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## The Hub from Ancient Spain Reconsidered

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[PLATE 12, 1-2]

THE interpretation of the object published in the 1986 NC¹ as a hub for the official Roman Republican coinage involves special pleading: although it does indeed appear to be a hub, it is likely to be the work of a forger. One major deficiency points to this conclusion: the head of the hub is too small to bear the whole design. As the illustrations show,² the edge of the hub cuts through both legs of the R in the exergual inscription, through Victory's wings, and through the top of the trophy. No official mint is likely to have prepared so inadequate a tool, for, if a die were struck from it, an engraver would still be needed to clean up the edges of the design.

A more economical explanation is that this is a forger's hub, made by casting bronze in the imprint of a victoriatus in clay or casting sand. This is also the simplest explanation as to why the inscription should be included on the hub. The shape of the coin—a little smaller than the design—is reproduced, and there is no linear border because a well-centred piece, with all the border off the flan, was chosen. The forger may have lacked the skill to cut a die or may have had no confidence in his ability to reproduce the Roman style. In any case the labour involved in the process (mould, bronze cast, and hubbing) was simpler in its elements and probably less in total than the preparation and engraving of a die; the main argument advanced against this being the work of a forger<sup>3</sup>—that no forger would make a hub (as this implied more work) unless at least two dies and the counterfeiting of about 60,000 pieces were intended—cannot stand. The lesser—that a

<sup>&</sup>lt;sup>1</sup> M. García-Bellido, 'A Hub from Ancient Spain', NC 1986, pp. 76-84.

<sup>&</sup>lt;sup>2</sup> Ibid., pl. 10, 2 and 4.

<sup>&</sup>lt;sup>3</sup> Ibid., p. 79. In general, the sinking of dies was probably a relatively minor element in the overall work of the Roman mint: Giles F. Carter and Brian G. Carter have calculated that only about 3.1 hours were needed ('Simulation of a Roman mint by computer', in A. Aspinall, S. E. Warren, eds., *Proceedings of the 22nd Symposium on Archaeometry, University of Bradford* (Bradford, 1983), p. 42.

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forger would not have attempted the newer, uncommon coin—has little value: it is precisely the unusual, the new, that is most easily counterfeited and passed; this is the case today and seems to have been the case in antiquity.<sup>4</sup>

The assertion that victoriati from dies made with the hub have been identified seems to me to be wishful thinking, and based on a misconception. It is argued that the dies made with the hub all had to be heavily reworked, but there was no reason for this, as all details (legend included) are on the hub and would have been accurately transferred to the die. The idea probably proceeds from a misunderstanding of D. G. Sellwood's experiments (which were with design-element punches and not with whole-design hubs), but he, in fact, proposed modifying dies only to introduce missing elements.<sup>5</sup> Even allowing the argument, not one of the examples illustrated is convincing.<sup>6</sup>

It follows that the identification of this forger's hub cannot be made to prove the Spanish origin of a group of coins, nor can it lend credence to the argument that the Roman mint used hubs for the official coinage. A cast hub is at best a poor instrument: the metal is liable to blow-holes and surface weaknesses, which will deteriorate with use, and the mould must be taken from an actual coin, which means that dies must anyway be engraved. From the use of a coin, moreover, the worst fault arises, which is that the hub reproduces the edge of the piece, with the strong possibility that the edge of the hub will itself indent the die, resulting in a step down in the field of a coin taken off it (if the flan reaches out that far), or giving the engraver the added task of cutting down the edge of his die.

N. Dürr has published an aureus of Caesar (Cr. 466/1)<sup>7</sup> as coming from

4 J. P. C. Kent, 'The President's Address', NC 1986, p. vi, of the late Empire: 'the major reforms . . . were marked by a wave of counterfeiting of the new coins . . .'.

5 'Some Experiments in Greek Minting Technique', NC 1963, pp. 221 f. 'Details such as hair and lettering are much more difficult to produce in relief than, say, the smooth bowl of a helmet or the carapace of a turtle. In consequence I believe that the particular differences between dies—the disposition of the legend, the laurel-wreath, &c.—are still valuable as distinguishing features, since they would not have been part of the hub design, but were added

by graving tool or drill after the hubbing process.'

o It is almost impossible to identify die-equivalences from printed photographs of such poorly preserved material, but it appears to me that, in the case of pl. 10, 5, for example, (i) the head of R is smaller, (ii) R is further left in relation to Victory's foot, and (iii) M is quite different, with thicker members at differing angles one to another and a narrower base; no. 8 (the enlarged no. 7) seems to show (i) a bigger head to R, (ii) O closer to R than to M (instead of the other way round), (iii) the apex of A further left in relation to the upright of the trophy, and (iv) the wreath in Victory's hand tilted further back than on the hub. It should be remembered that it is much more difficult to remove detail from a die than to add it: most of the variant detail I have cited (such as the different positioning of Victory's wreath) would have required cutting back the face of the newly hubbed die to erase the impression of the hub, making the whole exercise of hubbing futile.

<sup>7</sup> 'Une importante acquisition du Cabinet de numismatique', *Musées de Genève* 37 (1963), p. 11.

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an obverse die made with a hub cast in the impression of a coin and showing just such a step down, but the illustration is unconvincing: the coin is struck on a flan with a tapering edge with which the die has not made contact in the area interpreted as a step down. The phenomenon is common in the issue, in which the edge of the coin often falls away at an angle (not a step proper), because of the way the flans were prepared.

A more likely candidate is the denarius I illustrate (Pl. 12, 1 and 2),8 which might seem to show precisely this phenomenon, as there is a step down at 3 o'clock on the reverse of fully 0.7 mm, and as the edge of the design is missing at this spot. I would suggest, rather, that the coin comes from a die that had begun to break up at the edges:9 the damaged edge of the die was therefore filed back so far that part of the design was cut away, and reinforced with a surrounding ring; the ring has worked its way forward beyond the face of the die proper and is responsible for the step.

The mechanical copying of dies has been demonstrated before (though, I feel, incorrectly explained), significantly in connection with forgeries. M. Crawford has drawn attention to two denarii, one silver and one plated, with the plated piece coming from copied dies, and suggests that, 'in order to make the derivative dies, each side of the coin was presumably pressed directly into the heat-softened face of the die-to-be'. Pegan has also published some forger's dies from Yugoslavia, all with very clear steps down, as having been made by forcing actual coins into the metal of the die. Udoubt that this is easily done and would argue rather that all these dies were made with cast hubs like the Spanish example.

<sup>&</sup>lt;sup>8</sup> Cr. 78/1; in a private collection; the coin shows no sign of being plated and is therefore presumably an official product.

<sup>&</sup>lt;sup>9</sup> There are chordal die-breaks through the cap of the nearer of the Dioscuri, through the star above the further, and through the hind right hoof of the nearer horse, continuing through the top of R, through O, and through the far foot of M.

<sup>&</sup>lt;sup>10</sup> RRC, pp. 561 f.: these coins, in Hannover, 'at firstsight come from the same dies, but . . . display evidence of different and incompatible die-breaks. The only likely explanation of the phenomenon is that the dies used for the plated piece were mechanically copied from a pure silver piece . . . These derivative dies then acquired in use die-breaks of their own.' For general arguments against the use of hubs, see also pp. 577 f. and 'Hubs and Dies in Classical Antiquity', NC 1981, pp. 176 f.

<sup>&</sup>lt;sup>11</sup> 'Die antike Prägenstempel aus Yugoslawien', CIN 1961, Rome, 1965, vol. 2, pp. 435-41.



STANNARD, HUB