured with reversible telescopes as was usual at that time. In later years they were only made with rotatable telescopes and reversible bubble. For distance measuring the constant 100 was chosen and, instead of the cobweb threads, glass diaphragms with microphotographic cross- and distance-lines were applied. These distance-lines were specially marked by dots.

Steady increase in production made the workshop too small so the firm bought a new building in the Hartmangasse no. 5, situated in the 5th District (of Vienna). The large piece of land belonging to this house made it possible to erect a factory equipped with motor-driven machinery, for the production and adjusting of geodetic instruments. A new cabinet-maker's department was included as Neuhöfer since the beginning of their activities had also manufactured the wooden accessories, such as levelling staves, ranging poles, etc. There was room enough to store more than ten

different types of wood which was directly delivered from the saw mill.

Over the years the name of the firm gradually began to stand for good quality and workmanship, so that many orders arrived from abroad, and export became an important part of the firm's activities. Among the important countries importing instruments were Serbia, Bulgaria, Romania, Greece, Russia, and also Turkey, Italy, Japan, Mexico, and the Netherlands-Indies (Java, Sumatra, etc.). The firm took part in many trade exhibitions and was always awarded first prizes, for example, the Gold Medal at the Paris World Exhibition of 1900. More of these distinguished medals can be found on the titlepage of their catalogue (Fig.1).

An important speciality of the firm was the production of precision suspension pantographs, which were first made for the Landtax Registry Office, and afterwards for numerous public offices in the homeland and in foreign countries. The firm's steep upward line of development was interrupted by the 1914 war, but only for a short time, as the firm soon had to supply numerous instruments for the Army, and was also placed under the law of war duties. The firm was charged

with the supply of optical signalling apparatus, constructed with the firm's co-operation, and also with the supply of surveying instruments for the Railway Regiment, the Technical Military Committee and the technical troops of the Army. This made it possible to retain the experienced older operators and, though somewhat restricted, to keep them busy.

After the war there was a brief period of stagnation, soon overcome as the new countries (Poland, Czech Socialist Republic, etc.) demonstrated an important need for measuring instruments, so that export again began to flourish, and the firm could continue normally. Therefore, it was a pity that the good understanding between workers and management was often disturbed and constructive activities hindered.

In the year 1925 the undersigned (Mr Carl Neuhöfer), left the firm which was turned into a Limited Company with which he has no connections.

Signed by: Carl Neuhöfer, 6 August 1942.

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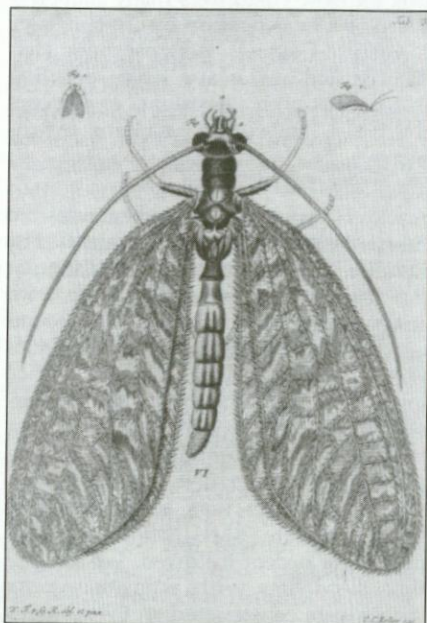


Fig.1 A Plate from Gleichen-Russwurm's *Das Neuste aus dem Reich der Pflanzen oder mikroskopische Untersuchungen* (1763-1766).

When asked to review the 1996 market for scientific instruments in Germany a remark I overheard in London came to mind: 'The market in Germany is dead'. At first glance this may well appear to be true, but is it really so? There are several aspects that have changed in Germany during the last few years relating to the supply side. The most important one is of course German Unification which led most German antique dealers to hope for additional goods to appear at reasonable prices. By the same token, access to the former Eastern bloc communist countries such as Poland, Chetnia, Slovakia, Hungary and Russia was no longer impossible. This, too, fed the expectation that more merchandise of good quality at low prices would appear on the market.

Apart from the important political changes, some more general trends towards market improvement for scientific instruments can be observed. The auctions of Breker in Cologne specializing in technical and scientific apparatus

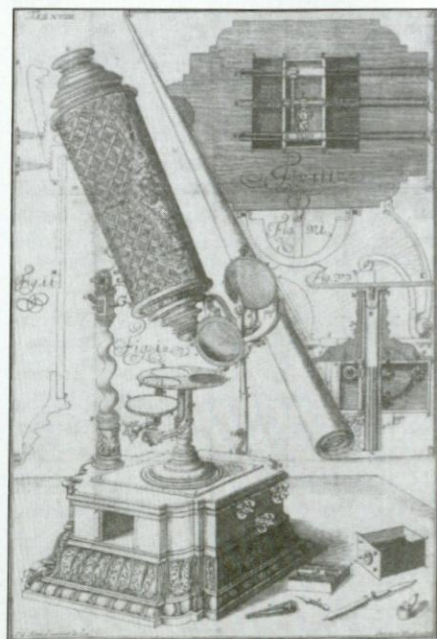


Fig.2 A Plate from Hertel's *Vollständige Anweisung zum Glas-Schleiffen* (1716).