Technical art history: painters' supports and studio practices of Rembrandt, Dou and Vermeer

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PAINTING TECHNIQUES
HISTORY, MATERIALS AND
STUDIO PRACTICE

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ABSTRACT
Lack of information on paintings on copper in seventeenth-century Antwerp inventories gives the impression that such paintings were rare. The coppersmiths who supplied the painters with plates were organized within the blacksmiths’ guild. Even though legislation on the marking of copperware was passed in 1585 and 1602, and mentions certain guidelines for how objects should be marked, no document refers specifically to the marking of copper plates for paintings. However, marks of the Antwerp coppersmith Peeter Stas have been found on a number of plates from the early seventeenth century. A chronology of his securely dated marks enables us to date paintings showing only his house-mark.

INTRODUCTION
The following paper concentrates on describing the chronology of the master marks on the reverse of copper plates of the Antwerp copper-beater Peeter Stas (c. 1565-after 1616). This research led simultaneously to more information on prices, sizes, and the supply of copper plates to Antwerp artists, all of which will be presented in a forthcoming exhibition catalogue [1].

Archival information
Information about paintings on copper is scant in notarial documents; typically they only record the presence of such paintings, for example ‘three copper plates with portraits of the deceased and her two husbands’. In the inventory of Frans Francken I (1543-1616) we are informed only of a wooden cupboard in which he kept three copper plates on which he had begun painting. When François Miron (c. 1587-c. 1653), a landscape painter of the Franckensh school, was in financial difficulties he pawned various items, among which were a number of copper plates some of which were painted [2].

However, at intervals the sources mention more paintings on copper. A 1614 inventory records two (small) paintings on ‘plates’ after Brueghel, in ebony frames, and further a Flower-piece on plate by Jacques de Ghein II (1565-1629) we are informed only of a wooden cupboard in which he kept three copper plates on which he had been painting. When François Miron (c. 1587-c. 1653), a landscape painter of the Franckensh school, was in financial difficulties he pawned various items, among which were a number of copper plates some of which were painted [2].

How the number of paintings on copper relate to the number of those on wood panel or canvas will probably never be fully understood. It is not unreasonable to assume that large numbers of paintings on copper were never recorded as such. Often copper plates had a backing board of wood, making errors inevitable during hasty recording by non-specialists. It is important to realize, therefore, that the numbers of paintings on copper mentioned in inventories can be taken as an absolute minimum. On the other hand we know that several seventeenth-century painters executed only a few paintings on copper, whereas others, like Jan Brueghel I and Frans Francken II, painted more than a third of their oeuvre on this delicate support.

Antwerp coppersmiths
As part of the large blacksmiths’ guild, the number of coppersmiths grew steadily from the fifteenth century. In 1563 they drew up their own regulations, and by 1602 there were 25 master-coppersmiths registered in the blacksmiths’ guild [7].

The ordinance of 1503 stated that only masters who could prove by written recommendation that they had learned the craft from another master would be accepted in the guild and allowed to work within the city. In 1553 a regulation stated that the education of a coppersmith was henceforth set at two years. After 1567 a master proof was obligatory and consisted of making a milk jar and a warming-pot, typical everyday objects. This remained unchanged for more than a hundred years.

MARKS ON PLATES
In 1584 the coppersmiths protested against a 5% tax put on all goods to be exported to the northern markets in Zeeland and Holland. A number of coppersmiths threatened to emigrate, and a compromise was found. The city council stated that the tax would be abolished for export wares if the coppersmiths would agree to mark all export goods, as opposed to the general rule of not marking Antwerp copperware. The new, compulsory mark was probably the Antwerp hand, as used by many other craftsmen; a painting on copper by Hendrik van Balen (1575-1632) has the Antwerp brand stamped twice into the reverse of the plate [1, 11]. It is significant that the earliest recorded personal punch-mark on an Antwerp painting on copper was issued three years after the 1584 dispute. It was issued by Peeter Stas, the most frequently recurring seventeenth-century producer of copper plates in Antwerp, and his plate was dated 1587 [2]. Another important reason for marking the works was in reaction to the numerous non-organized coppersmiths who did not belong to a guild but who produced and sold copperware, not only outside Antwerp but also within the city walls. This vast and profitable, but illegal, competition led to a new guild regulation in 1602 [7].

The inconsistent application of the regulations and the ineffectual control by the guild and their keurmeesters (assay-masters) make it difficult to comprehend all the aspects of this practice
Most towns in the sixteenth and seventeenth century had two or more assay-masters whose duty was to ensure that local as well as imported goods complied with the regulations set for their production. After a positive check the assay-master would impose a mark of approval, often the city arms. This practice was applied to a large range of craft and decorative objects, from tapestries to furniture, gold- and silverware, pewter, as well as panels for painters [9, 13-15]. Despite the guidelines in the guild regulations, an overwhelming majority of copper plates do not show any marks. Several interpretations of the control marks by the assay-master can be posited. They could indicate a form of protection for the artist or artisan against fraud, falsification and copying, and might be regarded as a guarantee of quality for those who bought the product. Furthermore the marks would indicate the origin of the product for the buyer, which was particularly important in the export markets.

As a consequence of a dispute over too high a proportion of lead in copper alloys, the copper-smelters, also part of the blacksmitl<s> guild, should mark their products with a mark or monogram. This request was made in 1602, but no document referring to the marking of the copper-smelters' products has been found. That the plea was accepted is evident from documented marks by, for example, the smelters Hendrik de Ridder (active 1617-37) and Guillaume Pluymakers (active 1620-39). The plate-maker Peeter Stas also responded to this dispute, and from 1602 and for the following seven years his mark recurs on copper plates.

**Peeter Stas's Marks**

Only five copper-smelters' marks are associated with the Antwerp production of supports for painters: 'SDN', 'KW', 'OK' (or 'CK'), Jan Michielsens (active 1600-91) 'JM', and Peeter Stas 'PS', the last's marks being the most numerous and the only ones frequently dated by the maker himself.

The first attempt to catalogue Stas's marks was made in 1952 by Squilbeck [11]. The earliest Stas marks on a plate that he had found were on the *Adoration of the Magi*, attributed to Jan Brueghel I (1568-1625), and a *Massacre of the Innocents* by Pieter Brueghel II (1564-1638), dated 1602. Squilbeck also noted that Stas had used two punches, the second of which was described as having the form of a fer-à-cheval (horsehoe). This specific mark, along with Peeter Stas's full name, was recorded on the back of Jan Brueghel I and Hendrik van Balen's *Banquet of the Gods* dated 1606. Unfortunately the whereabouts of the aforementioned works is not known [11].

Information on Stas's marks found during the present research is on a copper plate dated '1587'. An additional monogram, 'WGB', the assay-master's mark [1], was also stamped into the plate. After this early mark there is a gap of 15 years before Stas's mark recurs on plates after 1602.

The following year an anonymous Antwerp artist executed a *Mountainous Landscape*, dated 1603 (London, Phillips, 03.07.1994, lot 07, as by P. Bril). The punch-mark on the reverse has the form of an escutcheon within which Stas's mark is apparent as a raised relief. The mark consists of a small heart, in which his monogram 'PS' is placed. Above the heart is the figure '4'. Below Stas's mark the Antwerp hand, similarly in an escutcheon, has been punched separately (Fig. 1). A short time later the punch of the Antwerp hand was substituted by a slightly larger one (Fig. 2).

In 1604 Stas not only marked his plate with his monogram but also dated the plate himself by adding 'ANNO 1604' between his monogram and the Antwerp hand (Fig. 3). From the following year we have a number of dated plates including a series of four plates by a follower of Paul Bril (Rome, Galleria Doria Pamphilj, inv. PC 298-299) (Fig. 4). The punches are identical on each plate, although only one has the additional 'ANNO' above the date. The spacing between the individual marks or figures varies, indicating Stas's use of an individual punch for each single letter, figure and mark.

It appears that Peeter Stas was also supplying engravers with highly finished plates with rounded edges and corners. Copper plates used by painters are often slightly thinner than those used by engravers, whose plates will have to withstand numerous passes through the rolling press. Also, the polished surface of a printing plate, something certainly not useful for artists, makes a clear distinction between the two types of plate. On the reverse of a plate engraved by Cornelis Rol (c. 1576-1621) is Stas's monogram and the date '1605'. The print is one of a series dated 1610 (Detroit, private collection).

Stas's repeatedly used marks to this date were identical, but during 1606 he used a new punch. On a painting in the style of Louis de Caullery (before 1582-1621/22), *The Shearing of the Sheep* (Musées d'Orléans, cat. 1996, no. 109), the mark is circular, but with two indentations lower right, and in the middle Stas's old monogram encircled with his full name 'PEETER STAS'. At first sight there appears to be a small pen decoration at the upper right side of the mark, just before the first 'S' in Stas.
Stas's within the pewtermakers' craft this practice was established during the sixteenth century, when they began to mark their production themselves with their personal marks. From now on included the Antwerp hand, as can be seen on a plate from 1607. The back of the plate has been scored in order to find the accurate center. This is important information: it tells us that every single copper plate was checked by an assay-master, as in theory would be the case with the pewtermakers' panels a decade later. The concept of having only sporadic checks of the production within a guild was not unique to pewtermakers. For example, within the pewtermakers' craft this practice was established during the sixteenth century, when they began to mark their production themselves with a quality mark. However, even if Stas's personal mark from now on included the Antwerp hand, he continued to use an extra Antwerp hand next to the earlier mark.

All Stas's plates from 1602 until 1606 display the Antwerp hand placed below his personal monogram. In 1607 this practice changes; from then on the Antwerp hand is placed above Stas's personal mark. A Still Life with Fruit by Osias Beert I (before 1585–1624) shows this (New York, Newhouse Galleries, 1992). The plate displays Stas's personal mark, including the Antwerp hand, and also the separate Antwerp hand (Fig. 5). Showing the Antwerp hand twice would certainly eliminate any doubt as to the place of origin of the plate. Above this was stamped the assay-master's monogram 'W/GB', first in use in 1587, which confirms the hypothesis that the separate Antwerp hand was in fact stamped into the plates by Stas himself. The monogram 'W/GB' must therefore be associated with the occasional inspection by the assay-master. The positioning of a mark exactly in the center of the plate would seem entirely unnecessary. However, Stas sometimes operated this way, as can be seen on a plate from 1607. The back of the plate has been scored in order to find the accurate center.

This procedure reflects a special concern for precision in the production of this rigid support. The plate, painted by Ambrosius Bosschaert I, Chinese Vase with Flowers (Madrid, Museo Thyssen-Bornemisza, accession no. 1958.4.4) is tentatively dated 1609-10, and shows signs of having been rolled. The traditional method of making sheets of copper was by hammering, either in coppersmiths' workshops or by water-driven batteries of hammers. The rolling of iron, and probably copper, began towards the end of the sixteenth century in an area along the river Meuse which was the most important copper and brass centre of the sixteenth century, with towns such as Liege, Aachen and Dinant being the most significant.

In 1608 the punch-marks on dated plates had not changed, although it appears that Stas did not possess a punch with the figure '8', but used the '0' stamped twice, one above the other. This was recorded on the back of a Portrait of a Man (London, Phillips, 1991) (Fig. 6). The punch-mark from 1609 is similar in design to the former, and is recorded on the reverse of another painting by Osias Beert I, Still Life with Oysters (London, Sotheby's, 11.12.56, lot. 26; signed with monogram lower left: 'OB F').

From the year 1610 only one dated mark has been found, appearing on the back of Jan Brueghel I's Landscape with Travellers (The Hague, private collection). This appears to be the latest recorded mark of Pater Stas and, interestingly, all the punches for monogram, figures and the Antwerp brand that appear on this plate must have been newly acquired (Fig. 7). In the plate recorded prior to 1610 the punches used for the zero were always 2.5mm in diameter, while the other figures were 4mm high. On the plate from 1610 all figures have been reduced to identical heights of 2mm. The personal, circular mark has been enlarged, from 9 to 10mm in diameter. Some effort was therefore made by the Stempelsnider, the maker of punches, and the acquisition must have been costly for Stas.

Another feature that is also different on the 1610 plate is that the Antwerp hand is exchanged for the entire Antwerp brand: a castle with three towers flanked by two hands. This particular punch-mark is positioned above Stas's mark. Whether Stas's professional career terminated in 1610, when he was about 45 years of age, is not known. Archival information about financial transactions in 1616 informs us of Stas's continued presence in Antwerp.

Fig. 3 Stas's 1604-dated monogram on Isabella Francken, Christ on the Road to Calvary, signed 'DENION FF. FECIT ET INV.', 50.3 x 66.3cm. Photo Christie's, Amsterdam.

Fig. 4 Rubbings of two 1605-dated plates from a series of four, Ance. (after P. Bril), Galleria Doria Pamphilji, Rome, inv. FC 298, 399. Note that '1605' was constructed by four individual punches, and the zero is identical to '0' in 'ANNO'.

Comparing several of these marks, it becomes evident that it is the Antwerp hand, which has been included within Stas's personal mark.

This is important information: it tells us that every single copper plate was checked by an assay-master, as in theory would be the case with the pewtermakers' panels a decade later. The concept of having only sporadic checks of the production within a guild was not unique to pewtermakers. For example, within the pewtermakers' craft this practice was established during the sixteenth century, when they began to mark their production themselves with a quality mark. However, even if Stas's personal mark from now on included the Antwerp hand, he continued to use an extra Antwerp hand next to the earlier mark.

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The positioning of a mark exactly in the centre of the plate would seem entirely unnecessary. However, Stas sometimes operated this way, as can be seen on a plate from 1607. The back of the plate has been scored in order to find the accurate centre.
Fig. 7 Rubbing of Stas's mark (diameter 10mm) from 1610. Above is the Antwerp brand (5 x 8mm overall), on Jan Bruegel I. Landscape with Travellers. Private collection. The Netherlands.

DATING OF STAS'S PLATES

Of the several hundreds of plates examined, we have recorded in total 40 plates fully marked and dated. Almost double that number (79) are only stamped with Stas's monogram and the Antwerp hand. These undated plates so far fit within the chronology discussed above. This implies that when the back of a painting on copper displays a specific combination of features found in Stas's marks in combination with the Antwerp hand or brand, a reasonable date for the plate can be proposed. As with watermarks and branded Antwerp panels, a dating of marked paintings on copper is now possible. Of course some caution must be expressed, as painters may not always have executed their works in exactly the same year as they were supplied with the plates. The large number of unmarked copper plates, however, must remain anonymous.

The chronology

As we do not have any secure records of the design of the early mark from 1587, the current chronology runs from 1602 until 1610.

1602-1605
Mark no. 1 (Fig. 1). It consists of a heart crowned by the figure ‘I’, within the heart the monogram ‘PS’. The Antwerp hand is impressed below Stas’s mark, and measures 3 x 2.7mm. If dated, the figures would be 4mm high, except the ‘o’ which is only 2.5mm (Fig. 3).

1605-1609
The Antwerp hand is larger, 3.5 x 3mm (Figs. 2, 4).

1606-1609
Mark no. 2 is circular (two indentations lower right), diameter 9mm.

1607-1609 and later
The Antwerp hand is positioned above the personal mark (Figs. 5, 6).

1610 and later
Mark no. 3 (Fig. 7) has a design identical to the former, but is slightly larger, diameter 10mm. The Antwerp hand is substituted by the Antwerp brand, castle and two hands. If dated, all the figures would now be of equal height, 2mm.

WGB: the assay-master

A number of Stas’s plates show not only his own monogram, and the Antwerp hand, but also the assay-master’s monogram ‘WGB’. This is often placed near one edge of the plate. ‘WGB’ is recorded on only five out of the 69 marked plates by Stas: the earliest from 1587, two from 1606, one from 1607, and one from 1608. The monogram ‘WGB’ indicates a sporadic check on the quality of the plates.

APPENDIX: PEETER STAS’S BIOGRAPHY

Johannes Stas + Maria van Vlassenbergh

Johannes Stas + Catharina Huybrechts

Peeter Stas + Maria van Vlassenbergh

Peeter Stas + Hanne Yeuna

Peeter Stas + Ysabeau Maria

>1605-1616 <

As Stas’s earliest recorded plate is dated 1587, he would have been born c. 1565. The result of a preliminary investigation by Jan Van Damme in the Antwerp archives resulted in a wealth of information on Peeter Stas and his transactions in real estate. Peeter Stas is recorded as a guardian (for which one had to be 25 years of age) in 1602. In 1608 Ysabeau Stas, Peeter’s younger brother, is recorded as a foodseller (leed-smeer). The latest information we have about Stas is from 1616. The St Iacob’s guild records [19, 11, pp. 266, 273] also mention a Peeter Stas entering the guild as a polderslager (painter) in 1585. This cannot be the same Peeter Stas, as he would then have been around 90 years old.

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