

Brass foundry workshops of the Southern Low Countries and the Principality of Liège. A Technical Approach¹

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The copper-alloy crafts

Dinanderie has been a very important industry in the lands of what is now Belgium, which formerly consisted of the Southern Netherlands – *ie* most of the counties of

Flanders, Hainaut and Namur, the duchies of Brabant and Luxembourg – and the Principality of Liège (Fig 1). There were many workshops in different cities,² whose surviving products consist mainly of large and small civil and ecclesiastical furniture (for example, statues, canons,

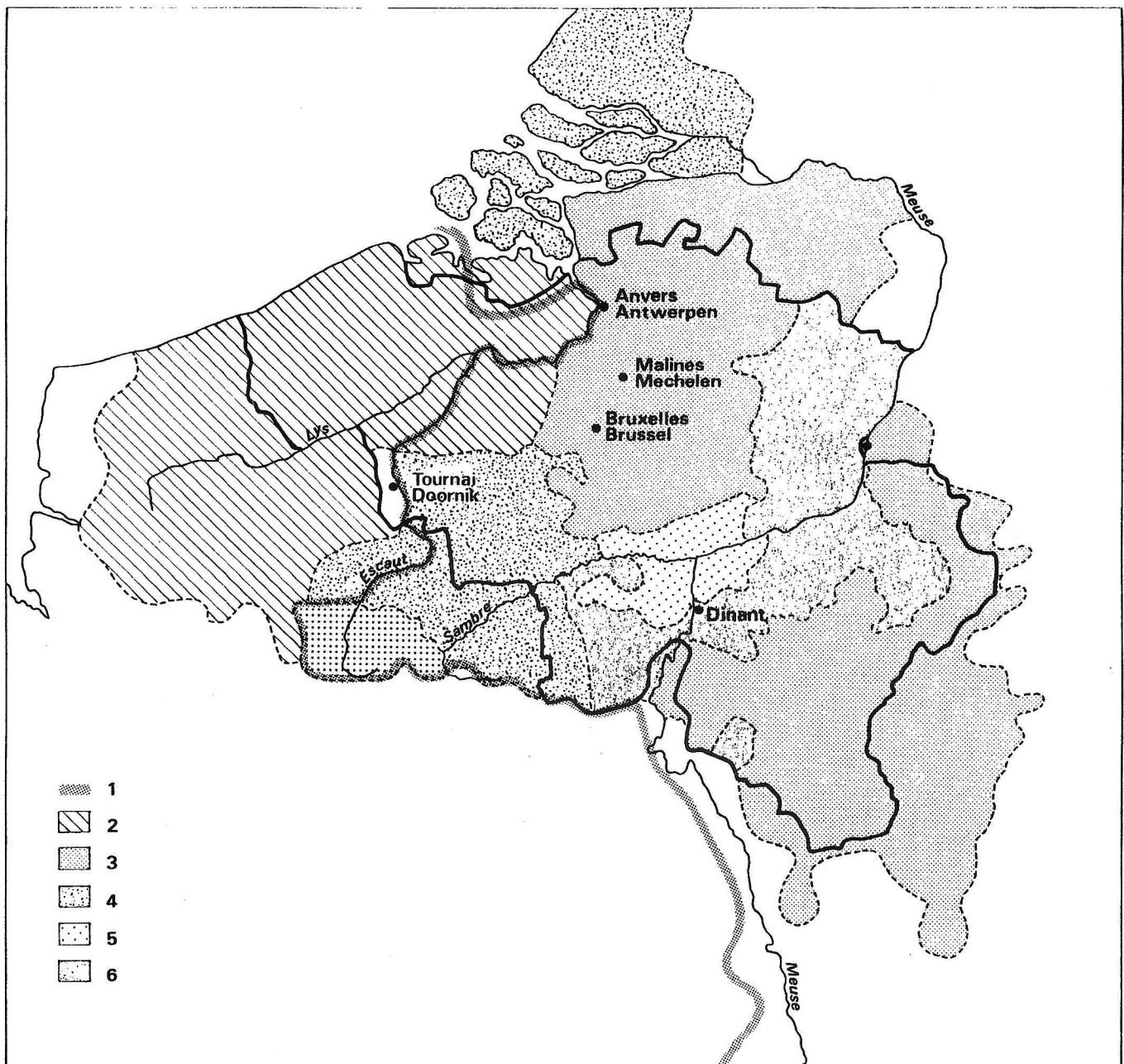


Fig 1: Map of the Southern Low Countries and the Principality of Liège (1. Border of ancient Lotharingia. 2. County of Flanders. 3. Duchy of Brabant and lands belonging to the Duke of Luxembourg. 4. Lands of the Count of Hainaut. 5. County of Namur. 6. Land belonging to the Principality of Liège) (Design Fr. Roloux, *Musées Royaux d'Art et d'Histoire*, Brussels).

bells, candlesticks, baptismal fonts, lecterns; pots and pans, aquamaniles and censars); but we know that they also produced more technical work.³

Dinanderie is a synonym for work of copper and its alloys, more especially brass (Cu-Zn), either cast or hammered.⁴ The word comes from the city of Dinant on the river Meuse, famous since the thirteenth century for its products.⁵ The earliest surviving dinanderie bearing an engraved signature and date is a large Easter candlestick signed by Jehan Josès de Dinant in 1372 in the Collegiate church of Tongres (Tongeren in Flemish).

Besides its technical advantage, the choice of brass for works of art is significant. Indeed, in the middle ages brass was not considered as a simple alloy (Cu-Zn), as bronze (Cu-Sn), but it was known as the result of the "tincture of (red) copper in gold".⁶ It is not surprising that it is neither the designer nor the sculptor but the founder, master of the colour of the metal, who signed the best works of art. In the case of the Easter candlestick of St-Ghislain⁷ dated 1442 (Musées Royaux d'Art et d'Histoire, Brussels, inv. 2979), the founder, Guillaume Lefèvre, proudly specified *brass founder (fondeur de laitton (sic))* (Fig 2 a, b).

The founder had also to solve problems other than achieving the best golden colour for the metal. The large Easter candlestick (about 6 metres high) from Léau (Zoutleeuw), cast by Renier van Thienen between 1482 and 1483, has a very complex shape (Fig 3).⁸ The founder had to calculate how to divide the whole into different parts, suitable for casting and fitting to each other in a way strong enough to constitute such a big candlestick.

The period of main production and export covers the 15th and 16th centuries. First Tournai (Doornik) and then – mainly after 1500 – Malines (Mechelen) (Fig 4)⁹ were especially famous abroad for their products. Who does not know of the monumental brasses from Tournai, or the guns and bells from Malines? However, a centre probably in the Meuse area had been very active late in the 15th century and at the beginning of the 16th century.¹⁰ There are 45 brass lecterns surviving in Great Britain and Ireland – and we know that lecterns were exported to England through Hull; we have proved that they come from the same centre as the five others surviving elsewhere in Europe (Italy and Yugoslavia).¹¹ In respect of the works of my predecessors and because so many lecterns survived in England, I have named that centre as the producer of the "English" lecterns.¹²

In the literature on brass workshops, no interest was taken in technical aspects before this century¹³ and it is only since 1966 that significant research has been undertaken.¹⁴ It was then for the first time accepted that it was with the lost wax rather than sand casting



Figs 2 a and b: Easter candlestick from Sainte-Catherine in Tournai (Guillaume Lefèvre, 1442) (Musées Royaux d'Art et d'Histoire, inv. 2979) and a detail of its inscription engraved on the base (... le fevre fondeur de laitton atournay) (© IRPA-KIK, Brussels).

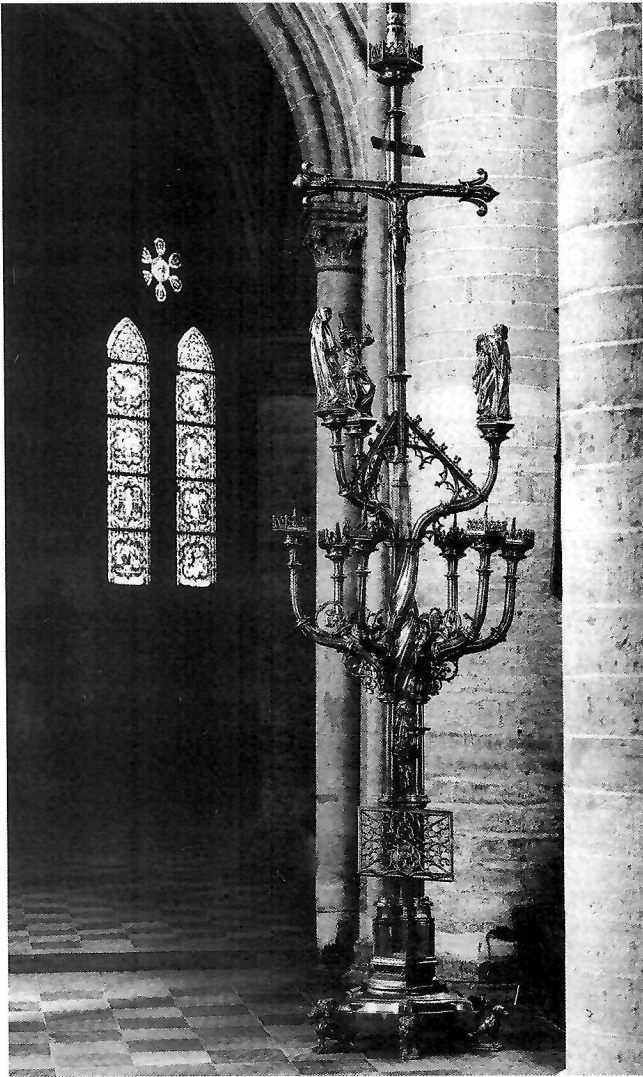


Fig 3: Easter candlestick of Léau (Zoutleuw) church (Renier van Thienen, 1483) (© IRPA-KIK, Brussels).

technique that brasses were cast in the Southern Netherlands and the Principality of Liège. The recognition of two different sorts of chaplets made it possible to distinguish the products of the workshops of Brabant (Bruxelles, Louvain, Malines) from those of Tournai and Maestricht.¹⁵ Subsequently, technical studies have been developed and not only can chaplets from Tournai and Maestricht, and from Bruxelles, Malines and Louvain be distinguished but also from Antwerp (Fig 5)¹⁶ and from the other centre making “English” lecterns, mentioned above¹⁷ (Fig 6).

Until now, the workshops of Guillaume Lefèvre (Tournai), Renier van Thienen (Brussels) and the centre of “English” lecterns are the only ones which could be fully studied, nearly all their surviving brass cast products having been dismantled for examination in detail.

We know that Guillaume Lefèvre used fine models and that he was a master in the assembly of the different cast



Fig 4: Pelican-lectern from Bornival (Malines, about 1500) (Musées Royaux d' Art et d' Histoire, inv. 3709) (© IRPA-KIK, Brussels).



Fig 5: Chaplet from the eagle-lectern of El Escorial (J. Simons, Antwerp, 1571) (photo M. de Ruelle).

elements, to build up the model in brass. He was very clever in dividing the pattern into elements which could be assembled strongly and were easy to cast (when possible he chose small elements). He produced a high quality casting with few defects and an excellent finish. He melted a fine golden brass and any other alloys which were necessary (for instance bronze for the linings of the bases of works of art).

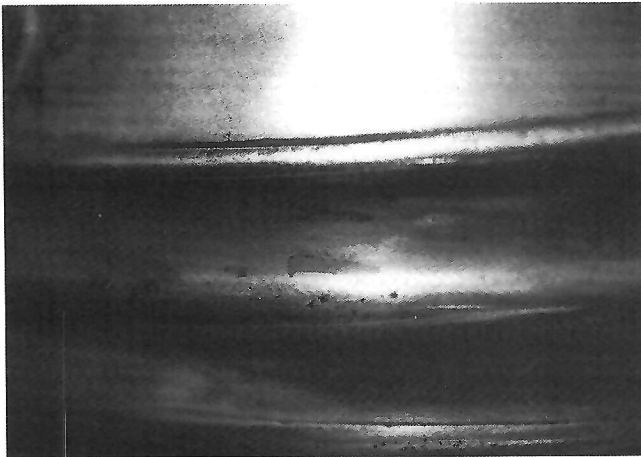


Fig 6: Pair of chaplets from an "english" Lectern (the eagle lectern of Corpus Christi College, Oxford) (photo M. de Ruette).

Renier van Thienen was able to cast very large elements with no more defects than small ones. To assemble most of his components he used fixed brass rivets or movable iron ones; all the rivets passed through the whole section of one cast element covering the end of the other one. To fasten the core in the centre of the wax positive, he used an iron bar as axis in the clay core and iron chaplets around it in the wax. Those, and the fact that we find on some of the cast elements traces of rope (to produce the positive for the casting) and fabric (maybe to handle the wax positive) are characteristics not limited to Renier van Thienen.

Nearly all the "English" lecterns were produced with the same number of different cast elements. These were obtained with many different patterns. We can distinguish between prototype models of the shapes and the patterns for casting (producing the positive for the casting) which identify the workshop. We have noticed characteristics that we have not yet seen anywhere else, notably reinforcement of the depth inside some of the cylindrical cast elements, and the use of brass rectangular chaplets used in pairs.

This study should be systematically developed, for all the signed and dated brass castings. Indeed, beside its very pleasant human dimension, this technical approach allows us to compare brass items which are still undated and whose sources are not yet known.

Notes

1. This paper was presented in January 1996 thanks to the support of the Historical Metallurgy Society. I wish to thank more particularly Dr J. Bayley for her kind help, the R.F. Tylecote Fund for a financial contribution, and the editors for help with the English text.
2. See for instance Pinchart A, 'Histoire de la dinanderie et de la sculpture du métal en Belgique', *Bulletin des Commissions royales d'Art et d'Archéologie de Belgique*, XIII, 1874, 308-365, 482-534; XIV, 1875, 79-114; Destrée J, 'La dinanderie sur les bords de la Meuse' et Donnet F, 'Les batteurs de cuivre anversois', *Annales de la Fédération archéologique et historique de Belgique. XVIIe Session. Congrès de Dinant. 9-13 Août 1903*, t. II, 743-821 and 883-897; Pirenne H, 'Notice sur l'histoire du laiton à Dinant', *Exposition de Dinanderies. Août-Septembre 1903*, 3rd edn., Brussels 1905, 21-28; van Doorslaer G, *L'ancienne industrie du cuivre à Malines. IV: La fonderie du laiton et du bronze* (reprint from *Bulletin du Cercle archéologique de Malines*, XX, 1910; XXII, 1912; XXIII, 1913; XXVII, 1922, XXVIII, 1923; XXIX, 1924), Malines 1924; Squilbeck J, 'Le travail du métal à Bruxelles. II. Notice sur le métier des fondeurs et batteurs de cuivre', in *Bruxelles au XVe s.*, Brussels 1953, 262-271; de Borchgrave d'Altena J, 'A propos des dinanderies conservées en Brabant', *Le Folklore Brabançon*, 134, June 1957, 1-39; Collon-Gevaert S, *Histoire des arts du métal en Belgique* (Académie royale de Belgique. *Mémoire in-8, 2e série*, VII), Brussels 1951; Squilbeck J, 'Pour une nouvelle orientation des recherches sur la dinanderie en Belgique', *Revue belge d'archéologie et d'histoire de l'art*, XXVII, 1958, 117-171; *Tentoonstelling. Koper en brons. Catalogus. Het Sterckshof, Provinciaal Museum voor Kunstambachten, Deurne-Antwerpen, 13 April-10 June 1957. Koninklijke Musea voor Kunst en Geschiedenis, Brussel, 15 June-29 July 1957*; 'F Van Molle', *Exposition. Art du cuivre. Musée de la Byloke, Gand, 2 Septembre-22 Octobre 1961*, s.l., 1961; Vandevivere I, 'L'art des fondeurs de laiton tournaisiens', *Tapisseries et laitons de choeur. XVe et XVIe s. Cathédrale N.D. de Tournai. Octobre-Novembre 1971*, s.l., 1971, 29-35.
3. For instance Guillaume Lefèvre, founder of Tournai, cast technical elements for his city (de la Grange A and Clouquet L 'Etudes sur l'art à Tournai et sur les anciens artistes de cette ville', *Mémoires de la Société historique de Tournai*, t. XX, 1887, 373, explained in de Ruette M Dupas M, Genin G, Maes L, Masschelein-Kleiner L et Vandevivere I, 'Etude technologique des dinanderies coulées. L'oeuvre de Guillaume Lefèvre' (synthèse), *Bulletin de l'Institut Royal du Patrimoine Artistique*, XXII, 1988-89, 105-106).
4. The word *dynanderie* was already known from Philippe de Commines (+ 1447-1511) (Collon Gevaert S, *op cit* 248). Since the 19th century it has described the whole production range of copperware (Vandevivere I, *op cit* 1971, 29).

5. See note 2 and Pirenne H, 'Dinant dans la Hanse Teutonique', *Annales de la Fédération archéologique et historique de Belgique. XVIIe Session. Congrès de Dinant. 9-13 Août 1903*, t. II, 523-546.
6. de Ruette M, 'From *Contrefei* and *Speauter* to Zinc: the Development of the Understanding of the Nature of Zinc and Brass in Post-Medieval Europe', Hook D R and Gaimster D R M, *Trade and Discovery: the Scientific Study of Artefacts from Post-Medieval Europe and Beyond* (British Museum Occasional Paper 109), London, 1995, 195-203.
7. de Ruette M, Dupas M, Genin G, Maes L et Vandevivere I, 'Etude technologique des dinanderies coulées. 1. Le chandelier pascal de Saint-Ghislain', *Bulletin des Musées Royaux d'Art et d'Histoire*, LV-1, 1984, 25-54; de Ruette M, Dupas M, Genin G, Maes L, Masschelein-Kleiner L et Vandevivere I, 'Etude technologique des dinanderies coulées. L'oeuvre de Guillaume Lefèvre' (synthèse) *op cit*.
8. de Ruette M, Dewanckel G, Dupas M, Duverger E, Maes L, Monfort X, Urban F and Wouters H 'Etude technologique des dinanderies coulées. L'oeuvre de Renier van Thienen et la restauration du chandelier pascal de Léau (1483)', *Bulletin de l'Institut Royal du Patrimoine Artistique*, XXV, 1993, (1995), 171-210.
9. Van Doorslaer, *op cit*; Oman C C, 'The founders of Malines and England', *Oud Holland*, L, 1933, 77-82; de Ruette M, 'Fonderie du laitton. Des oeuvres malinoises exportées', *Actes du LIIe Congrès de la Fédération des cercles d'Archéologie et d'Histoire de Belgique. 20-23 VIII 1992*, III, (1995), 87-99.
10. de Ruette M, 'Les lutrins "anglais". Considérations techniques', *Actes du XLIXe Congrès de la Fédération des Cercles d'Archéologie et d'Histoire de Belgique. Namur. 18-21 Août 1988*, IV, 1991, 71-81.
11. de Ruette M, 'Les lutrins "anglais"' *op cit*, 81; de Ruette M, 'St John's Church Lectern and the Group of fifty Pre-Reformation Brass Lecterns', *Chronicle*, V-6, April 1993, 160-161.
12. Oman C C, 'Medieval Brass Lecterns in England', *The Archeological Journal*, LXXXVII, 1930, 117-149. Oman himself mentioned Manning C R ('Ancient Lecterns preserved in Norfolk', *Norfolk Archaeology*, VII, 1872, 122-127) and Cox J C, *Pulpits, Lecterns and Organs in English Churches*, Oxford 1915). Oswald, referring to Oman, published an "english" lectern (Oswald A, 'An English Mediaeval Lectern at Ragusa', *Country Life*, LXXIX-2058, Saturday 27th June 1936, xxxiv).
13. G van Doorslaer from Malines is one of the first authors who studied the production of a centre of brass making with an interest in production techniques (van Doorslaer, *op cit*).
14. Vandevivere I, 'Le mobilier liturgique en laitton fondu dans les anciens Pays-Bas méridionaux du XVe au milieu du XVIe siècles. Précisions technologiques', *Bulletin de l'Institut Royal du Patrimoine Artistique*, IX, 1966, 170-180.
15. Vandevivere, *op cit* 1966, 180.
16. de Ruette M, 'Technologie des dinanderies coulées (Moyen Age et Renaissance)', *Belgica Technologia. 1989. Museum voor Oudere Technieken. Grimbergen*, 19-21.
17. See note 10.

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